NATIONAL COMPREHENSIVE CENTER
FOR TEACHER QUALITY

Generating Teaching Effectiveness: The Role of Job-Embedded Professional Learning in Teacher Evaluation

MAY 2012

Research & Policy Brief

A Research & Policy Brief

Generating Teaching Effectiveness: The Role of Job-Embedded Professional Learning in Teacher Evaluation

May 2012

Jane G. Coggshall, Ph.D., *National Comprehensive Center for Teacher Quality*
Claudette Rasmussen, *Great Lakes East Comprehensive Center*
Amy Colton, Ph.D., *Learning Forward of Michigan*
Jessica Milton, *National Comprehensive Center for Teacher Quality*
Catherine Jacques, *National Comprehensive Center for Teacher Quality*

CONTENTS

Introduction 1

Federal Policy on Teacher Evaluation and Professional Learning 1

Research on How Teachers Learn Best 2

Job-Embedded Professional Learning 4

- Learner-Centered Professional Learning 5
- Knowledge-Centered Professional Learning 5
- Community-Centered Professional Learning 5
- Assessment-Centered Professional Learning 6

Professional Learning in Teacher Evaluation 6

- Evaluation Promotes Learning Through Shared Understanding of Effective Teaching 7
- Evaluation Promotes Learning Through Evidence-Based Feedback 12
- Evaluation Promotes Learning Through the Assessment of Professional Learning and Collaboration 14

Essential Conditions for Professional Learning in Evaluation 20

Conclusion 21

Practical Examples of Evaluation Systems That Promote Professional Learning 22

References 26

INTRODUCTION

State and district leaders across the country are working intensely to respond to legislation calling for revised teacher evaluation systems that incorporate multiple measures of student learning and teacher practice. Whether through strengthened accountability or more formative support, the primary goal of this work is the continuous improvement of teaching and learning. To meet this goal, teacher evaluation systems need to be designed and implemented with teacher learning and development at their core, rather than appended later as an afterthought. Professional development is regularly associated with the "results" of evaluation, instead of recognized as an integral part of the evaluation process itself. Thus, the power of evaluation to generate greater teaching effectiveness is severely diminished.

The purpose of this Research & Policy Brief is to support the thinking and efforts of state and district leaders who are designing and implementing evaluation systems that not only measure teaching effectiveness but generate it. The brief begins by describing the federal policy changes that animate this work. It then highlights the research on how teachers learn best, specifically how teachers learn from evaluation to generate increased teaching effectiveness. It also provides guidance on how to assess teachers' engagement in learning[1] and collaboration to incentivize teachers' participation in job-embedded professional learning as well as to recognize and account for teachers' commitment to continuous improvement. Finally, the brief concludes with a description of the essential conditions for this important work.

FEDERAL POLICY ON TEACHER EVALUATION AND PROFESSIONAL LEARNING

The $4.5 billion federal grant program, Race to the Top, set in motion a host of state and local policies, requiring educators to develop and implement rigorous teacher evaluation systems that assess teacher effectiveness using student learning as at least one of the multiple measures. The intent of such evaluation systems is to help fulfill the Obama administration's priority of ensuring great teachers and leaders in our nation's schools by casting light on the wide variation in teacher effectiveness within and between schools and to help school leaders make better-warranted personnel decisions (i.e., compensation, promotion, tenure, and dismissal decisions) based on teacher performance data.

Lost in the clamor generated by these policies is the equal weight that Race to the Top developers placed on requiring grantees to use evaluation to inform decisions regarding "developing teachers and principals, including by providing relevant coaching, induction, and/or professional development" (U.S. Department of Education, 2010, Sec. D[2]iv[a]) as well as other personnel decisions. Moreover, it required that winning states ensure that participating districts "conduct annual evaluations of teachers and principals that include timely and constructive feedback [and] as part of such evaluation provide teachers and principals with data on student growth for their students, classes, and schools" (U.S. Department of Education, 2010, Sec. D[2]iii).

[1] In this brief, we refer to these activities as job-embedded professional *learning* rather than job-embedded professional *development* as we have in other TQ Center resources to underscore that a shift is taking place in how experts and practitioners think about the kinds of activities that shape and improve teacher knowledge and practice. For a longer discussion of the differences, see Coggshall (2012).

Recognition of the need for evidence-based feedback on teacher practice to enhance teacher learning and effectiveness is also a common thread among the state policies that arose in response to Race to the Top. For example, in Louisiana, state code mandates that each teacher, in collaboration with his or her evaluator, develop a professional growth plan that is designed to assist teachers in meeting the Louisiana standards for effectiveness (HB 1033[Act 54], Sec. 3902[2][a]). In Massachusetts, regulations specify that the districts' teacher evaluation cycles include goal setting and the development of an educator plan based on teacher evaluation results that would provide them with feedback for improvement, professional growth, and leadership (603 CMR 35.00).

Moreover, the $4 billion School Improvement Grant (SIG) program specifies that job-embedded professional development be "aligned with the school's comprehensive instructional program and designed with school staff" for teachers in turnaround and transformation schools (SEA Priorities in Awarding School Improvement Grants, 2010, p. 66366). SIG guidance documents emphasize job-embedded professional development that focuses on "understanding what and how students are learning and on how to address students' learning needs, including reviewing student work and achievement data and collaboratively planning, testing, and adjusting instructional strategies, formative assessments, and materials based on such data"(U.S. Department of Education, 2011, p. 30).

In addition, the U.S. Department of Education's Elementary and Secondary Education Act waiver program provides flexibility for states that commit to "develop, adopt, pilot, and implement, with the involvement of teachers and principals, teacher and principal evaluation and support systems that: will be used for continual improvement of instruction; … [and] provide clear, timely, and useful feedback, including feedback that identifies needs and guides professional development…." It further specifies that states adopt guidelines for these systems and districts develop and implement systems that are consistent with those guidelines (U.S. Department of Education, 2012, pp. 18–19). So far, 37 states and the District of Columbia have applied for a waiver, indicating their intent to meet the previously outlined specifications.

Although the federal and state policies and associated guidance continue to refer to teacher learning as "professional development" rather than "job-embedded professional learning," the spirit of the policies is clearly directed toward harnessing teacher evaluation for the continuous improvement of teaching effectiveness through the provision of evidence-based feedback to teachers.

RESEARCH ON HOW TEACHERS LEARN BEST

Practice, of course, should be guided by research as well as policy. Unfortunately, research on how teachers learn and the best ways to educate them is a relatively young field, which has developed in distressing isolation from research on teaching itself (Grossman & McDonald, 2008). As such, we have relatively little theoretical grounding and less empirical evidence of how teacher practice develops along a continuum from novice to proficient to expert. In an attempt to begin to fill this gap, Ball and Cohen (1999) propose a practice-based theory of professional learning that argues essentially, that knowledge about teaching must be learned in practice

because "teaching occurs in particulars—particular students interacting with particular teachers over particular ideas in particular circumstances" (p. 10). Teachers, they argue, need to be able to learn to (p. 11):

- "Size up a situation from moment to moment," learning what students are doing and thinking and how instruction is being understood as classes unfold.
- Use this knowledge to improve their practice, examining their instruction with "care and some detachment, to challenge their own thinking, and to draw reasonable conclusions."
- "Operate experimentally," making predictions about how students may respond to instruction, implementing the instruction, collecting and analyzing evidence of the impact of the instruction, and revising instruction based on that analysis.

Through this iterative process of learning from practice, teaching improves. However, as research on the development of expert performance indicates, individuals improve through routine experience and practice but only up to a point (Ericsson, 2006; Ericsson, Krampe, & Tesch-Römer, 1993). The development of expert practice depends instead on many hours of *deliberate* practice and what psychologists call "high-fidelity feedback." As Ericsson (2006) notes, "Deliberate practice presents performers with tasks that are initially outside their current realm of reliable performance, yet can be mastered within hours of practice by concentrating on critical aspects and by gradually refining performance through repetitions after feedback" (p. 694). Although Ericsson's theories are based primarily on studies of the development of expert performance in sports, music, and chess, the concept of the utility of deliberate practice is now being applied to performance in other areas such as surgery (Ericsson, 2007), leadership (Ericsson, Prietula, & Cokely, 2007), and teaching (Bronkhorst, Meijer, Koster, & Vermunt, 2011; Dunn & Shriner, 1999; Marzano, 2011b).

Dunn and Shriner (1999) identified teaching activities that meet Ericsson et al.'s (1993) criteria[2] for deliberate practice. These activities can include planning and preparation as well as those that involve analyzing student performance and understanding through the use of assessments, graded written work and projects, or informal observations of student behavior. Joyce and Showers (2002) also discuss the need for guided practice of particular skills, either in simulated settings or actual classrooms, to produce desired changes in instruction:

> How much practice is needed depends, of course, on the complexity of the skill. To bring a teaching model of medium complexity under control requires 20 or 25 trials in the classroom over a period of about 8–10 weeks. Simpler skills, or those more similar to previously developed ones, will require less practice to develop and consolidate than those that are more complex or different from the teacher's current repertoire. (p. 74)

Coaches can help design deliberate practice tasks that focus on critical aspects of practice and provide high-fidelity feedback by showing the learner relevant, timely, and authentic evidence of the quality of his or her performance. Teachers also must be given the time and support to reflect on that feedback; Schön (1983) notes that teachers learn more from reflecting on their experiences than from their engagement in the experiences.

---

* These criteria, according to Dunn and Shriner (1999) include: "(a) teachers should perceive the behaviors as highly relevant to improving teaching effectiveness, (b) they should acknowledge that considerable effort is required to initiate and maintain the behaviors over time; (c) they should perform the behaviors frequently, and (d) they need not find the behaviors highly enjoyable in themselves" (p. 634).

Moreover, Joyce and Showers (2002) emphasize that teachers need to persist in practicing new skills. They argue, "In learning a new skill, pushing oneself through the awkward first trials is essential. In initial trials (when performance is awkward and effectiveness appears to decrease rather than increase) … persistence seems to differentiate successful from unsuccessful learners" (p. 80).

In the book, *How People Learn: Brain, Mind, Experience, and School*, the National Research Council describes a typology of learning environments that may support practice-based teacher learning including deliberate practice (Bransford, Brown, & Cocking, 2000). Based on case studies of teacher learning, the council concludes that teachers learn better when environments are more:

- ***Learner-centered.*** Learning environments that build on the individual strengths, interests, and needs of the learners (in this case, teachers) better enable them to learn; this also may be termed *personalized* or *differentiated* learning environments.
- ***Knowledge-centered.*** Learning environments that focus on discipline-specific content knowledge for teaching, rather than focusing on generic pedagogical approaches (i.e., cooperative learning groups). Learning opportunities should help teachers understand their subject matter more deeply and flexibly, including how to teach the particular subject matter well (which may involve learning about cooperative grouping strategies).
- ***Community-centered.*** Learning environments that involve norms such as collaboration, learning, and inquiry also support teacher learning.
- ***Assessment-centered.*** Learning environments that provide opportunities for teachers to test their understanding by trying out new approaches and receiving feedback to better enable teacher learning.

Since *How People Learn* was published, the growing research base that focuses specifically on the effectiveness of teacher professional development programs and delivery methods continues to support these conclusions. A growing consensus among researchers and practitioners suggests that the most effective teacher learning activities (i.e., those that improve instruction and, in turn, student achievement) involve forms of job-embedded professional learning. For a review including examples, see Croft, Coggshall, Dolan, & Powers (2010).

JOB-EMBEDDED PROFESSIONAL LEARNING

Research has shown that one-time workshops that are typically outside the context of a school seldom align with ongoing practice and do not reliably lead to improvements in teaching and learning (Loucks-Horsley & Matsumoto, 1999). Job-embedded professional learning, on the other hand, refers to teacher learning that (Darling-Hammond & McLaughlin, 1995; Hawley & Valli, 1999; Hirsh, 2009):

- Is grounded in day-to-day teaching practice.
- Occurs regularly.
- Consists of teachers analyzing students' learning and finding solutions to immediate problems of practice.
- Is aligned with student standards, school curricula, and school improvement goals.

As such, job-embedded professional learning is more likely to be learner centered, knowledge centered, community centered, and assessment centered than other forms of professional development.

Learner-Centered Professional Learning

High-quality, job-embedded professional learning is likely to be *learner-centered* to support teachers' active engagement in sustained professional learning activities that are specifically designed and intended to improve instructional effectiveness based on formative feedback (Bronkhorst et al., 2011; Palmer, Stough, Burdenski, & Gonzales, 2005). To promote deliberate practice in teaching, teachers need to learn how to analyze and reflect on their students' learning and the changes they may need to make to improve the impact of their instruction. Continuous professional learning should be connected to specific challenges teachers experience in their classroom and intentionally integrated into the workday and relationships of educators. Through this approach, collective responsibility and shared leadership for improved professional and student learning can be achieved (Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Desimone, Porter, Garet, Yoon, & Birman, 2002; Putnam & Borko, 2000).

Knowledge-Centered Professional Learning

High-quality, job-embedded professional learning is likely to be *knowledge-centered* because in the analysis of student learning, teachers refine their understanding of the content and how their students understand the content. Research findings associate positive change in educator practice with professional learning activities that focus not only on curriculum content but the teaching and learning of that content (Blank & de las Alas, 2009). Creating rigorous learning experiences for a diverse student population requires teachers to deepen their understanding of the specific curriculum content they teach and acquire the technical and pedagogical skills they need to teach that content effectively (Garet, Porter, Desimone, Birman, & Yoon, 2001; Wei, Darling-Hammond, & Adamson, 2010). To achieve positive change in educator practice, teachers need opportunities to observe, model, and practice new and effective strategies in content instruction. Furthermore, reflective, ongoing professional inquiry provides insight into the concrete challenges involved in teaching and learning specific subject matter (Garet et al., 2001; Saxe, Gearhart, & Nasir, 2001).

Community-Centered Professional Learning

High-quality, job-embedded professional learning is most often *community-centered*. As adult learners, educators need opportunities to collaborate with and learn from other knowledgeable teachers and school colleagues in meaningful and concrete ways. Teacher evaluation can be a tool for identifying effective teachers within a school who can serve as teacher leaders capable of sharing their practice and facilitating professional learning.

One structure for collaboration, professional learning communities or site-based teams, provides supportive interactions for teachers to assume a variety of leadership roles and encourage professional communication about student learning, shared values, innovative ideas, and instructional practice (Louis, Dretzke, & Wahlstrom, 2010). Emerging research has shown that when professional learning communities have a common focus on student learning and purposeful sharing of instructional practice, teachers adopt pedagogical practices that improve student learning experiences (Louis et al., 2010; Louis & Marks, 1998; Miller, Goddard, Goddard, Larsen, & Jacob, 2010; Saunders, Goldenberg, & Gallimore, 2009). Recent studies indicate that teacher collaboration increases collective efficacy, improves attitudes toward teaching, and fosters a greater understanding of students (Miller et al., 2010).

Assessment-Centered Professional Learning

Finally, high-quality, job-embedded professional learning is likely to be *assessment-centered*. Key principles of teacher assessment include providing opportunities for feedback and revision and ensuring that what is assessed is congruent with a teacher's learning goals (Bransford et al., 2000). The ability to analyze both the process and impact of one's instruction and make modifications based on that analysis is not only an essential aspect of instruction (Raudenbush, 2008) but an important part of learning and improvement (Ball & Cohen, 1999; Learning Forward, 2011; National Board for Professional Teaching Standards, 1987).

To learn and improve instruction, teachers need to apply and adapt new ways of teaching in the classroom, "testing" them to see whether they work. Feedback on whether or not instructional practices are working can come in the form of student learning data, the teachers' own observations of student engagement, observations from a peer or a coach, a video-taped record of the practice, discussion within a professional learning community, or the results of a formal evaluation. Considering the various forms of instructional feedback available, teacher analysis and reflection should be a shared and collaborative effort.

PROFESSIONAL LEARNING IN TEACHER EVALUATION

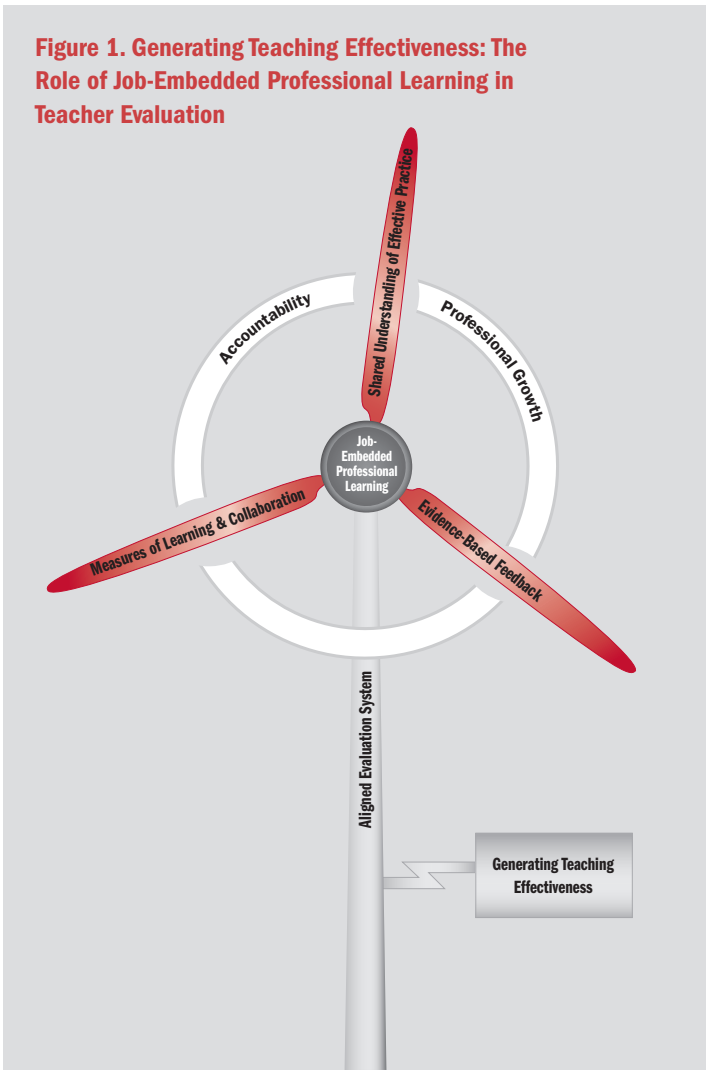
Well-designed and well-implemented aligned evaluation systems, as described in Goe, Biggers, and Croft (2012), provide assessment-centered environments that have the potential to help teachers learn and improve. Because these evaluation systems are so new, empirical evidence on how they work to improve practice is slim.

Based on what is known about teacher learning and evaluation, the wind turbine in Figure 1 depicts the three primary ways teacher evaluation has the potential to generate teaching effectiveness. Well-designed and well-implemented aligned evaluation systems:

- Help teachers and school leaders develop a common understanding of the contours of effective practice and what the expectations are for their performance.
- Provide sufficient evidence-based feedback to teachers to help them reflect on and improve their practice.
- Measure and account for teachers' learning and collaboration.

Residing at the hub of this system, job-embedded professional learning supports teacher learning throughout the evaluation process.

Figure 1. Generating Teaching Effectiveness: The Role of Job-Embedded Professional Learning in Teacher Evaluation



The following subsections provide a review of the research and practice on the following three ways that evaluation can increase teaching effectiveness:

- Establish a shared understanding of effective practice.
- Produce evidence-based feedback.
- Assess learning and collaboration.

This brief contains descriptions of one state-level and two district-level efforts to design and implement teacher evaluation systems that seek to put job-embedded professional learning at the core: The Teacher Evaluation and Development (TED) System for Districts in New York State, the Montgomery County Public Schools (MCPS) Teacher Professional Growth System (TPGS), and the District of Columbia Public Schools (DCPS) IMPACT evaluation system.

Evaluation Promotes Learning Through Shared Understanding of Effective Teaching

Well-designed and well-implemented aligned evaluation systems (i.e., those that enhance teaching and learning) have professional teaching standards (which are aligned with student learning standards) that describe the performances, knowledge, and dispositions that comprise excellence in teaching (Goe, Holdheide, & Miller, 2011; Goe et al., 2012). These standards identify what is valued in a school system and the factors that contribute to effective teaching. Professional teaching standards and frameworks, such as the InTASC Standards, the National Board for Professional Teaching Standards, or Charlotte Danielson's *Framework for Teaching,* seek to clearly describe teaching excellence in all of its facets and complexity and provide high but achievable goals for teacher practice. Moreover, standards provide a common language for teachers and leaders to talk about instruction so that all stakeholders have a shared understanding of what effective practice is and looks like (Danielson, 2011a; Sartain, Steoelinga, & Brown, 2011).

In turn, high-quality evaluation systems use multiple measures (e.g., classroom observation rubrics, assessments of student learning, student survey results) to capture the extent to which teachers meet the standards and their students meet their learning goals. These measures and associated metrics ideally further clarify the goals for teaching and help teachers understand the steps to achieve those goals.

Many sets of teaching standards include standards regarding teachers' professional responsibilities and the expectation that teachers engage in professional learning, including learning from the results of their practice and collaborating with their colleagues to increase their effectiveness. Table 1 contains some examples of these standards.

Table 1. Teaching Standards: Professional Learning Examples From Existing Frameworks

InTASC Model Core Teaching Standards (CCSSO)

Standard 9: Professional Learning and Ethical Practice. The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

Standard 10: Leadership and Collaboration. The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

Source: Council of Chief State School Officers, 2011, pp. 18–19

National Board for Professional Teaching Standards Five Core Propositions

Proposition 4: Teachers Think Systematically About Their Practice and Learn From Experience.

- NBCTs model what it means to be an educated person – they read, they question, they create and they are willing to try new things.
- They are familiar with learning theories and instructional strategies and stay abreast of current issues in American education.
- They critically examine their practice on a regular basis to deepen knowledge, expand their repertoire of skills, and incorporate new findings into their practice.

Proposition 5: Teachers Are Members of Learning Communities.

- NBCTs collaborate with others to improve student learning.
- They are leaders and actively know how to seek and build partnerships with community groups and businesses.
- They work with other professionals on instructional policy, curriculum development, and staff development.
- They can evaluate school progress and the allocation of resources in order to meet state and local education objectives.
- They know how to work collaboratively with parents to engage them productively in the work of the school.

Source: National Board for Professional Teaching Standards, 1987

Teaching as Leadership Framework (Teach For America)

Continuously Increase Effectiveness. Reflecting constantly on the pace of student progress toward the goals, highly effective teachers seek to improve their instructional practices to maximize student learning.

- Gauge progress and gaps.
- Identify contributing student actions.
- Identify contributing teacher actions.
- Identify underlying factors.
- Access relevant meaningful learning experiences.
- Adjust course.

Source: Teach For America, n.d.

Charlotte Danielson's *Framework for Teaching*

4a. Reflecting on Teaching

Distinguished Practice: Teacher makes a thoughtful and accurate assessment of a lesson's effectiveness and the extent to which it achieved its instructional outcomes, citing many specific examples from the lesson and weighing the relative strengths of each. Drawing on an extensive repertoire of skills, teacher offers specific alternative actions, complete with the probable success of different courses of action (p. 75).

4d. Participating in a Professional Community

Distinguished Practice: Teacher's relationships with colleagues are characterized by mutual support and cooperation, with the teacher taking initiative in assuming leadership among the faculty. Teacher volunteers to participate in school events and district projects making a substantial contribution, and assuming a leadership role in at least one aspect of school or district life (p. 87).

4e. Growing and Developing Professionally

Distinguished Practice: Teacher seeks out opportunities for professional development and makes a systematic effort to conduct action research. Teacher seeks out feedback on teaching from both supervisors and colleagues. Teacher initiates important activities to contribute to the profession (p. 91).

Source: Danielson, 2011b

Robert Marzano's Causal Teacher Evaluation Model

Domain 4: Collegiality and Professionalism

Promoting a Positive Environment

1. Promoting positive interactions about colleagues
2. Promoting positive interactions about students and parents

Promoting Exchange of Ideas and Strategies

1. Seeking mentorship for areas of need or interest
2. Mentoring other teachers and sharing ideas and strategies

Source: Marzano, 2011a, p. 4

District of Columbia Public Schools

Commitment to the School Community

CSC5 Teacher consistently collaborates with colleagues to improve student achievement in an effective manner.

Teacher extends impact by proactively seeking out collaborative opportunities with other teachers and/or by dedicating a truly exceptional amount of time and energy towards promoting effective instructional collaboration.

Source: District of Columbia Public Schools, 2011a, pp. 46–47

New York State Teaching Standards

Standard VI: Professional Responsibilities and Collaboration
Teachers demonstrate professional responsibility and engage relevant stakeholders to maximize student growth, development, and learning.

Element VI.2: Teachers engage and collaborate with colleagues and the community to develop and sustain a common culture that supports high expectations for student learning.

Performance Indicators:

a. Teachers support and promote the shared school and district vision and mission to support school improvement.

b. Teachers participate actively as part of an instructional team.

c. Teachers share information and best practices with colleagues to improve practice.

d. Teachers demonstrate an understanding of the school as an organization within a historical, cultural, political, and social context.

e. Teachers collaborate with others both within and outside the school to support student growth, development, and learning.

f. Teachers collaborate with the larger community to access and share learning resources.

Standard VII: Professional Growth
Teachers set informed goals and strive for continuous professional growth.

Element VII.1: Teachers reflect on their practice to improve instructional effectiveness and guide professional growth.

Performance Indicators:

a. Teachers examine and analyze formal and informal evidence of student learning.

b. Teachers recognize the effect of their prior experiences and possible biases on their practice.

c. Teachers use acquired information to identify personal strengths and weaknesses and to plan professional growth.

Element VII.2: Teachers set goals for, and engage in, ongoing professional development needed to continuously improve teaching competencies.

Performance Indicators:

a. Teachers set goals to enhance personal strengths and address personal weaknesses in teaching practice.

b. Teachers engage in opportunities for professional growth and development.

Element VII.3: Teachers communicate and collaborate with students, colleagues, other professionals, and the community to improve practice.

Performance Indicators:

a. Teachers demonstrate a willingness to give and receive constructive feedback to improve professional practice.

b. Teachers participate actively as part of an instructional team to improve professional practice.

c. Teachers receive, reflect, and act on constructive feedback from others in an effort to improve their own professional practice.

Element VII.4: Teachers remain current in their knowledge of content and pedagogy by utilizing professional resources.

Performance Indicators:

a. Teachers benefit from, contribute to, or become members of appropriate professional organizations.

b. Teachers access and use professional literature and other professional development opportunities to increase their understanding of teaching and learning. Teachers expand their knowledge of current

Montgomery County Public Schools

Standard V: Teachers are committed to continuous improvement and professional development.

Performance Criteria:

a. The teacher continually reflects upon his/her practice in promoting student learning and adjusts instruction accordingly.

b. The teacher draws upon educational research and research-based strategies in planning instructional content and delivery.

c. The teacher is an active member of professional learning communities.

Source: Montgomery County Public Schools, 2011, p. A-8

Job-Embedded Professional Learning to Support Shared Understandings of Effectiveness

One way to harness the power of an aligned evaluation system is to provide adequate and effective job-embedded professional learning opportunities for teachers to learn the standards and metrics that make up the system. Learning the standards can be a challenge, yet the entire evaluation process hinges on all stakeholders having a thorough understanding of the standards. Some of the more commonly used frameworks for classroom observations include multiple domains and indicators within those domains. For example, the *Danielson Framework for Teaching* has 4 domains with 22 components and 76 elements across those domains. The Marzano teacher evaluation framework has 4 domains and 60 indicators. The InTASC standards, which are used as a basis for many state certification systems, have 10 standards with a total of 75 example performance indicators, 56 indicators of essential knowledge, and 43 indicators of critical dispositions across those 10 standards. Whatever comprehensive framework is used, it will take time for those new to the system to learn it because they will be unlikely to have learned it in their teacher preparation programs.

One way for teachers to begin learning the expectations, standards, and metrics of the evaluation system is for them to use the standards and evaluation rubrics in a self-assessment, in which they describe the extent to which they believe their current teaching practice meets or exceeds those standards. If done thoughtfully, teachers can familiarize themselves with the goals of the evaluation. Teacher self-assessment is often the first step in an evaluation cycle or process. For example, in the North Carolina Teacher Evaluation Process, teachers are asked to complete a self-assessment using the system rubric at the beginning of the year. Evaluators do not collect the self-assessment, but it is used in the development of a teachers' professional development plan and is discussed during preobservation and postobservation conferences (Mid-continent Research for Education and Learning, 2009). (See also the Practical Example of the TED System on page 22 for its approach to teacher self-reflection).

Goal setting using the standards is another helpful tool for understanding the expectations. Teachers, usually in collaboration with their principal, may choose two or three standards on which to focus their improvement efforts throughout the year. Even when a complex framework is well articulated, teachers may

need support to break the performance standard down further into tasks that they can practice deliberately and for which they can receive feedback for improvement. One approach is for teachers to video record their teaching practice as part of their self-assessment, response to feedback, or work toward meeting professional practice goals. Teachers who observe their own practice are able to set goals based on their actual performance and directly connect the standards to their everyday work.

Evaluation Promotes Learning Through Evidence-Based Feedback

Well-designed and well-implemented aligned evaluation systems that generate teaching effectiveness ensure that teachers receive sufficient, timely, and accurate evidence-based feedback on their practice to make positive changes. Feedback is formative and highly focused with the potential to shape teaching (Goe et al., 2012; Hill & Herlihy, 2011).

In most teacher evaluation systems, the opportunity for feedback tends to occur as the evaluator, usually a principal or teacher leader, and a teacher engage in professional conversations during a preobservation or postobservation conference that is part of a formal evaluation process. These conversations typically focus on teaching with respect to the evaluator's assessment of the teacher's practice using the evaluation standards and tools. The evidence the principal collects during an observation (e.g., the number of students who were doodling in their notebooks, the questions the teacher asked, or the percentage of time the students spent in non-accountable talk) is the basis for these conversations. For example, rather than the principal telling the teacher, "You only asked lower-order thinking questions," the principals can say, "I wrote down all the questions you asked during the lesson (here they are)—what kinds of questions did you ask? Where might you place yourself on the rubric regarding the use of effective questioning techniques?"

Providing feedback in this way changes the nature of the conversation from a "telling" of one's practice to an evidence-based professional conversation in which the teacher has the opportunity to reflect on and self-assess his or her practice. This kind of learner-centered conversation is more likely to lead to improvement in practice. As Garmston and Wellman (2009) argue, dialogue between an evaluator and a teacher is ideally reflective and leads to shared meaning and understanding.

However, even in a well-designed evaluation system, the feedback that teachers receive can vary. As a study of a pilot evaluation system in Chicago revealed, although teachers and principals reported that the new evaluation system led them to have conversations that were more focused on important matters of instruction than their previous non-standards-based system, the researchers found that the feedback conversations tended to be dominated by the principal. Only 10 percent of the questions principals asked of teachers reflected high expectations for teachers or required deep reflection about instructional practice (Sartain et al., 2011). Rarely did the principal or teacher push each other's interpretations of the situation.

Nevertheless, basing the conversations on evidence collected during the observation helped reduce subjectivity and improved teachers' ability to reflect on their practice:

> One administrator explained that having evidence made "it easier to talk about the good and the bad." Evidence-based observations also helped to remove some of the emotion from the evaluation process. When talking to teachers who were unhappy with their ratings, or who had received Unsatisfactory ratings, one administrator

> said, "You will have enough evidence to support what you're saying." Evidence-based feedback during postconferences gave teachers "the opportunity to look at themselves and what their performance truly looked like." (Sartain et al., 2011, p. 23)

Teachers need to be supported by their principals or other instructional leaders in analyzing and reflecting on their own practice and learning from feedback. Supporting teachers in this way is not a simple skill for principals or teacher leaders to learn. Evaluator training tends to focus on how to collect appropriate evidence and make reliable and valid judgments or ratings about the quality of teaching based on the evidence against the standard, rather than on how to engage in professional conversations that facilitate teacher learning from the evidence and those judgments (Hill & Herlihy, 2011). Focusing on data collection and ratings is difficult enough (e.g., Bill & Melinda Gates Foundation, 2012), but focusing exclusively on those factors limits the power of evaluation to generate greater teaching effectiveness.

More evaluation systems are beginning to provide training for their evaluators and instructional leaders in how to embed evidence-based feedback in professional conversations that support reflection and self-assessment (See Practical Examples on the TED System, Montgomery County Public Schools' System, and the IMPACT System on pages 22–25 for varied approaches to such training).

Job-Embedded Professional Learning to Support Learning From Evidence-Based Feedback

The opportunities for observation and feedback in formal evaluation systems vary, occurring as rarely as once every three years for tenured teachers in some districts, to two or three times per year in other districts, and as often as five times per year in a few districts (e.g., the District of Columbia). In short, teachers have limited opportunities to receive feedback from evaluators on deliberate practice of skills, which can lead to the development of expert performance (Ericsson, 2006). Thus, teachers need other opportunities for job-embedded professional learning and feedback.

Although the evidence-based feedback teachers receive through the evaluation process from their principal or evaluator can be a powerful learning experience, evaluators are not the only ones who can provide feedback. More frequent and thus potentially more educative evidence-based feedback can come from peers in a professional learning community, from a trained coach or mentor, and from a collaborative examination and reflection on student work.

"Elbow coaching," an approach in which coaches teach elbow-to-elbow with the teacher in the classroom, is an emerging method for providing the immediate feedback that teachers need to improve their practice. In this model, the coach models a practice or teaches five minutes or so of a lesson, so the teacher can see excellent practice in action (Johnson, 2012) and immediately try it as he or she resumes teaching the class. As Johnson notes, this "real-time, bite-sized" feedback is potentially more powerful than coaching sessions in which "after observing a lesson, a coach might say to the teacher, 'now what I would have done is ….'" Such coaching has an additional benefit to students because they receive instruction directly from expert teachers and the student-teacher ratio is reduced by half (National Institute for Excellence in Teaching, 2012).

Teachers in the TAP program are evaluated four to six times per year, after which they engage in a 40-minute postobservation conference during which the teacher and instructional leader discuss "area of reinforcement" and one "area of refinement" tied to specific indicators on the TAP rubric (National Institute for Excellence in Teaching, 2012). Still, TAP leaders recognize that to genuinely improve teaching, follow-up coaching is needed to help teachers refine their teaching practice in the targeted areas.

Evaluation Promotes Learning Through the Assessment of Professional Learning and Collaboration

Hill and Herlihy (2011) make a valid and important point when they state, "the reform of the teacher evaluation system will see its chief successes not through carrots and sticks, but through providing teachers with information about their performance and means for improvement" (p. 5). However, one way to establish an expectation that teachers engage meaningfully in structured and facilitated job-embedded professional learning with the collective purpose of enhancing student learning may be by measuring such engagement as part of teachers' final evaluation "score."

Doing so in a way that promotes true learning rather than mere compliance will be a change for many evaluation systems. Despite the need for teachers to learn in practice (as suggested by Ball & Cohen, 1999), as well as from deliberate practice (as suggested by Dunn & Shriner, 1999 and Ericsson, 2006), most evaluation systems place little, if any, emphasis on teachers' responsibilities for professional learning and collaboration. Even when such responsibilities are included as performance expectations (as shown in Table 1), the collection and analysis of evidence of teachers' continuous learning is rarely as rigorous as it is for other domains of practice. Including professional learning and collaboration in evaluation in a much more focused way could provide the necessary impetus for districts to establish collaborative cultures for continuous improvement and to institute the structures and supports necessary to support job-embedded professional learning.

Professionals take charge of their own growth and development by constantly seeking to strengthen teaching effectiveness and the quality of their teaching and that of their colleagues in the following ways (Alter & Coggshall, 2009):

- Analyzing the impact of their practice on student learning
- Engaging in reflection on their practice
- Adapting their practice as a result of their deep reflection
- Actively collaborating with colleagues in this learning process

In addition to taking these actions, teachers need to develop a disposition for ongoing analysis of the impact of their instruction on student learning and the reflection on their practice in an effort to continuously increase their effectiveness. As the research on teacher learning implies, teachers need to develop a habit of asking such questions as "How did my instruction impact my students' learning of this content?" "What might I need to do next?" "How might I improve upon this lesson in the future?" "What more might I need to learn?" Then, they need to adjust their practice based on what they have learned. These indicators of professional learning are integral to achieving the levels of competency defined by established professional teaching standards (as shown in Table 1) and to impact student learning.

Sources of Evidence for Measuring Learning

There are several factors to consider when selecting sources of evidence of teacher engagement in learning and collaboration. Goe et al., and Croft (2012) offer five general criteria to assist developers when making decisions about which measures to include in their evaluation systems (p. 6):

- "Measures are directly and explicitly aligned with teaching standards. This alignment ensures that what is valued most is being measured and what is expected is unambiguous.
- "Measures include protocols and processes that teachers can examine and comprehend. Evaluation that makes

sense to teachers will be more meaningful and have a greater impact.

- "Measures allow teachers to participate in or co-construct the evaluation. Collecting evidence on themselves encourages reflection on practice and empowers teachers to be proactive in their evaluation.
- "Measures allow teachers opportunities to discuss the results with evaluators, administrators, colleagues, teacher learning communities, mentors, and coaches. Active intellectual engagement leads to deeper learning.
- "Measures align with professional development offerings. The type of data collected lends itself to informed professional development decisions."

In addition to concerns about validity and reliability, the selection of evidence also should be based on public credibility—teachers need to see the evidence as reasonable and appropriate (Goe, Bell, & Little, 2008). The sources of evidence described in this section are potentially very credible. Each can be viewed and valued as an integral element of the learning process in which teachers are engaged. Each source facilitates and evaluates at least one of the skills of analysis, reflection, adaptation, and ongoing collaboration, with some evaluating more than one indicator.

Finally, no one piece of evidence can provide all of the information needed to accurately measure teacher effectiveness (Goe et al., 2012). Using multiple measures of teacher learning and collaboration can provide a safeguard against false positives (i.e., instances in which teachers are able to demonstrate what they are capable of but not necessarily what they do every day). Triangulation adds rigor to the evaluation by providing a more holistic picture of a teacher's strengths and weaknesses across time and in different contexts. For example, evidence provided by the analysis of teacher artifacts also should be aligned with and validated by different measures, such as the conclusions and evidence provided in a classroom observation using a rubric (Clare & Aschbacher, 2001; Matsumura et al., 2006; New York State United Teachers, 2011a, 2011b).

Table 2 provides a summary of the measures of professional learning and collaboration that can be used in an evaluation system. The following list of sources of evidence is not intended to be exhaustive. Rather it represents the sources most often cited in the literature and conducive to job-embedded professional learning (Danielson, 2011b; Goe et al., 2008; Goe et al., 2011; Goe et al., 2012; Hillsborough County Public Schools, 2011; New York State United Teachers, 2011a, 2011b; Peine, 2008). Examples from actual teacher evaluation systems are provided for each source.

Table 2. Measuring Professional Learning and Collaboration

Indicators of Teacher Learning and Collaboration	Sources of Evidence/ Documentation	Assessment of the Evidence (Measurement)	Examples of Measures in Use in Teacher Evaluation
Teachers analyze the impact of their practice on student learning. • Teachers analyze what students' performances suggest about their teaching. • Teachers analyze the effect of their professional learning on student learning.	• Activity logs • Artifact analysis • Classroom observations, including preobservation and postobservation conferences • Portfolios	• Rubrics with scoring criteria • Standards-based template for collecting evidence • Protocols with scoring criteria	• Newport News Public Schools • Hillsborough Teacher Evaluation Instrument • Pittsburgh RISE Rubric • Teacher Education and Development (TED) • Montgomery County Public Schools Teacher Professional Growth Plan (MCPS TPGS) • Teacher and Student Advancement (TAP)
Teachers reflect on their practice. • Teachers consider what they might do next based on their analysis. • Teachers consider how to make adjustments to future instruction based on their analyses.	• Artifact analysis • Written reflections as part of a professional portfolio of evidence • Professional growth plans	• Rubrics with scoring criteria • Standards-based template for collecting evidence	• TED • MCPS TPGS • Hillsborough Teacher Evaluation • TAP
Teachers adapt practices based on their reflections. • Teachers adjust their practices to meet the learning needs of all students.	• Activity logs • Artifact analysis • Observations • Portfolios with logs, commentary, and artifact analysis • Professional growth plans	• Rubrics with scoring criteria • Rubrics with scoring criteria • Standards-based template for collecting evidence	• TED • MCPS TPGS • TAP
Teachers actively engage in collaboration. • Teachers actively participate on teams and/or in professional learning communities. • Teachers maintain positive relationships with colleagues.	• Artifact analysis • Portfolios with logs and commentary • Activity logs • Observations of professional learning communities, coaching sessions	• Frequency scales (did not find this for activity logs) • Rubrics with scoring criteria	• District of Columbia IMPACT • MCPS TPGS • Newport News Public Schools • TED • TAP

Activity Logs. An activity log of teachers' professional learning experiences and their involvement as members of learning communities or instructional teams is one source of evidence used to measure teachers' analysis, reflection, and collaboration. Logs provide structure for documenting teachers' commitment to significant, ongoing professional learning. A teacher's log often reflects multiple years of professional learning to document his or her commitment to continuous improvement. Teachers might have numerous professional learning experiences in a year, so they need to be very discerning in selecting what to include.

Teachers' activity logs typically include detailed descriptions of their significant learning opportunities, an analysis of the significance of the new learning on their practice, and a summary of the impact of their new practice on their students' learning. In addition, teachers also may be asked to provide artifacts as validation of their participation in the activities (e.g., letters from administrators indicating participation, study team minutes) and the impact on their practice (e.g., a newly developed resource, a lesson plan). (A richer description of artifacts is provided in the following subsection).

The Newport News (Virginia) Public Schools' second-year teacher evaluation system, for example, requires teachers to describe the professional development in which they participated and explain how it helped them meet their established growth goals as well as how their learning impacted their students' learning. Similarly, the TED system and MCPS TPGS ask teachers to log their professional development activities (See Practical Examples).

Although activity logs provide evidence of factors that affect teaching and that an evaluator may not be able to observe, they require considerable time for teachers to keep frequent and detailed accounts of their professional learning. State and district leaders considering activity logs as part of an evaluation system also should be aware of the potential for teachers' attention to be focused on populating the activity log and diverted from teaching. Finally, the use of activity logs as evidence assumes that what teachers report is accurate and not fabricated or enhanced. Triangulating results with artifacts helps corroborate teachers' self-reports.

Artifact Analysis. An artifact typically refers to a product resulting from teachers' work such as lesson or unit plans, teacher assignments, student work samples, teacher-created assessments, scoring rubrics, and video clips or slideshows. The artifact is usually collected and analyzed by the teacher, and both the artifact and analysis are shared with the evaluator. The artifact analysis can be designed to provide evidence of professional learning in terms of analysis, reflection, and alignment with teaching standards. In MCPS's Teacher Professional Growth System, several artifacts are listed as possible sources of data beyond classroom observations for the evaluation of each standard (See Practical Examples).

Although the analysis of artifacts can be conducted by the individual teacher, pairs or groups of teachers can work collaboratively to complete the analysis. Little's (2003) review of school-based initiatives that include examination of student work found that analyzing student work in groups cultivates professional communities that are willing and able to inquire into practice. Matsumara and Pascal (2003) support collaborative professional learning based on classroom assignments and corresponding student work samples. According to Goe et al. (2012), classroom artifacts are a promising measure that supports professional learning and can be used to evaluate teacher effectiveness.

To help ensure validity and reliability, artifact analysis should be guided by a structured protocol or template that has been tested by several users. Protocols guide conversations, providing educators with a schedule and structure for engaging in dialogue and offering formative feedback based on the analysis of and reflection on artifacts. Protocols also

provide a safe, transparent, and constructive way for teachers to discuss what matters most to them—their own teaching and their students' learning—and to find ways to improve instruction and results (Easton, 2008, 2009; McDonald, Mohr, Dichter, & McDonald, 2007). In the TED system, for example, Analysis of Teaching Artifacts and Structured Review of Student Work protocols are used in conjunction with classroom observation. In the MCPS TPGS, a number of different artifacts are listed among the sources of data beyond classroom observations for each of the standards (See Practical Examples).

The research-based protocols and templates used by districts and schools where teachers engage in such job-embedded professional learning formats, as a well-established professional learning community, lesson study group, examining student work group, and/or data teams, may hold promise for supporting learning through evaluation (Easton, 2008, 2009; McDonald et al., 2007).

Observations. Observations of classroom teaching can be an option for measuring teachers' learning in terms of analysis and reflection. To determine the extent to which teachers analyze the impact of their instruction and reflect appropriately on that analysis to impact student learning, evaluators can collect evidence by asking the following questions during a preobservation conference:

- What are your goals for student learning for the lesson I am about to observe?
- Are those goals based on student assessment data or something else?
- What are your plans for the lesson after this one?

During a postobservation conference evaluators might ask the following questions:

- What evidence do you have that students met or did not meet the learning goals you set?
- Have your plans for the next lesson changed based on how you think this one went?

During the lesson itself, evaluators can take note of how teachers check for understanding throughout the lesson and see what teachers do in response to those checks. Do they merely move on with the lesson as planned or do they stop to adjust or try to get at the sources of those misunderstandings?

Evaluators can use the evidence they collect during the observation and in the preobservation and postobservation conferences to rate teachers on a rubric. For example, the Pittsburgh RISE Evaluation Rubric, has a domain of *Using assessment to inform instruction* as well as *Demonstrating flexibility and responsiveness,* which observers can use to gather evidence during observations to measure teacher analysis, reflection, and adaptation of instruction (Pittsburgh Public Schools, 2011). For each of the performance levels, the rubric also contains a set of critical attributes that provide evaluators further guidance in what evidence to collect and how to rate teachers on a scale on a four-level scale from *basic* to *distinguished*.

Teacher observation of other teachers' classroom practices can be a powerful form of job-embedded professional learning, particularly when a group of teachers observes a lesson and is able to discuss the evidence of teacher analysis and reflection.

Observations of teacher engagement in job-embedded professional learning can be a way of collecting evidence with which to measure teacher learning and collaboration. In the TED, MPCS, and Washington, D.C. IMPACT systems, evaluators conduct formal classroom observations and observations of other planned activities to evaluate teachers' ability to analyze, reflect, and adapt instruction (See Practical Examples for different observation approaches).

Professional Growth/Development Plans. Many states and district systems make use of an individual growth plan to focus professional development according to standards-based ratings of teacher practice. The TED system's Professional Learning Plan (PLP) and MCPS's Professional Development Plan (PDP) are robust

examples of focused plans (See Practical Examples for details). Though both the PLP and PDP are carefully reviewed at the final evaluation conference within their respective systems, both also are seen as key tools for identifying teacher learning goals that are aligned with school and district student goals and that provide a structure for guiding professional growth throughout the evaluation process. In TAP, an Individual Growth Plan (IGP) is a comprehensive tool that guides a teacher's professional growth. Among other things, the IGP includes an individual goal based on student data from the teacher's classroom. It also incorporates the teacher's area of refinement on the TAP Rubric identified during the evaluation process. As such, the IGP enables the teacher to connect measurable goals for student learning with measurable goals for teacher learning (National Institute for Excellence in Teaching, 2012).

Within an aligned evaluation system, that plan is not viewed as a remedial plan meant only for ineffective or developing teachers but rather a plan that ensures access to high-quality professional learning for all teachers. This approach allows teachers to experience professional growth that enables them to move to a higher level of teaching effectiveness.

Portfolios. A teacher portfolio is another source of evidence that can be used to measure teachers' analysis, reflection, adaptation, and collaboration. Painter (2001) defines a teaching portfolio as a:

> Documented history of a teacher's learning process against a set of teaching standards. The portfolio is much more than an elaborate scrapbook or a collection of written documents: It is an individualized portrait of the teacher as a professional, reflecting on his or her philosophy and practice. This portrait is fully realized through the teacher's deliberate selection of artifacts and thoughtful reflections on those artifacts, which provide insight into the teacher's growth. (p. 31)

Painter's reference to artifacts includes any of the sources of evidence previously described.

There are many advantages for including teacher portfolios in an evaluation system:

- Portfolios provide the evaluator with a broad and varied view of a teacher's level of competency in professional learning and collaboration.
- Portfolios provide a wide variety of evidence.
- Portfolios document teachers' growing knowledge base and competency in skills over time.
- Portfolios can provide evidence of teaching skills not observable in the classroom.
- Portfolios can be completed individually while also encouraging collaboration.
- Teachers view the portfolio as credible because it provides them with opportunities to be placed in active, professional roles that allow for reflection and growth.

The primary downside to requiring a portfolio is the extensive amount of time required to develop and score it. It also should be noted that what teachers select to include in a portfolio is a sample of what they are capable of doing. It does not necessarily measure what the teachers do every day.

Portfolios come in many different forms and serve many different purposes (McNelly, 2002). Teacher portfolios are required in the TED system and MCPS TPGS to provide evidence of growth and reflection over an extended period of time.

Some portfolios require a binder filled with several artifacts of student and teacher work to provide evidence of different aspects of teaching in real-time and in a teacher's real context. In other situations, they might be more narrowly focused on a few artifacts that document a particular time in the school year. Regardless, the portfolio should be grounded by a set of standards that can be measured. Detailed directions and prompts also are provided to guide teachers' artifact selection and development of their written commentaries. Teachers need to be discriminating in what they submit, as the portfolio provides the evidence used to

determine whether the standards were met. But this measure also can become an exercise in creating an image of one's self rather than an exercise in evaluating one's self. The emphasis here should be on the teacher's comments about his or her own practice rather than the exhibition itself.

The scoring criteria should be represented by a rubric or rating scale that contains both qualitative and quantitative elements of each of the standards being evaluated. This approach helps to ensure a standard measure of effectiveness for all portfolios. Again, the standards and scoring criteria must be presented to the teachers before they begin compiling their portfolios.

Job-Embedded Professional Learning to Support Measuring Learning and Collaboration

Job-embedded professional learning designs, such as lesson study, video analysis, and professional learning communities, provide an ideal context for both supporting and collecting evidence of teachers' proficiency in the skills and dispositions of professional learning and collaboration. Job-embedded professional learning also provides multiple opportunities for teachers to document and evaluators to collect evidence to determine the extent to which teachers analyze the impact of their instruction, reflect appropriately on that analysis, and actively collaborate with colleagues. However, these factors are unlikely to be influential unless the conditions that support professional learning and collaboration are in place.

ESSENTIAL CONDITIONS FOR PROFESSIONAL LEARNING IN EVALUATION

As a recent report from the National Institute for Excellence in Teaching points out, "research tells us that even the best-designed [professional development] will not work consistently and reliably unless schools find ways to create a structure and assign specific authority and responsibility to those charged with supporting it, overseeing it, and reinforcing it at every turn" (National Institute for Excellence in Teaching, 2012, p. 19). The same goes for evaluation—even the best designed system with reliable and valid measures of effectiveness will not support improvement in teaching effectiveness and student learning unless certain essential conditions are continuously being cultivated.

These conditions include the following:

- A culture of trust, continuous learning, and collaborative inquiry within each school.
- Well-supported and effective coaches, teacher leaders, and principals who are thoughtfully selected based on valid indicators of effectiveness rather than seniority or popularity; charged with the responsibility and authority to support and monitor teacher learning; and are able to help provide meaningful, evidence-based feedback on practice and support teachers' analysis, reflection, and collaboration.
- Support for forming or repurposing teams of teachers for job-embedded professional learning, such as content or grade-level teams, vertical or cross-content teams, and data teams.
- Availability of knowledgeable and effective facilitators to ensure that collaborative team time is purposeful and productive.

- Ample common collaborative learning time, as well as time for teachers to analyze and reflect on their teaching individually or with a coach, mentor, or trusted peer.
- The prioritization and allocation of resources to support the sustainable implementation of job-embedded professional learning.
- Thoughtful alignment among job-embedded professional learning, school and district goals and priorities, and instructional resources like curriculum and assessments.

Creating these conditions will take a well-planned, intentional approach and will require resources, time, and effort. These conditions may be extremely difficult to create in many currently underresourced schools with high amounts of teacher or leader turnover but are critical for harnessing the power of teacher evaluation to generate effectiveness. Without these conditions, teacher evaluation will devolve again into an empty compliance exercise at best or as a cudgel wielded to bash teachers at worst.

Ensuring that teachers have high-quality opportunities to analyze, reflect, and collaborate on their teaching requires active monitoring. Fortunately, monitoring can be incorporated into the evaluation cycle. For instance, if teachers are not providing high-quality evidence of their learning through activity logs, portfolios, or observation conferences, then that may be a signal that job-embedded professional learning is not being implemented well. Of course, more formal program evaluation measures also would be beneficial.

CONCLUSION

The vast amounts of money, energy, and dedication currently being expended to reform teacher evaluation systems will only ensure the continuous improvement of teaching and learning if teacher learning is part of evaluation. The full integration of high-quality job-embedded professional learning in teacher evaluation can be a powerful lever for creating and sustaining change.

Using what is known about how teachers learn and creating evaluation systems with integrated opportunities for aligned job-embedded professional learning that is more learner-centered, knowledge-centered, community-centered, and assessment-centered will more likely capture the energy-generating potential of teacher evaluation reform. Whether or not it does, depends critically on the conditions for learning that are present in schools.

PRACTICAL EXAMPLES OF EVALUATION SYSTEMS THAT PROMOTE PROFESSIONAL LEARNING

Practical Example: The Teacher Evaluation and Development System for Districts in New York State

Context

The Teacher Evaluation and Development (TED) System was developed under the leadership of New York State United Teachers (NYSUT) in 2009 and funded by both the American Federation of Teachers Innovation Fund and a competitive Investing in Innovation grant awarded by the U.S. Department of Education. Successfully piloted in 2011, the TED system is one model of an evaluation system approved by New York for district use. TED incorporates an annual four-phase teacher evaluation cycle with all phases reinforcing one another:

- Phase 1: Teacher Self-Reflection
- Phase 2: Preobservation Conference, Evidence Collection, and Postobservation Conference
- Phase 3: Summative Evaluation
- Phase 4: Goal-Setting and the Professional Learning Plan

Both teacher and evaluator consistently and collaboratively use the New York Teaching Standards and the Teacher Practice Rubric as framing concepts for evaluation and growth throughout the phases.

Shared Understanding of Effective Teaching

During Phase 1, teachers use a written self-reflection form to review the standards and the Teacher Practice Rubric in light of their incoming student needs, curriculum, professional learning needs, and school and community climate developments. They clarify teaching goals and, as appropriate, reflect on adjustments needed in their professional learning plan from the previous evaluation cycle.

Evidence-Based Feedback

TED evaluators receive training in evidence collection of professional practice. This evidence supports the training they receive in professional conversations so that they can keep dialogue focused on teaching and learning, build a common understanding of the standards and the rubrics, and provide formative feedback on evidence in relationship to the rubrics. The teacher is an active participant in the process as she or he analyzes and presents evidence to the evaluator. Therefore, it is reciprocal dialogue and formative feedback that lay a foundation for professional learning throughout the evaluation process. During a summative evaluation conference, the evaluator and teacher discuss all evidence from multiple measures and feedback focused on each of the seven standards. The Summative Conference really consists of four separate components:

- **Scoring.** The teacher and evaluator collaborate on a rating category.
- **Feedback.** The teacher and evaluator examine and discuss evidence.
- **Diagnosis.** Areas for strengths and growth are identified and goals are set.
- **Learning Plan.** Learning designs are formulated for goal attainment.

After the teacher reviews the summative evaluation report, the teacher and evaluator discuss focused goal-setting and learning activities to be detailed in the professional learning plan. The purpose of the plan is to support professional learning activities of value to teachers that are designed to improve student and school results. Activities are differentiated and part of a learning plan design for teachers based on evidence, feedback, scores, and ratings. Although the professional learning plan may begin as a result of an initial teacher evaluation, it will continue as a multi-phase strategy that informs and is informed by the evaluation process.

Measures of Professional Learning and Collaboration

TED summative evaluation scores are based in part on the extent to which teachers have met Professional Collaboration and Responsibilities and Professional Growth Standards. In several districts, teachers build portfolios over an extended period of time to provide evidence of these standards.

Artifact analysis also is used in the TED system to assess professional learning in terms of analysis of lesson plans, grouping, instructional strategies, and reflection. The extended observation protocol includes the following:

- Analysis of teaching artifacts such as a lesson or unit plan during the preobservation.
- Observation using the Teacher Practice Rubric to collect evidence.
- Reflection and a structured review of student work during the postobservation conference.

Goal setting and individual learning plans complete the evaluation process.

Further Development

The TED developers are currently working with district design teams to revamp traditional professional development to more closely align with the evaluation outcomes. They are focusing on creating schools as learning organizations that engage teachers in ongoing job-embedded professional learning in which they routinely meet with their colleagues to reflect on their practice and student learning, gain new knowledge and skills, apply what they are learning, and assess its impact.

Sources: New York State Education Department, 2011; New York State United Teachers, 2011a, 2011b

Practical Example: Montgomery County Public Schools (MCPS) Teacher Professional Growth System (TPGS)

Context

The TPGS for MCPS integrates two important components: a qualitative approach to teacher evaluation and professional learning. The essential elements as they relate to evaluation within this system are as follows:

- **Standards.** Six standards for teacher performance, based on the National Board for Professional Teaching Standards, with performance criteria for how the standards are to be met and descriptive examples of observable teaching behaviors. A wide range of data sources can be used as evidence for each performance standard.
- **Professional Growth Cycle.** To support learning communities, the TPGS places teachers in a multi-year professional growth cycle. The formal evaluation year is integrated into the multi-year process of professional growth, continual reflection on goals and progress meeting those goals, and collegial interaction.
- **Multiple Measures.** Evaluators complete a narrative description based on performance standards that includes the following: classroom observations, analysis and review of student results, contributions to overall school mission and environment, review of student and parent surveys, review of professional development plan (PDP) and implementation results, and any other evidence collected by the evaluator and/or the teacher during the full length of the cycle.
- **Performance Levels.** The TGPS provides, at a minimum, an overall rating of *Meets Standard* or *Below Standard.*
- **Peer Assistance and Review.** A peer assistance and review (PAR) program employs teacher-leaders called consulting teachers who provide instructional support to teachers new to the profession and those not performing to standard. The consulting teachers report to a PAR panel composed of teachers and principals appointed by the unions that has responsibility for quality control and improvement.

Shared Understanding of Effective Practice

Two six-day courses, based upon the six performance standards, promote a common language and understanding of effective practice and are instrumental in the success of the TPGS and a wide variety of district professional learning experiences.

- The courses, Observing and Analyzing Teaching 1 & 2, prepare observers, evaluators, and all school staff involved in the assessment of teaching performance to collect and analyze multiple sources of evidence about a teacher's work across the standards.
- Studying Skillful Teaching 1 & 2 are companion courses for teachers that focus on student learning and teaching effectiveness in the classroom and include skills for design of learning experiences and effective peer support and collaboration.

Evidence-Based Feedback

Opportunities and support for meaningful dialogue and evidence-based feedback are incorporated into the previously described courses and the multiple measures that make up the TPGS.

- Courses for evaluators and teachers create not only a common language for the discussion of what effective teaching is and is not, they also develop skills of analysis and critique that will make the dialogue rich and data-driven.
- At MCPS, a teacher's PDP, aligned with the school improvement plan, outlines the following: data sources for establishing a desired outcome for professional growth and for assessing achievement of the outcome; selection of collaborative and independent options for job-embedded professional learning to accomplish a desired outcome; and members of a PDP Support Team. Developed by the individual teacher, the PDP is implemented collaboratively with the Support Team who provides assistance and feedback.

- It is the role of the evaluator to discuss PDP goals and data during preobservation/postobservation conferences and, with narrative assessments, provide qualitative feedback to teachers about their work.
- A "Required Check Point" and an "End of PDP Cycle Review Form"(Montgomery County Public Schools, 2011, pp. D-12–13) are protocols that support teachers to reflect on and engage in dialogue with a "staff development teacher" about the PDP
- Teachers are encouraged to assemble a portfolio with evidence of attainment of growth across the standards. Before the final evaluation is completed, the evaluator and teacher review together the portfolio and additional pieces of data from the PDP.
- Summative feedback in the Final Evaluation Report, at the end of the evaluation year, includes an examination of cumulative performance for an entire professional growth cycle, thus providing cumulative evidence-based feedback so teachers can see the progress they have made or have failed to make.

Measures of Professional Learning and Collaboration

The TPGS uses standards-based narrative assessments to describe teacher performance and assign a rating to teaching. Detailed examples of what teaching looks like when it meets or does not meet each standard, possible sources of evidence associated with each standard, and sample observation and evaluation reports inform the writing of the narratives. These resources support the assessment of measures of professional learning and collaboration in the following ways.

- For Standard V: Teachers are committed to continuous improvement and professional development, examples of what it looks like when teachers are analyzing, reflecting on, and adapting their practice and actively engaging in professional learning communities are provided (Montgomery County Public Schools, 2011, pp. A-8–9).
- For Standard VI: Teachers exhibit a high degree of professionalism, examples of what it looks like when teachers are active participants in and leaders of a variety of job-embedded professional learning activities are provided (Montgomery County Public Schools, 2011, pp. A-10–11).
- "Logs of professional development activities", "observation data gathered from meetings, hallway interactions with colleagues, interactions with curriculum support staff, etc.", artifacts such as meeting agendas, minutes, notes of staff development or vertical team meetings are among the sources of data beyond classroom observations suggested for Standards V & VI (Montgomery County Public Schools, 2011, p. B-2)
- Sample postobservation conference reports illustrate how teacher analysis of data and reflection on practice are incorporated into the report. Sample evaluation reports illustrate how multiple sources of evidence for measuring learning and their impact on teacher professional growth and teaching effectiveness are the basis for assessment of Standards V. and VI.

Source: Montgomery County Public Schools, 2011

Practical Example: District of Columbia Public School District's IMPACT, Effectiveness Assessment System for School-Based Personnel

Context

The District of Columbia Public School's (DCPS) IMPACT system of educator evaluation was developed in 2009 to identify high- and low-performing teachers to make personnel decisions as well as offer opportunities for professional growth. IMPACT developers have since worked to incorporate opportunities for job-embedded professional learning in an effort to support educator growth and teaching effectiveness.

In the second and third year of implementation (2010–11 and 2011–12), DPCS redefined the role of instructional coaches, giving them more targeted training on the Teaching and Learning Framework (TLF)—the standards on which the evaluation system is based—and encouraged them to use the TLF more intensely in their coaching. DCPS also doubled the number of instructional superintendents, increased the number of master educators by approximately 30 percent, and created six senior master educator positions, all with the purpose of improving support and clarity of expectations for evaluators in providing feedback and support. The master educators also facilitated six-week sessions on specific teaching content in order to further clarify how the TLF describes standards of practice and how to meet these expectations (Curtis, 2011).

Shared Understanding of Effective Practice

DCPS's educator evaluation system clarifies expectations for all teachers using several mechanisms:

- **Guidebooks.** Guidance documents developed for the IMPACT system clearly delineate the teaching standards on which the system is based—that is, the Teaching and Learning Framework (TLF)—as well as the other components and process of the overall evaluation system.
- **Educator Portal.** All educators also have access to the Educator Portal, an online resource with guidance on IMPACT and resources such as sample lesson plans and assessments (DCPS, 2011a).
- **Reality "PD".** An online video bank of exemplary (Level 4), unscripted DCPS teacher practice designed to clarify expectations of practice as they relate to the TLF components, either previous to evaluation or in response to formative feedback. Each video is accompanied by a master coded rubric to help guide educators, either on their own or under guidance from their instructional coach, in analyzing their practice. The videos comprehensively represent all areas and demographics of DCPS, as well as all components of the "teach" domain of the TLF and will be available to all educators by the end of the 2011–12 school year (DCPS, 2011, personal communication).
- **Instructional Coaches.** Throughout the school year, IMPACT structures the work of instructional coaches, which may include "observe and debrief lessons, co-teach, and model effective practices" and also can help clarify expectations (DCPS, 2011a, p. 55).

Evidence-Based Feedback

Instructional coaches, principals, and master educators use the IMPACT rubrics to provide focused feedback on teachers' practice. Principals and master educators also engage in job-embedded professional learning with educators through conferences and feedback based on an educator's evaluation scores and performance. Instructional coaches give feedback on performance during learning cycles, which are six-week periods in which the instructional coach helps the educator set goals and improve practice based on evaluation scores. Master educators, whose position was created in response to teacher feedback, do not usually provide ongoing support but provide formative feedback in two postobservation conferences annually. Although the observations are unannounced, teachers may submit relevant information after the observation for consideration in scoring and are encouraged to participate in a conversation about practice during the postobservation conference. The master educator position was created in response to educator requests to have an objective content expert evaluator in addition to administrators [DCPS, 2011a, 2011b].

Measures of Collaboration and Learning

As one of the multiple measures of the IMPACT system, teachers are assessed on their commitment to the school community. "As part of the IMPACT system, teachers are rated according to how effectively they collaborate with other teachers to improve student achievement. Examples of how they might do that include active participation in the Thirty Minute Morning Block, in grade-level and departmental meetings, and/or in formal or informal mentoring relationships" (DCPS, 2011a, p. 46). Ten percent of teachers' overall IMPACT score is based on their Commitment to the School Community. The rubric that is used to evaluate this factor includes five standards, one of which focuses specifically on instructional collaboration. Teachers are evaluated on whether they seek out collaborative opportunities to promote student growth, such as active participation in daily or intermittent meetings with other staff members or mentoring other teachers [DCPS, 2011a, p. 46]. The TLF does not explicitly contain measures of analysis or reflection; however, the "Increase Effectiveness" domain of the TLF includes standards regarding the analysis of student progress data and improving practice in response to data. Although teachers are not formally assessed on these standards, all schools have participated in structured data cycles to support teachers' skills in these areas.

Source: DCPS, 2011a, 2011b

REFERENCES

Alter, J., & Coggshall, J. G. (2009). *Teaching as a clinical practice profession: Implications for teacher preparation and state policy.* Washington, DC: National Comprehensive Center for Teacher Quality and The New York Comprehensive Center.

Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In G. Sykes & L. Darling-Hammond (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3–32). San Francisco: Jossey Bass.

Bill & Melinda Gates Foundation. (2012). *Gathering feedback for teaching: Combining high-quality observations with student surveys and achievement gains.* Seattle, WA: Author. Retrieved from http://www.metproject.org/downloads/MET_Gathering_Feedback_Research_Paper.pdf

Blank, R. K., & de las Alas, N. (2009). *Effects of teacher professional development on gains in student achievement: How meta-analysis provides scientific evidence useful to education leaders.* Washington, DC: Council of Chief State School Officers.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (2000). *How people learn: Brain, mind, experience, and school* (Expanded ed.). Washington, DC: National Academies Press.

Bronkhorst, L., Meijer, P. C., Koster, B., & Vermunt, J. D. (2011). Fostering meaning-oriented learning and deliberate practice in teacher education. *Teaching and Teacher Education, 27*, 1120–1130.

Clare, L., & Aschbacher, P. (2001). Exploring the technical quality of using assignments and student work as indicators of classroom practice. *Educational Assessment, 7*, 39–59.

Coggshall, J. (2012). *Toward the effective teaching of new college- and career-ready standards: Making professional learning systemic* (Research-to-Practice Brief). Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved from www.tqsource.org/publications/TowardEffectiveTeaching.pdf

Council of Chief State School Officers. (2011). *Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards: A resource for state dialogue.* Washington, DC: Author. Retrieved from http://www.ccsso.org/Documents/2011/InTASC_Model_Core_Teaching_Standards_2011.pdf

Croft, A., Coggshall, J. G., Dolan, M., & Powers, E. (2010). *Job-embedded professional development: What it is, who's responsible, and how to get it done well.* Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved from http://www.tqsource.org/publications/JEPD%20Issue%20Brief.pdf

Curtis, R. (2011). *District of Columbia Public Schools: Defining instructional expectations and aligning accountability and support.* Washington, DC: The Aspen Institute. Retrieved from http://www.nctq.org/docs/Impact_1_15579.pdf

Danielson, C. (2011a). Evaluations that help people learn. *Educational Leadership, 68*(4), 35–39.

Danielson, C. (2011b). *The framework for teaching evaluation instrument.* Princeton, NJ: The Danielson Group.

Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan, 76*(8), 597–604.

Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad.* Dallas, TX: National Staff Development Council. Retrieved from http://www.nsdc.org/news/NSDCstudy2009.pdf

Desimone, L. M., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis, 24*(2), 81–112.

District of Columbia Public Schools. (2011a). *IMPACT: The District of Columbia Public Schools Effectiveness Assessment System for School-Based Personnel (2011–2012)—Group 1: General education teachers with individual value-added student achievement data.* Washington, DC: Author. Retrieved from http://www.dc.gov/DCPS/Files/downloads/TEACHING%20&%20LEARNING/IMPACT/IMPACT%20Guidebooks%202010-2011/Impact%202011%20Group%201-Aug11.pdf

District of Columbia Public Schools. (2011b). *Master educators* [website]. Retrieved from http://www.dc.gov/DCPS/In+the+Classroom/Ensuring+Teacher+Success/IMPACT+(Performance+Assessment)/Master+Educators

Dunn, T. G., & Shriner, C. (1999). Deliberate practice in teaching: What do teachers do for self-improvement? *Teaching and Teacher Education, 15*(6), 631–651.

Easton, L. B. (Ed.) (2008). *Powerful designs for professional learning.* Oxford, OH: National Staff Development Council.

Easton, L. B. (2009). *Protocols for professional learning.* Alexandria, VA: Association for Supervision and Curriculum Development.

Ericsson, K. A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. In K. A. Ericsson, N. Charness, P. Feltovich, & R. R. Hoffman (Eds.). *Cambridge handbook of expertise and expert performance* (pp. 685–706). Cambridge, UK: Cambridge University Press.

Ericsson, K. A. (2007). An expert-performance perspective of research on medical expertise: The study of clinical performance. *Medical Education, 41*, 1124–1130.

Ericsson, K. A., Krampe, R. Th., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100*(3), 363–406.

Ericsson, A. K., Prietula, M. J., & Cokely, E. T. (2007). The making of an expert. *Harvard Business Review, 85*, 147.

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal, 38*(4), 915–945.

Garmston, R. J,. & Wellman, B. M. (2009). *The adaptive schools.* Norwood, MA: Christopher-Gordon Publishers, Inc.

Goe, L., Bell, C., & Little, O. (2008). *Approaches to evaluating teacher effectiveness: A research synthesis.* Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved from http://www.tqsource.org/publications/EvaluatingTeachEffectiveness.pdf

Goe, L., Biggers, K., & Croft, A. (2012). *Linking teacher evaluation to professional development: Focusing on improving teaching and learning* (Research & Policy Brief). Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved from www.tqsource.org/publications/LinkingTeacherEval.pdf

Goe, L., Holdheide, L., & Miller, T. (2011). *A practical guide to designing comprehensive teacher evaluation systems: A tool to assist in the development of teacher evaluation systems.* Washington, DC: National Comprehensive Center for Teacher Quality. Retrieved from http://www.tqsource.org/publications/practicalGuideEvalSystems.pdf

Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal, 45*(1), 184–205.

H.B. 1033 [Act 54], 2010 Reg. Sess. (La. 2010) (enacted), pp. 1–20. Retrieved from http://www.legis.state.la.us/billdata/streamdocument.asp?did=711248

Hawley, W. D., & Valli, L. (1999). The essentials of effective professional development: A new consensus. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 127–150). San Francisco: Jossey-Bass.

Hill, H. C., & Herlihy, C. (2011). *Prioritizing teaching quality in a new system of teacher evaluation.* Washington, DC: American Enterprise Institute for Public Policy Research.

Hillsborough County Public Schools. (2011). *Classroom teacher evaluation instrument.* Tampa, FL: Author. Retrieved from http://communication.sdhc.k12.fl.us/empoweringteachers/wp-content/uploads/2011/09/Classroom-Teacher-Rubric.pdf

Hirsh, S. (2009). A new definition. *Journal of Staff Development, 30*(4), 10–16.

Johnson, B. (2012, February 14). *Learning to teach: The practice curriculum* (2011–12 seminar series). Presentation delivered at Teaching Works, Ann Arbor, MI. Retrieved from http://www.teachingworks.org/training/seminar-series/event/detail/the-new-teacher-project

Joyce, B. R., & Showers, B. (2002). *Student achievement through staff development* (3rd ed.). St. Louis, MO: ASCD.

Learning Forward. (2011). *Standards for professional learning.* Oxford, OH: Author. Retrieved from http://www.learningforward.org/standards/index.cfm

Little, J. W. (2003). Inside teacher community: Representations of classroom practice. *Teachers College Record, 105*(6), 913–945.

Loucks-Horsley, S., & Matsumoto, C. (1999). Research on professional development for teachers of mathematics and science: The state of the scene. *School Science and Mathematics, 99*(5), 1–22.

Louis, K. S., Dretzke, B., & Wahlstrom, K. (2010). How does leadership affect student achievement? Results from a national survey. *School effectiveness and school improvement, 21*(3), 315–336.

Louis, K. S., & Marks, H. (1998). Does professional community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education, 106*, 532–575.

Marzano, R. (2011a). *The Marzano teacher evaluation model.* Englewood, CO: Marzano Research Laboratory. Retrieved from http://pages.solution-tree.com/rs/solutiontree/images/MarzanoTeacherEvaluationModel.pdf

Marzano, R. (2011b). What teachers gain from deliberate practice. *Educational Leadership, 68*(4), 82–84. Retrieved from http://www.ascd.org/publications/educational-leadership/dec10/vol68/num04/What-Teachers-Gain-from-Deliberate-Practice.aspx

Matsumura, L. C., & Pascal, J. (2003). *Teachers' assignments and student work: Opening a window on classroom practice* (CSE Technical Report No. 602). Los Angeles: National Center for Research on Evaluation, Standards, and Student Testing (CRESST). Retrieved from http://www.cse.ucla.edu/products/reports/r602.pdf

Matsumura, L. C., Slater, S. C., Junker, B., Peterson, M., Boston, M., Steele, M., et al. (2006). *Measuring reading comprehension and mathematics instruction in urban middle schools: A pilot study of the Instructional Quality Assessment* (CSE Technical Report 681). Los Angeles: Center for the Study of Evaluation, National Center for Research on Evaluation, Standards, & Student Testing. Retrieved from http://www.cse.ucla.edu/products/reports/R681.pdf

McDonald, J. P., Mohr, N., Dichter, A., & McDonald, E. C. (2007). *The power of protocols: An educator's guide to better practice* (2nd ed.). New York: Teachers College Press.

McNelly, T. A. (2002). Evaluations that ensure growth: Teacher portfolios. *Principal Leadership, 48*(26), 55–60.

Mid-continent Research for Education and Learning. (2009). *North Carolina teacher evaluation process.* Denver, CO; Author. Retrieved from http://www.ncpublicschools.org/docs/profdev/training/teacher/teacher-eval.pdf

Miller, R. J., Goddard, Y. L., Goddard, R., Larsen, R., & Jacob, R. (2010, November 17–20). *Shared instructional leadership: A pathway to teacher collaboration and student achievement.* A paper presented at the University Council for Educational Administration Convention (UCEA), Pittsburgh, PA.

Montgomery County Public Schools. (2011). *Teacher professional growth system handbook* (Appendix). Rockville, MA: Author. Retrieved from http://www.montgomeryschoolsmd.org/departments/development/documents/TPGS_handbook_6_7_appendix.pdf

National Board for Professional Teaching Standards. (1987). *The five core propositions.* Arlington, VA: Author. Retrieved from http://www.nbpts.org/the_standards/the_five_core_propositio

National Institute for Excellence in Teaching. (2012). *Beyond "job-embedded": Ensuring that good professional development gets results.* Santa Monica, CA: Author. Retrieved from http://www.niet.org/assets/PDFs/beyond_job_embedded_professional_development.pdf

New York State Education Department. (2011). *The New York State Teaching Standards.* New York: Author. Retrieved from http://www.highered.nysed.gov/tcert/pdf/teachingstandards9122011.pdf

New York State United Teachers. (2011a). *Teacher evaluation and development handbook.* New York: Author. Retrieved from www.nysut.org/files/TED_Handbook.pdf

New York State United Teachers. (2011b). *The TED workbook: A plan for teacher evaluation and development.* New York: Author. Retrieved from www.nysut.org/files/TED_Workbook.pdf

Painter, B. (2001). Using teaching portfolios. *Educational Leadership, 58*(5), 31–34.

Palmer, D. J., Stough, L. M., Burdenski, Jr., T. K., & Gonzales, M. (2005). Identifying teacher expertise: An examination of researchers' decision making. *Educational Psychologist, 40*(1), 13–25.

Peine, J. (2008). *The educator's professional growth plan: A process for developing staff and improving instruction.* Thousand Oaks, CA: Corwin.

Pittsburgh Public Schools. (2011). *Pittsburgh RISE: Research-based inclusive system of evaluation–Pittsburgh Standards of effective teaching.* Pittsburgh, PA: Author. Retrieved from http://www.pps.k12.pa.us/17022012713193237/lib/17022012713193237/RISE_rubric_2011-12.pdf

Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher, 29*(1), 4–15.

Raudenbush, S. W. (2008). Advancing educational policy by advancing research on instruction. *American Educational Research Journal, 45,* 206.

Regulations on Evaluation of Educators. 603 CMR 35.00: M.G.L. c. 69, §1B; c.71, §38. Retrieved from http://www.doe.mass.edu/lawsregs/603cmr35.html

Sartain, L., Steoelinga, S. R., & Brown, E. R. (with Luppescu, S., Matsko, K. K., Miller, F. K., Durwood, C. E., Jiang, J. Y., & Glazer, D.). (2011). *Rethinking teacher evaluation: Lessons learned from classroom observations, principal-teacher conferences, and district implementation.* Chicago, IL: Consortium on Chicago School Research. Retrieved from http://ccsr.uchicago.edu/sites/default/files/publications/Teacher%20Eval%20Report%20FINAL.pdf

Saunders, W. M., Goldenberg, C. N., & Gallimore, R. (2009). Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title I schools. *American Educational Research Journal, 46*(4), 1006–1033.

Saxe, G., Gearhart, M., & Nasir, N. S. (2001). Enhancing students' understanding of mathematics: A study of three contrasting approaches to professional support. *Journal of Mathematics Teachers Education, 4*, 55–79.

Schön, D. A. (1983). *The reflective practitioner: How professionals think in action.* London: Temple Smith.

SEA Priorities in Awarding School Improvement Grants, 75 Fed. Reg. (proposed Oct. 28, 2010). Retrieved from http://www2.ed.gov/programs/sif/2010-27313.pdf

Teach For America. (n.d.). *The teaching as leadership framework.* New York: Author. Retrieved from http://www.teachingasleadership.org/sites/default/files/Teaching%20As%20Leadership%20Framework%20(One%20Pager).pdf

U.S. Department of Education. (2010). *Race to the Top application for initial funding.* Washington, DC: Office of Elementary and Secondary Education. Retrieved from www2.ed.gov/programs/racetothetop/application.doc

U.S. Department of Education. (2011). *Guidance on Fiscal Year 2010 School Improvement Grants under Section 1003 of the Elementary and Secondary Education Act of 1965.* Washington, DC: Office of Elementary and Secondary Education. Retrieved from http://www2.ed.gov/programs/sif/sigguidance02232011.pdf

U.S. Department of Education. (2012). *ESEA flexibility review guidance.* Washington, DC: Author. Retrieved from http://www.ed.gov/sites/default/files/review-guidance.doc

Wei, R. C., Darling-Hammond, L., & Adamson, F. (2010). *Professional development in the United States: Trends and challenges.* Dallas, TX: National Staff Development Council.

ABOUT THE NATIONAL COMPREHENSIVE CENTER FOR TEACHER QUALITY

The National Comprehensive Center for Teacher Quality (TQ Center) was created to serve as the national resource to which the regional comprehensive centers, states, and other education stakeholders turn for strengthening the quality of teaching—especially in high-poverty, low-performing, and hard-to-staff schools—and for finding guidance in addressing specific needs, thereby ensuring that highly qualified teachers are serving students with special needs.

The TQ Center is funded by the U.S. Department of Education and is a collaborative effort of ETS; Learning Point Associates, an affiliate of American Institutes for Research; and Vanderbilt University. Integral to the TQ Center's charge is the provision of timely and relevant resources to build the capacity of regional comprehensive centers and states to effectively implement state policy and practice by ensuring that all teachers meet the federal teacher requirements of the current provisions of the Elementary and Secondary Education Act (ESEA), as reauthorized by the No Child Left Behind Act.

The TQ Center is part of the U.S. Department of Education's Comprehensive Centers program, which includes 16 regional comprehensive centers that provide technical assistance to states within a specified boundary and five content centers that provide expert assistance to benefit states and districts nationwide on key issues related to current provisions of ESEA.

NATIONAL COMPREHENSIVE CENTER FOR TEACHER QUALITY

1000 Thomas Jefferson Street NW
Washington, DC 20007-3835
877.322.8700 | 202.223.6690

www.tqsource.org

This work was originally produced in whole or in part by the National Comprehensive Center for Teacher Quality with funds from the U.S. Department of Education under cooperative agreement number S283B050051. The content does not necessarily reflect the position or policy of the Department of Education, nor does mention or visual representation of trade names, commercial products, or organizations imply endorsement by the federal government.

The National Comprehensive Center for Teacher Quality is a collaborative effort of ETS; Learning Point Associates, an affiliate of American Institutes for Research; and Vanderbilt University.

2122_05/12

LEARNING POINT Associates®
An Affiliate of American Institutes for Research®