



NATIONAL COMPREHENSIVE CENTER  
FOR **TEACHER QUALITY**

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# **Evaluating the Effectiveness of Teacher Preparation Programs for Support and Accountability**

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Research & Policy Brief



A Research & Policy Brief

**Evaluating the Effectiveness  
of Teacher Preparation Programs  
for Support and Accountability**

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## INTRODUCTION

To meet the new and more rigorous college- and career-ready standards for student learning, all of today's students must have access to effective teaching—every day and in every classroom. As teachers and their school leaders are increasingly held accountable for implementing consistently effective teaching, calls for holding the programs that prepare them accountable have increased in kind. State and federal policymakers are therefore seeking to change how teacher preparation programs are evaluated—for the purposes of accountability and support.

This brief explores research that points to the opportunities and the challenges that evaluating teacher preparation programs differently presents. To begin laying the groundwork for the complex work ahead, we provide information on the following policy-relevant questions:

- What is the current status of teacher preparation program accountability and support?
- How is teacher preparation program evaluation changing?
- What are some ways to evaluate programs using the evidence of the quality of program processes?
- What are some ways to evaluate programs using the evidence of impact on outcomes?
- What are the strengths, weaknesses, opportunities, and challenges of each approach?
- How are states on the forefront of change—Louisiana, Texas, Tennessee, North Carolina, Ohio, and Florida—approaching the evaluation of their teacher preparation programs?

We offer answers to these questions but do not suggest that one particular approach is necessarily superior to another; we provide a resource for state education agency personnel and other state-level stakeholders to use as they redesign systems of teacher preparation program accountability and support.

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# RETHINKING TEACHER PREPARATION ACCOUNTABILITY AND SUPPORT POLICIES: MOVING TOWARD A MORE RESULTS- ORIENTED APPROACH

## What Is the Current Status of Teacher Preparation Program Accountability and Support?

As policies increasingly hold teachers accountable for their performance, calls for holding the preparation programs that prepare them accountable for their performance have also increased. Currently, states use several mechanisms to hold teacher preparation programs accountable for the quality of teachers being produced.

Most states have three levers for regulating program quality:

1. **Approval.** State departments of education set program approval requirements and standards, typically requiring that teacher preparation programs apply for initial approval and then submit to periodic reviews conducted by panels of educators from across the state.
2. **Accreditation.** Many states encourage or require teacher preparation programs to seek accreditation from a nongovernmental accrediting agency—such as the National Council for the Accreditation of Teacher Education (NCATE)<sup>1</sup> or the Teacher Education Accreditation Council (TEAC)—that reviews each program against the agency’s national standards.
3. **Certification.** All states require that the graduates of teacher preparation programs meet minimum standards for certification, such as passing state tests of basic skills, holding a degree in a specific subject area, and completing coursework in particular domains. Such certification requirements act as a mechanism for program accountability insofar as the programs must ensure that their candidates meet these standards so that the public will view the programs as viable.

*“Too many future teachers graduate from prep programs unprepared for success in the classroom. We have to give teachers the support they need to ensure that children get the high quality education they deserve. Our goal is to develop a system that recognizes and rewards good programs, and encourages all of them to improve.”*

(U.S. Department of Education, 2011a)

However, observers have pointed out that these mechanisms exert variable control on teacher quality. For example, although teacher preparation programs must earn state approval to recommend teachers for state licensure, these approval processes vary widely, are rarely evidence based, and are monitored infrequently through compliance-oriented expectations (National Research Council, 2010; Wilson & Youngs, 2005). Moreover, standards and processes for both approval and accreditation can be inefficient and may have requirements with little empirical justification (Allen, 2003; Crowe, 2010; National Research Council, 2010). Many argue that certification requirements,

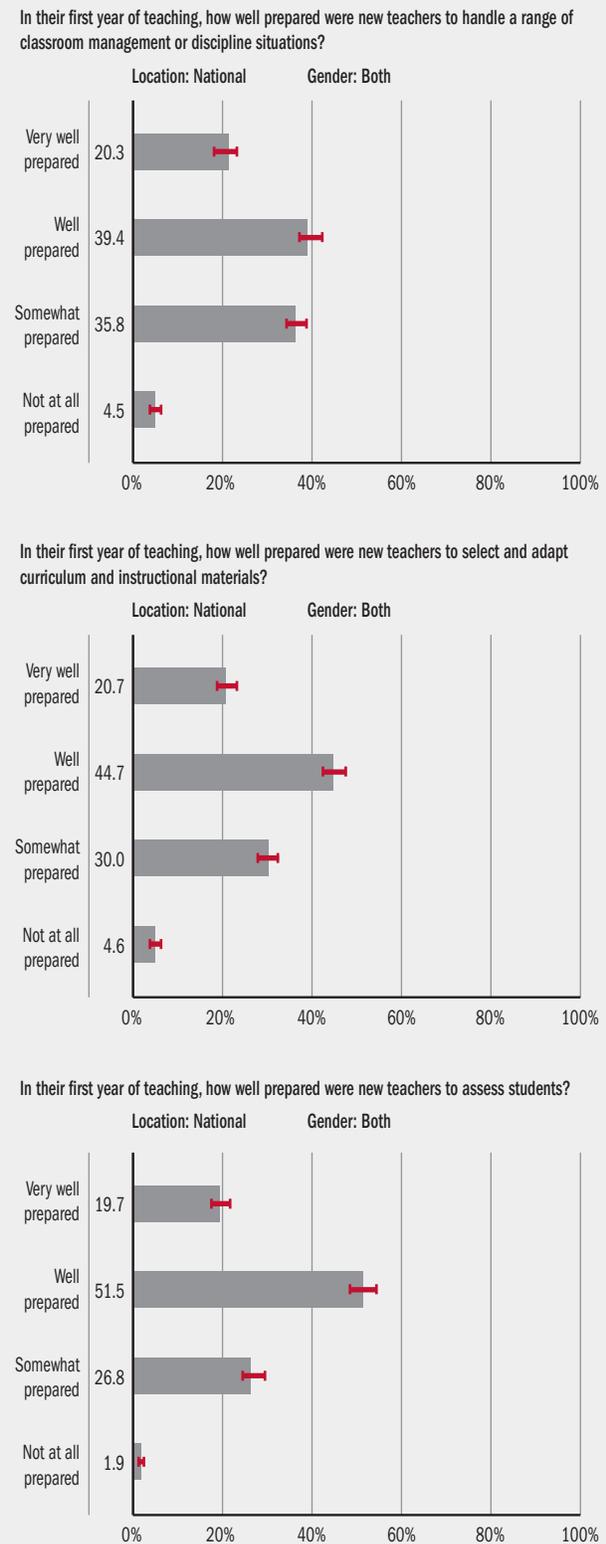
<sup>1</sup> Beginning in 2013, the accrediting functions of NCATE and TEAC will merge and transfer to a new organization, the Council for the Accreditation of Educator Preparation (CAEP). CAEP standards are being developed throughout 2012.

which tend to rely heavily on teacher testing, are a “crude proxy for teacher quality” (Walsh, 2002, p. 84) and are based on poor indicators of quality (Crowe, 2010). Finally, research on the effects of these processes on teacher quality and teacher effectiveness is simply inconclusive (Allen, 2003; National Research Council, 2010; Wilson & Youngs, 2005).

Considerable circumstantial evidence supports that these accountability mechanisms do not seem to ensure that each state’s new teachers are ready for the classroom. Too many beginning teachers report that they do not feel well prepared when they enter the classroom, and their supervisors often agree (Levine, 2006). For example, data from the 2007–08 Schools and Staffing Survey of the National Center for Education Statistics indicate that only 20 percent of teachers in their first year of teaching felt very prepared to select and adapt curriculum materials, handle a wide range of classroom management and discipline situations, and assess students (see Figure 1; National Comprehensive Center for Teacher Quality [2010]). In addition, the observation that student achievement lags behind other countries (National Center for Education Statistics, 2011) has sparked debates about the effectiveness of teacher preparation in the United States (Boyd, Grossman, Lankford, Loeb, & Wycoff, 2009b; Wiseman, 2012).

Since the reauthorization of the Higher Education Act (HEA) in 1998, federal policymakers have sought to implement data collection that would yield systematic information on the characteristics and the outcomes of teacher preparation programs. The annual reporting requirements mandated in HEA Title II represent the first step in systematizing data collection, using common definitions, and making information public. Title II requires that states provide the secretary of education with multiple input, process, and candidate outcome data points. These data points include the pass rates on assessments used by states in certifying or licensing teachers, requirements for teaching certificates and

**Figure 1. Results of the 2007–08 Schools and Staffing Survey**



From the 2007–08 Schools and Staffing Survey from the National Center for Education Statistics; analysis by the National Comprehensive Center for Teacher Quality.

licensure, state efforts in the past year to improve teaching, descriptions of alternate routes to licensure, and information on each teacher preparation program in the state (e.g., admissions requirements, enrollment, and supervised clinical experience information; State Report 2010—Alabama, 2012). In all, states must report 440 data elements each year (Duncan, 2011).

In addition, HEA requires that the states implement procedures for identifying and assisting low-performing teacher preparation programs. As of 2007, 31 states never identified a program as either at risk or low performing (Carey, 2007). In 2010, 11 states identified 38 low-performing teacher preparation programs (U.S. Department of Education, 2011c). Thus, despite the increased publication of data and recent accountability efforts, policy leaders question the utility of the Title II reporting requirements.

## How Is Teacher Preparation Program Evaluation Changing?

Renewed dialogue around teacher effectiveness and teacher preparation has spurred new initiatives, efforts, and calls for reform among nonprofit organizations and accrediting agencies. Some of the recent efforts include the following:

- In 2010, NCATE released its Blue Ribbon Panel report, which called for increased selectivity, accountability, and clinically based preparation in teacher preparation programs (Wiseman, 2012).
- The National Academy of Education, which is funded by the National Science Foundation, convened a panel of teacher educators to “synthesize research and experiential knowledge about existing approaches to evaluating teacher preparation” and “create a design framework for the development of new and innovative approaches,” paying particular attention to the stakeholders that will use the information for improvement, accountability, and equity (National Academy of Education, n.d.).
- In 2012, CAEP (formerly NCATE and TEAC) announced that it would form the Commission on Standards and Reporting to develop new accreditation standards for teacher preparation that will use multiple measures and focus on outcome data and key program characteristics (CAEP, 2012). Furthermore, CAEP anticipates that the influx of new measures and more data on teacher preparation will enable teacher preparation programs and accrediting agencies to improve these programs and make better-informed judgments related to program quality (Cibulka, 2012).
- In 2013, the National Council on Teacher Quality (NCTQ), in partnership with *U.S. News & World Report*, will release its national review and rankings of approximately 1,000 teacher preparation programs across the country (NCTQ, 2011a).<sup>2</sup>

The Obama administration has also called for revised policies. Its 2011 reform plan—*Our Future, Our Teachers: The Obama Administration’s Plan for Teacher Education Reform and Improvement*—noted that reporting and accountability requirements “have not led to meaningful change” and questioned whether the HEA data points are based on “meaningful indicators of program effectiveness” (U.S. Department of Education, 2011b, p. 9). Furthermore, U.S. Secretary of

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<sup>2</sup> These rankings are based on 18 standards and indicators of program selectivity, the content of preparation courses in terms of what teachers should know and be able to do, whether a program collects data related to the outcomes of its graduates, and whether the graduates meet state thresholds in terms of impact on student learning (NCTQ, 2011b). The evidence used in scoring the programs includes admissions standards, course syllabi, textbooks, student teaching policy handbooks, and programmatic outcome data (NCTQ, 2011b).

Education Arne Duncan challenged the need for these requirements, arguing that gathering data on input measures wastes the time and the limited resources of teacher preparation programs. Instead, he suggested a shift in focus from program inputs to program outputs (Duncan, 2011). Ultimately, the Obama administration has offered several alternatives for a more streamlined reporting system focused on outcome measures, including the following:

- Aggregate the learning outcomes of K–12 students taught by the graduates of teacher preparation programs, using “multiple, valid measures of student achievement to reliably ascertain growth associated with graduates of preparation programs” (U.S. Department of Education, 2011b, p. 10).
- Identify the job placement and retention rates of the graduates of teacher preparation programs, with particular attention to shortage areas.
- Collect the perceptions of performance and effectiveness via surveys of the graduates of teacher preparation programs and their principals.

Various stakeholders discussed these measures in Department of Education (ED) negotiated rule-making sessions in early 2012.<sup>3</sup> After several months of discussions, the negotiators appeared deadlocked; according to Hunter College Dean David Steiner, “long-standing divisions have reemerged” regarding which measures to use for teacher preparation program accountability (Sawchuk, 2012b). Because ED declined to extend the rule-making process beyond April 2012, the department will now craft its own rules (Sawchuk, 2012b).

Separate from HEA reporting requirements, the \$4 billion Race to the Top competitive grant program required the winning Round 1 and Round 2 states to adopt more rigorous accountability mechanisms for teacher preparation. The winners committed to (1) linking data on the achievement and the growth of teachers’ students back to the preparation programs that prepared those teachers, (2) publicly reporting this information for each teacher preparation program in the state, and (3) working to expand programs that are successful at producing graduates who are effective teachers (Wiseman, 2012). Crowe’s (2011) analysis of the Round 1 and Round 2 Race to the Top grant recipients found that they all plan to publicly disclose the student achievement data of the graduates of teacher preparation programs, and five winners will use that information for program accountability. Other measures of teacher preparation programs that the Race to the Top winners plan to use and disclose include persistence in the teaching rates of the graduates of teacher preparation programs, job placement data, and achieving advanced licensure. The plans of the Race to the Top winners illustrate the renewed interest in revising how the states evaluate teacher preparation programs. (We profile the efforts of four Race to the Top states later in this brief.)

So where does this brief fit in? The success and the usefulness of accountability efforts are dependent on the quality of the measures used and how states, teacher preparation programs, and individuals use the data gathered from these measures. Therefore, as the states and ED

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<sup>3</sup> See Steve Sawchuck’s reporting on these sessions in his Teacher Beat blog:

- [http://blogs.edweek.org/edweek/teacherbeat/2012/01/the\\_us\\_department\\_of\\_this.html](http://blogs.edweek.org/edweek/teacherbeat/2012/01/the_us_department_of_this.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/01/negotiators\\_tackle\\_teacher\\_ed.html](http://blogs.edweek.org/edweek/teacherbeat/2012/01/negotiators_tackle_teacher_ed.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/01/day\\_2\\_of\\_teacher-ed\\_rulemaking.html](http://blogs.edweek.org/edweek/teacherbeat/2012/01/day_2_of_teacher-ed_rulemaking.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/02/draft\\_regulations\\_would\\_unite.html](http://blogs.edweek.org/edweek/teacherbeat/2012/02/draft_regulations_would_unite.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/02/negotiators\\_weigh\\_inputs\\_vs\\_ou.html](http://blogs.edweek.org/edweek/teacherbeat/2012/02/negotiators_weigh_inputs_vs_ou.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/04/a\\_last-minute\\_repeive\\_on\\_new.html](http://blogs.edweek.org/edweek/teacherbeat/2012/04/a_last-minute_repeive_on_new.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/04/negotiators\\_seemed\\_no\\_more\\_rea.html](http://blogs.edweek.org/edweek/teacherbeat/2012/04/negotiators_seemed_no_more_rea.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/04/deadlocked\\_negotiators\\_fail\\_to.html](http://blogs.edweek.org/edweek/teacherbeat/2012/04/deadlocked_negotiators_fail_to.html)
- [http://blogs.edweek.org/edweek/teacherbeat/2012/04/teacher-prep\\_rulemaking\\_is\\_con.html](http://blogs.edweek.org/edweek/teacherbeat/2012/04/teacher-prep_rulemaking_is_con.html)

revise preexisting accountability systems for teacher preparation programs, careful consideration of the available measures is needed. This brief explores the research, underscores potential measures and their opportunities and challenges, and gives recommendations for moving ahead. (The appendix summarizes some of the strengths and weaknesses of each approach.) We also present examples of how six states are developing new metrics for teacher preparation programs, combining them, and using them.

## **What Are Some Ways to Evaluate Programs Using the Evidence of the Quality of Program Processes?**

Moving away from measuring program inputs—such as faculty qualifications, faculty-student ratios, competitiveness rankings, enrollment data, or general requirements—toward measuring more meaningful processes moves the field closer toward using measures that will provide more useful information for stakeholders desiring to ensure program improvement and accountability. Although the research is still not definitive, a growing consensus suggests that three aspects of program processes are important for program effectiveness: (1) program selection, (2) program content (i.e., what is taught in the teacher preparation program), and (3) program structure (i.e., the extent to which candidates have access to high-quality clinical experiences throughout their preservice experience; NCATE, 2010). Researchers are currently seeking to figure out how to disentangle the measurement of these processes to determine which are most important—and in what configuration—for program effectiveness (see Boyd et al., 2009b; National Center for Analysis of Longitudinal Data in Education Research, 2012). Nevertheless, states and other stakeholders seeking to evaluate teacher preparation programs on the basis of these processes have several options. It is important to note that no single measure of program processes is sufficient to judge the quality or the effectiveness of teacher preparation, and all the measurement options described in the following sections have both strengths and limitations.

### **Candidate Selection Processes for Teacher Preparation Programs**

An important aspect of teacher preparation program quality is how the programs recruit and select teacher candidates. The evidence suggests that small but significant correlations exist between various measures of individuals' aptitude before entering a program and their eventual teaching effectiveness (Henry, Bastian, & Smith, 2012; Levine, 2006; Rice, 2003). For example, a recent study in North Carolina assessed the effects of candidate aptitude on several outcomes. Teachers who received merit-based scholarships and graduated from North Carolina public institutions of higher education (IHEs; mean SAT approximately 1,167) produced higher student achievement in the elementary, middle, and high school grades and persisted at higher rates in the teaching profession compared to other North Carolina public IHE graduates who did not receive scholarships (mean SAT approximately 1,025; Henry et al., 2012).

Research on Teach for America (TFA) provides a compelling example of the link between selectivity and outcomes. TFA teachers appear to have the highest aptitude scores (SAT and/or ACT) of any sizable group entering the teaching profession (Koop & Farr, 2011). In a 2008 study by Kane and his colleagues, the SAT scores of TFA teachers exceeded those of traditionally trained teachers by approximately 0.4 to 0.5 standard deviation in mathematics and reading, respectively (Kane, Rockoff, & Staiger, 2008). TFA teachers generally produce student achievement equal to or

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higher than teachers who did not participate in TFA, particularly in mathematics (Decker, Mayer, & Glazerman, 2004; Henry et al., 2012; Kane et al., 2008). However, it is not clear whether these effects are due entirely to more rigorous selection or the unique training that TFA teachers undergo after being selected. Although limited evidence exists that more selective programs may produce more effective teachers, there is no research that examines the utility of tying candidate selection processes to accountability measures for teacher preparation programs.

Nevertheless, using candidate selection processes as a measure of the quality of teacher preparation programs presents some strengths. School and district leaders responding to parent demands for academically talented teachers may wish to know which programs are most selective and focus their recruitment efforts at those institutions. Meanwhile, teacher preparation programs may want to know what selection criteria and processes produce the most effective graduates so they can continuously improve these important aspects of their programs.

Measures of the cognitive competence of candidates exist at virtually all IHEs with teacher preparation programs. Easily available measures include high school grade point average (GPA) and class rank, SAT or ACT domain and composite scores, placement tests given by IHEs to determine a candidate's readiness for coursework, and college grades in education and noneducation classes. College grades in a major area that matches the teaching preparation specialty (e.g., mathematics) may be used as well. However, there may be less easily observable or measurable aspects of candidate aptitude that have a greater effect on eventual teaching effectiveness than measures of cognitive competence, such as a strong internal locus of control, sensitivity, and the ability to persist in the face of difficulty (e.g., Farr, 2010; Rimm-Kauffman et al., 2002). More research on best practices in candidate selection is clearly warranted.

### Teacher Preparation Program Content

Studying the course content in teacher preparation programs generally relies on analyses of course syllabi, which focus on the content covered and the course requirements. Syllabi reviews are an integral part of the NCATE review process and continue to be used by other organizations to make inferences about the content of teacher preparation programs (see Greenberg & Walsh, 2012; Walsh, Glaser, & Wilcox, 2006). As NCTQ notes, course syllabi, in a sense, are “the basic units of the design of teacher preparation programs” because they highlight the key content that will be covered in the courses (NCTQ, 2012).

Syllabi reviews, when reviewed systematically and coded consistently, present reviewers and IHEs with opportunities to learn. They can provide greater insight into instruction than the number of course hours or a listing of courses. Syllabi can help identify the quality and the content of courses across both IHEs and course sections and provide future employers insight into what their new hires should know and what more professional development in terms of content they will need. Furthermore, teacher preparation programs can use the results of syllabi reviews to revamp courses and improve instruction. (For examples of syllabi review tools, see *The National Comprehensive Center for Teacher Quality's Innovation Configurations*.)

Nonetheless, the use of syllabi is limited. Syllabi are implied contracts between the IHE, the college, the department, the program, the instructor, and students and are carefully prepared by most IHE faculty (Parkes & Harris, 2002). However, such documents may not fully capture what is actually

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taught in each course. Some content in a course syllabus may not be taught, and other content not listed in the syllabus may, in fact, be taught. Although imperfect and insufficient as a single measure of the quality of a teacher preparation program, course syllabi are one of the best currently available measures of the content and course requirements in teacher preparation coursework.

For example, as part of its teacher preparation program approval and reauthorization processes, the Colorado Department of Education (2010) conducts content reviews of teacher preparation programs by examining the syllabi of all required program courses. This review seeks to ensure that the program aligns with the eight teacher performance-based standards and additional endorsement standards in Colorado. Reviewers use a rubric to determine the extent to which the syllabi meet state requirements and also use an alignment tool to determine the extent to which the syllabi align with the standards for licensing teacher education candidates. This process uses syllabi as a proxy for the knowledge imparted and the skills developed in teacher candidates through instruction.

The Office of Special Education Programs (OSEP) also uses course syllabi to evaluate teacher preparation programs. Those programs applying for Individuals with Disabilities Education Act discretionary grants must include in their application appendixes copies of course syllabi for all coursework in the major and for all research methods, evaluation methods, or data analysis courses that either the program requires or students have elected to take in the last 5 years (U.S. Department of Education, 2012b). OSEP reviews the syllabi to see if the course content meets the requirements specified in the grant.<sup>4</sup>



#### The National Comprehensive Center for Teacher Quality's Innovation Configurations

To promote the implementation of evidence-based instructional practices in teacher preparation activities, the National Comprehensive Center for Teacher Quality (TQ Center) offers seven rubrics using coding systems that IHEs, states, and other interested stakeholders can use to monitor and evaluate the quality of course syllabi. (An excerpt is given in Figure 2.) Each innovation configuration is based on research on best practices and accompanies a TQ Connection Issue Paper or Research & Policy Brief. The users of these tools can assess the level of implementation on five levels: not mentioned; mentioned; mentioned with lecture and/or reading assigned; a project, test, or paper assigned; and implementation with supervision and feedback. Innovation configurations cover the following topics:

- Scientifically based reading instruction
- Classroom organization and behavior management
- Inclusive services
- Learning strategy instruction
- Response to intervention
- Linking assessment and instruction
- Evidence-based mathematics instruction

For more information, see <http://www.tqsource.org/publications/innovationconfigurations.php>.

<sup>4</sup> For example, applicants for Type B programs must demonstrate that courses include or will incorporate research and evaluation findings on using outcome and achievement data in evaluating the effectiveness of early intervention providers; discuss methodological and statistical considerations in conducting an evaluation of the effectiveness of early learning personnel; and engage students in reviewing, critiquing, or participating in evaluations of the effectiveness of early intervention providers or personnel (U.S. Department of Education, 2012b).

**Figure 2. An Excerpt of the Scientifically Based Reading Instruction Innovation Configuration From the TQ Center**

Essential Components	Variations					Rating
	Code = 0	Code = 1	Code = 2	Code = 3	Code = 4	
<p><b>Instructions:</b> Place an X under the appropriate variation implementation score for each course syllabus that meets the criteria specified, from 0 to 4. Score and rate each item separately.</p> <p>Descriptors and examples are bulleted below each of the components.</p>	<p><b>There is no evidence</b> that the component is included in the class syllabus.</p>	<p>Syllabus mentions <b>content related to the component.</b></p>	<p>Syllabus mentions the component and requires <b>readings and tests or quizzes.</b></p>	<p>Syllabus mentions the component and requires <b>readings, tests or quizzes, and assignments or projects for application.</b></p> <ul style="list-style-type: none"> <li>• Observations</li> <li>• Lesson plans</li> <li>• Classroom demonstration</li> <li>• Journal response</li> </ul>	<p>Syllabus mentions the component and requires <b>readings, tests or quizzes, assignments or projects, and teaching with application and feedback.</b></p> <ul style="list-style-type: none"> <li>• Fieldwork (practicum)</li> <li>• Tutoring</li> </ul>	<p>Rate each item as the number of the highest variation receiving an X under it.</p>
<p><b>Phonemic Awareness</b> (This topic is ideally subsumed under the broader topic Phonological Awareness.)</p> <ul style="list-style-type: none"> <li>• Individual speech sounds, phonemes</li> <li>• Early indicator of risk</li> <li>• Precursor to phonics</li> <li>• Detect, segment, blend, manipulate phonemes (sounds) (e.g., /b/ /a/ /t/ = bat)</li> <li>• Rhyming, alliteration in preschool and kindergarten</li> <li>• Elkonin boxes (common activity)</li> </ul>						
<p><b>Phonics</b></p> <ul style="list-style-type: none"> <li>• Correspondence of sounds and letters</li> <li>• Phoneme-grapheme correspondences</li> <li>• Blending, decoding, encoding</li> <li>• Syllable types</li> <li>• Prefixes, suffixes, base words</li> <li>• Nonsense words (assessment)</li> <li>• Alphabetic Principle</li> <li>• Word analysis</li> <li>• Words composed of letters (graphemes) that map to phonemes</li> <li>• Letters and sounds working in systematic way</li> </ul>						

Source: Smartt & Reschly (2011, p. 3).

### Clinical and Student-Teaching Experiences

Measures of the quality of clinical and student-teaching experiences may also be used to assess teacher preparation programs. Research provides some limited evidence that clinical and student-teaching experiences provide teacher candidates with opportunities to learn about teaching and help reduce anxiety among those entering the profession (Rice, 2003). In addition, Boyd et al. (2009b) found that teacher preparation programs that required more oversight of student-teaching experiences or required students to complete a capstone report produced first-year teachers who were significantly more effective at increasing student achievement (p. 434).

By including some indicators related to clinical and student-teaching experiences, evaluators recognize that a knowledge base of effective practices exists and can be transmitted to novice teachers to improve student results. Most of the states (41 of 50) have set requirements regarding the length of student teaching, and 15 states require other clinical experiences (EPE Research Center, 2012). These data are easy to collect, but they do not provide detailed information about the quality of field experiences.

Surveys and document reviews are two possible ways to assess the quality of clinical and student-teaching experiences. Surveys and document reviews require systematic analysis. In addition, a paucity of research in this area provides little information about which features of clinical and student-teaching experiences are most important. Nonetheless, both measures provide greater insight into the quality of teacher preparation programs than the number of hours devoted to student teaching alone.

Surveys can be low-cost measures that gather information directly from those most impacted by student-teaching experiences—teacher candidates. In fact, many teacher preparation programs already survey their graduates. However, surveys are subject to bias and rely heavily on perception rather than actuality. Document reviews draw on preexisting documents and may provide valuable information into the structure, the format, the requirements, and the expectations of student teaching in a given teacher preparation program. Like syllabi reviews, however, document reviews may uncover intentions rather than practices.

The Texas State Board of Educator Certification uses surveys to determine whether the minimum standards for student teaching have been met and if the experiences are of high quality. Texas requires that teacher candidates be observed for 45 minutes at least 3 times within their 12-week student-teaching or clinical experiences (19 TAC §228.35(f)) and sets compliance percentages annually. To assess whether these percentages are met and whether the teacher preparation program provided high-quality field supervision, the Texas Education Agency uses a subset of survey questions of the graduates of teacher preparation programs to gather information about their field experiences (see *Sample Questions From the Candidate Exit Survey*).

An NCTQ-published study by Greenberg, Pomerance, and Walsh (2011) used surveys and document analyses to assess the quality of clinical and student-teaching experiences. NCTQ collected documents from teacher preparation programs that provided information on the selection and the responsibilities of cooperating teachers and field supervisors and on the expectations of and the guidance provided to student teachers. These documents included handbooks, manuals, and other relevant documents. In addition, NCTQ secured contracts between the teacher preparation programs and the school districts. To triangulate findings from the documents and follow-up discussions with the teacher preparation programs, NCTQ surveyed local school principals online or by telephone to gather additional data on student teaching. Based on the data gathered, NCTQ determined the extent to which each program met five standards and then rated the programs based on those standards.<sup>5</sup>

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<sup>5</sup> The standards were as follows:

1. “The student-teaching experience, which should last no less than 10 weeks, should require no less than five weeks at a single local school site and represent a full-time commitment.
  2. The teacher preparation program must select the cooperating teacher for each student teacher placement.
  3. The cooperating teacher candidate must have at least three years of teaching experiences.
  4. The cooperating teacher candidate must have the capacity to have a positive impact on student learning.
  5. The cooperating teacher candidate must have the capacity to mentor an adult, with skills in observation, providing feedback, holding professional conversations and working cooperatively” (Greenberg et al., 2011, p. 3).
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**Sample Questions From the Candidate Exit Survey, 2010-2011**

Unless otherwise noted, the response options are always/almost always, frequently, occasionally, and rarely.

1. To what extent did the field supervisor share with you the expectations for your performance in the classroom before each observation?
2. To what extent did the field supervisor base observation feedback on the expectations for your performance in the classroom?
3. To what extent did the field supervisor provide you with a written report or checklist of his or her observation of your performance in the classroom?
4. Did you ever communicate with your field supervisor by e-mail, text, or telephone call? (Yes/No)
5. To what extent did your field supervisor respond to your communications (e.g., e-mail, text, or telephone call) within two school or business days?
6. To what extent did your field supervisor offer you opportunities to reflect on your performance in the classroom?
7. To what extent did your field supervisor provide multiple means for you to communicate with him or her, such as e-mail, telephone, texting, videoconferencing, or face-to-face interaction?
8. To what extent did your field supervisor ask you for ways he or she can support you?
9. The field supervisor formally observed me teaching a minimum of three times. (Yes/No)
10. The field supervisor observed me teaching for a minimum of 45 minutes during at least three of my formal observations. (Yes/No)

Adapted from the Candidate Exit Survey compiled by the Texas Education Agency and the Texas Comprehensive Center at SEDL, <http://www.tea.state.tx.us/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=2147505755&libID=2147505749>.

## Process Measures Overview

Process measures get at the substance of teacher preparation—candidate selection, course content and requirements, and the experiences and the supports provided to teacher candidates. However, a dearth of research and development on the core practices and the skills that teachers need to be effective limit our understanding of how teachers are best prepared for the classroom. Process measures should therefore be used with caution. However, each measure presents opportunities and challenges for providing useful information on teacher preparation program quality. Table 1 summarizes the opportunities and the challenges of assessing programs based on process measures. The appendix also summarizes the strengths and the weaknesses of each measure.

**Table 1. The Opportunities and the Challenges of Using Process Measures to Evaluate Teacher Preparation Programs**

Opportunities	Challenges
<p><b>For accountability</b></p> <ul style="list-style-type: none"> <li>• Provides more information to policymakers and program faculty on the research-based content and structures of teacher preparation programs.</li> </ul> <p><b>For capacity building</b></p> <ul style="list-style-type: none"> <li>• Helps faculty understand and implement research-based preparation processes.</li> <li>• Can identify possible gaps in the content of teacher preparation program coursework and clinical work.</li> </ul> <p><b>For equity</b></p> <ul style="list-style-type: none"> <li>• Can help determine which preparation programs serving high-need schools have research-based processes in place.</li> </ul>	<ul style="list-style-type: none"> <li>• The research base on effective practices in teacher education is not currently robust enough to build a high-stakes assessment for accountability based on measuring processes.</li> <li>• There may be multiple and varied pathways to effectiveness.</li> <li>• Process measures may discourage innovation.</li> <li>• Process measures may require complex qualitative measures that are difficult to score reliably across IHEs.</li> </ul>

## What Are Some Ways to Evaluate Programs Using the Evidence of Impact on Outcomes?

Process measures provide potentially useful data on what occurs during teacher preparation but say little about what happens after candidates complete a program. Do program graduates demonstrate effective teaching practices? Are the graduates successful in producing high levels of student achievement? Do the graduates remain in the classroom? The answers to these questions may be more important for school and district leaders to know than how these results were obtained. Outcome measures provide insight into these questions.

### Student Achievement and the Growth of the Students of the Graduates of Teacher Preparation Programs

At least 14 states are seeking to use value-added modeling (VAM)—a statistical method of measuring a teacher’s contribution to growth in student achievement—or other estimates of student achievement growth to compare teacher preparation programs (Sawchuk, 2012a). Although the exact methods and plans vary, the states increasingly plan to use the student achievement gains of the students of beginning teachers and aggregate the gains based on which in-state teacher preparation program recommended those teachers for certification.<sup>6</sup> The aggregated results can then be used to compare multiple teacher preparation programs.

The strength of this approach is that test-based, value-added estimates provide a common metric to compare programs. Moreover, the differences among programs can be quantified using this approach (see, e.g., Boyd et al., 2009b; Gansle, Burns, & Noell, 2011; Goldhaber & Liddle, 2012). Although value-added results provide little guidance in terms of how to actually improve programs, they can be used as a trigger for further action. In other words, if student growth is relatively high among the graduates of a particular teacher preparation program, that program can be honored

<sup>6</sup> Currently, most states do not have the ability to share data with other states.

as well as studied further to determine what made it relatively effective. Comparing process measures, such as syllabi reviews or measures of field experience quality, in teacher preparation programs with high value-added measures may help uncover best practices in teacher preparation. This information can also be used to serve equity purposes to see which programs are producing graduates who are more effective with students of color.

This approach is not without challenges, however. Many concerns exist regarding how VAM or other measures of student growth can assess individual teachers. For example, researchers have noted the possibilities of attribution error, bias, and unintended negative consequences. (For descriptions of such concerns, see Baker et al. [2010]; Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein [2012]; and Kennedy [2010].) When aggregated to the program level, some of the concerns about the validity of these measures are reduced but not totally eliminated (Mihaly, McCaffrey, Sass, & Lockwood, 2012). Moreover, statewide tests do not assess the contribution of the many graduates from teacher preparation programs in private universities and colleges, those who teach in nontested subject areas, and those who teach out of state (Crowe, 2011). The implementation of value-added measures requires extensive data system capacity (Kukla-Acevedo, Streams, & Toma, 2009), and few states have fully tested and functional data systems.<sup>7</sup>

The nonrandom assignment of the graduates of teacher preparation programs to schools creates additional challenges. For example, trade-offs exist between ensuring an adequate sample size to make valid conclusions (which often means following graduates for 3 years into their school placements) and ensuring that the effects of the teacher preparation program on student achievement are properly disentangled from the effects of teacher learning, with behaviors that are reinforced by graduates' colleagues and induction programs at their school sites (Kukla-Acevedo et al., 2009).

Moreover, statewide academic achievement tests are not necessarily comprehensive measures of desired student academic, civic, and social-emotional learning outcomes that teacher preparation programs intend to produce and thus remain imperfect measures of program effectiveness (Henry et al., 2011a).

Finally, if these challenges were not enough, recent studies conducted by the National Center for Analysis of Longitudinal Data in Education Research found little variation in teacher training program effects as measured by VAMs, suggesting that teacher preparation programs are more similar than different in their effectiveness in terms of student test scores (Goldhaber & Liddle, 2012; Koedel, Parsons, Podgursky, & Ehlert, 2012; Mihaly et al., 2012). Furthermore, as Koedel et al. (2012) stated based on their study of preparation programs in Missouri, "Virtually all of the variation in teacher effectiveness in the labor force occurs across teachers within programs" rather than between programs (p. 7). How VAMs are specified can also influence the rankings of teacher preparation programs. For example, Mihaly et al. (2012) found that when school fixed effects were included in the models, rankings changed drastically, with at least one preparation program moving from the bottom quartile to the top quartile after the model specifications changed. Thus, caution is warranted in using VAM scores to evaluate programs. As Koedel et al. argue, given the relatively small differences found between programs and the different variations and trade-offs associated with different VAM models, state-level decision makers and K–12 administrators must avoid placing too much weight on program-level VAM scores when making critical decisions for program accountability or hiring purposes (Koedel et al., 2012).

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<sup>7</sup> Currently, 46 states do not share teacher performance data with their teacher preparation programs (Data Quality Campaign, 2012).

## State and District Teacher Evaluation Results

To receive flexibility under the Elementary and Secondary Education Act, states must establish guidelines for teacher employment evaluation that “meaningfully [differentiate] teacher performance using at least three performance levels” (Duncan, 2011; see also U.S. Department of Education, 2012a). Even without this requirement, states across the country have been developing teacher evaluation systems that result in a summative evaluation score based on some combination of measures of teaching practices, professional responsibilities, and student achievement growth (Goe, Holdheide, & Miller, 2011). Some Race to the Top states are planning to link these evaluation results back to the preparation programs that prepared the teachers so that they can publicly report comparisons among teacher preparation programs.

Teacher evaluation results as measures of the quality of teacher preparation programs have multiple strengths. Compared to using only measures of student growth to assess the effectiveness of the graduates of teacher preparation programs, teacher evaluation results can paint a much more comprehensive picture of program effectiveness because they are based on multiple measures. In addition, evaluation results are (or will be) available for all public school teachers. Evaluation data can help teacher preparation programs determine whether they are producing graduates who can perform in ways that meet state standards and district expectations. In addition, depending on the depth of the analysis and the data available, teacher evaluation results can pinpoint the strengths and the weaknesses of their respective preparation programs. For example, a thorough review of teacher evaluation results may reveal that the graduates of teacher preparation programs tend to be strong in content knowledge but lack skills related to class management.

Teacher evaluation results also have drawbacks. Most teacher evaluation processes and metrics are locally controlled (and in many cases locally bargained). Thus, evaluation results may not be comparable across school districts and states. This may skew comparisons among teacher preparation programs if the graduates from particular preparation programs are more often hired into school districts whose evaluation systems are less rigorous than others. It may even create incentives for preparation programs to help place teachers in school districts that they know do not have as rigorous an approach to evaluation as other school districts. Finally, these new teacher evaluation systems are still in their infancy, and their validity and reliability have not yet been proven (e.g., Bill & Melinda Gates Foundation, 2012). Making high-stakes decisions in terms of program accountability (much less individual accountability) based on these systems should be done with extreme caution.

## Surveys of Principals and Employers

Another way to gauge the performance of the graduates of teacher preparation programs is to ask their supervisors (usually their principals) about the quality of graduate performance. Research has shown a high correlation between principal assessment and teachers’ value-added scores (Sartain et al., 2011; Tyler, Taylor, Kane, & Wooton, 2010), so this may be a less onerous way to gain program feedback and information on program effectiveness (although there is little, if any, research showing the correlation between principals’ preparation program survey responses and teacher effectiveness). Surveys may also help principals pay closer attention to how and where their new hires are prepared. In addition, surveys engage stakeholders and offer local education agencies opportunities to provide input regarding the preparation of teacher candidates. Texas used principal surveys in the 2011–12 school year (see *Sample Questions From the Texas Teacher Preparation Effectiveness Survey: First Year Teachers*).

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### Sample Questions From Principal Surveys to Evaluate Texas Educator Preparation Programs: First-Year Principal Survey

*All questions asked principals to select one of the following choices: well prepared, sufficiently prepared, not sufficiently prepared, or not at all prepared.*

- To what extent was this beginning teacher prepared to effectively implement discipline/management procedures?
- To what extent was this beginning teacher prepared to integrate effective modeling, questioning, and self-reflection (self-assessment) strategies into instruction?
- To what extent was this beginning teacher prepared to make appropriate decisions (e.g., when and how to make accommodations and/or modifications to instruction, assessment, materials, delivery, and classroom procedures) to meet the learning needs of students who have an individualized education program (IEP)?
- To what extent was this beginning teacher prepared to provide appropriate ways for limited-English proficient students and English language learners to demonstrate their learning?
- To what extent was this beginning teacher prepared to provide technology-based classroom learning opportunities that allow students to interact with real-time and/or online content?

Adapted from the First Year Principal Survey of the Texas Education Agency at [http://www.tea.state.tx.us/index2.aspx?id=2147484163&menu\\_id=2147483671&menu\\_id2=794](http://www.tea.state.tx.us/index2.aspx?id=2147484163&menu_id=2147483671&menu_id2=794).

## Surveys of the Graduates of Teacher Preparation Programs

When designed and administered carefully, surveys of the graduates of teacher preparation programs can provide useful information to both states and the teacher preparation programs. The survey information can be used for program accountability, improvement, and educational equity. Many IHEs survey their recent graduates so that they can obtain feedback on their teacher preparation programs. These measures are inexpensive to distribute, but ensuring sufficient response rates can be a significant challenge, and timing the survey distribution properly takes careful thought and organization. As with other surveys, the data gathered from surveys of the graduates of teacher preparation programs reflect feelings of preparedness, self-efficacy, and program perceptions—not actual preparedness and actual program quality (Darling-Hammond, 2006). In addition, these surveys of graduates are rarely common instruments used by all teacher preparation programs (or even more than one) in a state and thus limit comparability across programs.

One exception is an online survey used by the Center for Teacher Quality at California State University. The center employs an exit evaluation administered as candidates are graduating and also surveys graduates toward the end of their first and third years of teaching (see *Sample Questions From the California State University System's Exit Survey*).

The New York City Pathways to Teaching Project also uses surveys of the graduates of teacher preparation programs but only for research purposes. Pathways researchers have teased out differences in the effectiveness among programs and program features. Recent studies found empirical relationships between survey findings and teacher effectiveness as measured by student achievement outcomes (Boyd et al., 2009b). Sample questions from the survey (see *Sample Items From the New York City Pathways to Teaching Project First-Year Teacher Survey*) may be useful to states as they develop surveys for program improvement, accountability, or equity.

**Sample Questions From the California State University Exit Survey for Multiple Subject Respondents**

As a new teacher, I am (a) well prepared to begin, (b) adequately prepared to begin, (c) somewhat prepared to begin, or (d) not at all prepared to begin

- To meet the instructional needs of English language learners.
- To assess pupil progress by analyzing a variety of evidence, including exam scores.
- To communicate effectively with the parents or the guardians of my students.
- To know and understand the subjects of the curriculum at my grade level(s).
- To create an environment that supports language use, analysis, practice, and fun.
- To assist students in decision making, problem solving, and critical thinking.

Based on your experience as a K–12 preservice teacher, how valuable or helpful were these elements of your Teaching Credential Program? (very, somewhat, a little, or not at all)

- Instruction in methods of classroom teaching and management
- Instruction in the teaching of mathematics in Grades K–8
- Instruction in how children and adolescents grow and develop
- My supervised teaching experiences in K–12 schools
- Guidance and assistance from field supervisor(s) from campus

While you were in the Teaching Credential Program, how true was each of the following statements? (true, mostly true, somewhat true, or not true)

- The program provided an appropriate mixture of theoretical ideas and practical strategies, and I learned about links between them.
- During the program, I saw evidence that university faculty worked closely with teachers in K–12 schools.
- I taught in at least one school that was a good environment for practice teaching and reflecting on how I was teaching pupils.

Adapted from the *Teacher Education Exit Survey for Multiple Subject Respondents* from the Center for Teacher Quality (2005–06) at [http://www.calstate.edu/teacherquality/documents/teacherprep\\_exit\\_survey\\_multiple.pdf](http://www.calstate.edu/teacherquality/documents/teacherprep_exit_survey_multiple.pdf).

**Sample Items From the New York City Pathways to Teaching Project First-Year Teacher Survey**

In your preparation to become a teacher, prior to becoming a full-time classroom teacher, how much opportunity did you have to do the following (extensive opportunity, explored in some depth, spent time discussing or doing, touched on it briefly, none)?

- Study stages of child development and learning
- Develop strategies for handling student misbehavior
- Consider the relationship between education and social justice and/or democracy
- Learn how to fill out IEPs
- Learn ways to teach decoding skills
- Learn how to activate students' prior knowledge
- Practice what you learned about teaching reading in your field experiences
- Learn typical difficulties students have with fractions
- Study, critique, or adapt mathematics curriculum materials
- Study national or New York State standards for childhood mathematics
- Learn strategies for addressing the needs of students with mild to moderate disabilities in the classroom
- Learn how to encourage scientific inquiry

Thinking about the supervision and feedback that you received during your experiences in schools as part of your preparation to become a teacher and prior to becoming a full-time classroom teacher, please rate the extent to which you agree with the following statements (response options range from strongly agree to strongly disagree):

- The teachers(s) I observed were excellent teachers and worthy role models.
- When I participated in the classroom, I got useful feedback.
- My experiences allowed me to try out strategies and techniques I was learning in my preservice classes.

Adapted from Surveys from Teacher Policy Research at <http://www.teacherpolicyresearch.org/TeacherPathwaysProject/Surveys/tabid/115/Default.aspx>. Copyright 2005 by Teacher Policy Research.

### Hiring and Placement Data

Although larger economic, social, and governmental forces are at work when it comes to the number of teacher vacancies in particular schools and school districts (Liu & Johnson, 2006) and the extent to which teacher preparation program graduates pursue those vacancies (Johnson, Berg, & Donaldson, 2005; Reiningger, 2012), administrative data can also speak to the quality of teacher preparation programs. States can use hiring and placement data to determine the extent to which the graduates of teacher preparation programs are hired as full-time teachers after graduation. Nevertheless, because of the limited control that teacher preparation programs have over hiring and placement, this measure should not, of course, be the sole criterion of quality.

Hiring and placement data linked to programs can further help stakeholders understand whether teacher preparation programs are helping to prepare candidates for schools with large proportions of low-income and minority students, thereby helping a state meet its equitable distribution goals. This information can also be useful for teacher preparation programs to learn what the labor market need is for particular kinds of teachers. For example, Greenberg et al. (2011) recently estimated that teacher preparation programs overproduce general elementary school teachers each year while underproducing teachers in specific subject areas.<sup>8</sup>

### Data on Persistence in Teaching

Inadequate teacher preparation has been cited as one of the reasons for disproportionately high rates of attrition among beginning teachers, in addition to poor teaching conditions, low salaries, a lack of discretion and autonomy, and lackluster school leadership (Darling-Hammond, 2003; Ingersoll & May, 2011; Loeb, Darling-Hammond, & Luczak, 2005). Although there are many factors at work that explain teachers' decisions to leave their initial placements or the teaching profession,<sup>9</sup> if a teacher preparation program has a disproportionately high percentage of graduates who leave the profession after their first 2 or 3 years of teaching, then it may be a sign that something is amiss in either the selection process or the preparation experience that is not helping ensure that teachers persist in teaching. Furthermore, if many of the graduates of a teacher preparation program leave the teaching field because their contracts were not renewed as a result of poor teaching performance, then this information should also trigger a closer look at the quality of a teacher preparation program. However, because the many factors influence teacher retention, persistence in teaching should not be the sole criterion of program quality.

### Teacher Candidate Knowledge and Skills Outcomes

Another way to examine the quality of teaching preparation that a program provides is by looking at candidates' knowledge and skills just before they graduate and are granted a state license to teach. For example, Title II requires that the states report on the pass rates of preparation program candidates on state licensure tests and encourages states to hold those programs that have the lowest scores accountable, either through closure or program review. To gauge candidate knowledge and skills, states or programs can employ either paper-and-pencil tests or more comprehensive performance assessments.

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<sup>8</sup> See <http://www2.ed.gov/about/offices/list/ope/pol/tsa.pdf> for a nationwide listing of teacher shortage areas.

<sup>9</sup> See Boyd et al. (2009a); Ingersoll & Smith (2003); and Lankford, Loeb, & Wycoff (2002) for discussions of reasons for teacher attrition.

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**Licensure Exams.** Pass rates on licensure exams have long been used in Title II reporting to indicate program effectiveness. All but 3 states require teachers to take licensure exams to test their basic knowledge and skills, pedagogy, and/or content knowledge before they are eligible for a license (Crowe, 2010). Some states have as many as 85 different tests—with a test for each grade level band and content area—and cut scores are typically determined by panels of experts who make estimates of the number of questions a minimally qualified candidate should answer correctly (Goldhaber, 2010). In part because of the subjective element in determining cut scores, cut scores on the same test can vary dramatically among the states (Goldhaber, 2010). However, most states set cut scores at or below the national median score established for a certification test; in the 2008–09 school year, the pass rates on teacher assessments were 95 percent for traditional route program completers and 97 percent for alternative route program completers (U.S. Department of Education, 2011c).

Moreover, research has cast doubt on whether the benefits of licensure testing are worth the cost. As Wilson and Youngs (2005) noted, licensure exams were not designed to predict teaching success; they were created to set minimum standards for teacher knowledge. The predictive validity of teacher certification tests is still unknown (Wayne and Youngs, 2003; Wilson and Youngs, 2005). Recent studies have found only modest positive relationships between teacher licensure exam scores and student achievement (Clotfelter, Ladd, & Vigdor, 2007; Goldhaber, 2007). In addition, Goldhaber (2007) found numerous instances where teachers who failed to pass the exam but were emergency certified turned out to be highly effective in the classroom.<sup>10</sup> There is also emerging evidence that licensure exams are not good at predicting whether such teachers will be effective with all students, particularly with male students of color (Goldhaber & Hanson, 2010). In other words, licensure exams may have a disparate impact on not only teachers of color but also their students.

**Other Written Tests of Candidate Knowledge and Skills.** Educational researchers have used other, potentially more predictive tests of teacher knowledge and skills to measure the impact of teacher preparation programs on teacher candidate outcomes. States, or coalitions of states, may consider adopting these tests for teacher preparation program accountability and improvement.

For example, researchers at the University of Michigan and Harvard University developed the Mathematical Knowledge for Teaching (MKT), a bank of multiple-choice items to measure both subject matter knowledge and pedagogical content knowledge. Recent studies using this instrument have found that teachers' MKT scores were strongly related to the mathematical quality of their instruction (Hill & Lowenberg Ball, 2009).

**Performance-Based Assessments.** Unlike written tests, performance-based assessments, such as portfolios, artifacts, and teaching exhibitions, capture how teachers and teacher candidates apply what they have learned to their teaching practices. Performance-based assessments are often considered more authentic and more contextualized assessments of teacher practices than written tests (Darling-Hammond & Snyder, 2000). In multiple studies, teachers and teacher candidates reported that the process of completing performance-based assessments actually improved their teaching practices (Darling-Hammond, 2010; Darling-Hammond & Snyder, 2000; Pecheone, Pigg, Chung, & Souviney, 2005). That being said, there is little research that examines the correlation between teacher performance-based assessment scores and student achievement.

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<sup>10</sup> An emergency certified teacher is a teacher who received a temporary teaching certificate but did not meet the state's full certification criteria.

Despite the strengths of performance-based assessments, using performance-based assessments on a large scale requires considerable resources. First, support is critical to enable teacher candidates and teachers to complete and fully benefit from the process. According to Pecheone et al. (2005), performance-based assessments “presume the existence of a supportive and collegial environment to promote reflection, are sensitive to context, and to the support new teachers receive” (p. 168). Second, considerable time is needed to both prepare entries for performance-based assessments and then score them (Darling-Hammond, 2010). Third, the cost of implementing and scoring performance-based assessments is costly. For example, the cost of the new Teacher Performance Assessment (TPA) is estimated to be \$300 (Butrymowicz, 2012; Evergreen State College, 2012). Although the thoughtful use of technology may reduce overall costs over time, additional research is needed to make informed decisions about using performance-based assessments to evaluate teacher preparation programs (Pecheone et al., 2005).

TPA is subject specific and is available in at least 13 subjects (Pearson, 2011). The developers say that it is aligned with state standards, the Interstate Teacher Assessment and Support Consortium standards, the Common Core State Standards, and the Specialized Professional Association standards (American Association for Colleges for Teacher Education [AACTE], 2012b). According to AACTE (2012a), TPA

- “Measures candidates’ readiness for teaching and will be predictive of a candidate’s success in affecting student achievement
- Creates a body of evidence of teaching performance
- Contributes evidence for licensure decisions (in combination with other measures)
- Provides a consistent measure of candidate performance across teacher preparation programs
- Supports candidate learning and development of high-leverage teaching practices
- Measures candidates’ ability to differentiate instruction for diverse learners, including English language learners and students with disabilities
- Improves the information base for accreditation of teacher preparation programs”

TPA uses evidence from three to five lessons that teachers deliver to students from one class as the basis for a summative score. Evidence includes video clips of instructions, lesson plans, student work samples, an analysis of student learning, and reflective commentaries (Pearson, 2011). Teachers submit these items via an electronic platform. Trained scorers who have recently worked as college, university, or PK–12 educators then evaluate these portfolios of evidence (Pearson, 2012). Field testing occurred in spring 2012, and developers plan to have the final assessment available for use in fall 2012 (Pearson, 2011).<sup>11</sup> Over 25 states and almost 200 teacher preparation programs comprise the Teacher Performance Assessment Consortium (AACTE, 2012b), but some teacher candidates and educators remain skeptical that the assessment will accurately capture teacher practices (Winerip, 2012).

Teacher educators at the University of Michigan’s School of Education (UMSOE) are also developing a potentially more practice-based performance assessment modeled on the clinical preparation for doctors. Still under development, the TeachingWorks set of performance assessments will “focus specifically and in detail on teachers’ performance of high-leverage practices and on their understanding of the content they teach,” according to the developers (TeachingWorks, 2012). It will likely build on the performance assessments that UMSOE is currently beginning to use, which

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<sup>11</sup> Some IHEs are charging candidates fees for participating in the pilot, and other states have sought and received foundation-sponsored grants to reduce costs. Pearson will start charging candidate fees (as much as \$300) in fall 2012.

include tasks that are based on medical training assessments. For example, in the “standardized patient” assessment task, a volunteer “plays” a patient and presents symptoms to medical students who are then assessed on their diagnostic ability. Likewise, teacher educators at UMSOE have someone “play” a K–12 student and present the same kind of teaching situation to different teacher candidates. The interactions between the teacher candidate and the “student” are videotaped and later evaluated by UMSOE faculty for the candidates’ ability to understand and respond appropriately to the situation (J. DeMonte, personal communication, February 24, 2012).

The TeachingWorks group is also seeking to develop a common curriculum for professional teacher training that focuses on what the evidence says are high-leverage practices and the subject matter knowledge that teachers need to teach effectively. The data that will be collected from these and other efforts to evaluate the outcomes of teacher preparation programs promise to build the evidence base for what works in preservice preparation—something that is sorely needed.

### Outcomes Measures Summary

In summary, the options for evaluating teacher preparation programs based on program outcomes have great potential for providing tremendously important evidence on which to base improvement, accountability, and equity decisions. Nevertheless, each measure has drawbacks that need to be considered. Table 2 is a compilation of the many opportunities and challenges that exist for this work.

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**Table 2. The Opportunities and Challenges of Evaluating Teacher Preparation Based on Outcomes**

Opportunities	Challenges
<p><b>For accountability</b></p> <ul style="list-style-type: none"> <li>• Compared to input measures, outcomes measures provide stronger and more meaningful evidence on which to base decisions to sanction or close ineffective teacher preparation programs and reward effective ones.</li> </ul> <p><b>For capacity building</b></p> <ul style="list-style-type: none"> <li>• For preparation programs: Can provide teacher preparation programs with evidence-based feedback in how well they are preparing teachers to be successful in their teaching assignments.</li> <li>• For schools: Can assist in hiring, providing school leaders with information on the teacher preparation programs where they would be more likely to find teacher candidates who would be successful.</li> <li>• May incentivize teacher preparation programs to develop and maintain collaborative partnerships with school districts.</li> </ul> <p><b>For equity</b></p> <ul style="list-style-type: none"> <li>• Given the right levers, can incentivize teacher preparation programs to better prepare teacher candidates for high-need schools and traditionally underserved populations.</li> <li>• School districts can see which teacher preparation programs better prepare teachers for high-need schools and hire those graduates.</li> </ul>	<p><b>Overall challenges</b></p> <ul style="list-style-type: none"> <li>• Teacher preparation programs change over time, so the feedback that programs get from evaluations based on graduate outcomes 2 or 3 years later may no longer be indicative of current program quality.</li> <li>• <b>Size matters.</b> Small teacher preparation programs may have large fluctuations in aggregated graduate outcomes from year to year as an artifact of size, not necessarily of quality.</li> <li>• Although there is currently no evidence that this is occurring, measuring outcomes may provide incentives for teacher preparation programs to encourage graduates to apply to schools where they are more likely to be successful (i.e., higher socioeconomic status school districts or high-functioning schools with strong professional learning communities).</li> <li>• Teachers are often prepared through more than one preparation program, so attributing their outcomes to a particular program can be problematic.</li> <li>• State teacher data systems may lack capacity to link teachers to specific preparation programs, much less contain data on outcomes.</li> <li>• <b>Graduate mobility.</b> Gathering outcomes data on graduates who leave the state can require additional resources.</li> <li>• Collecting comparable data from graduates of preparation programs who teach in private schools may be difficult to impossible.</li> </ul> <p><b>In terms of using graduates' comprehensive teacher evaluation results</b></p> <ul style="list-style-type: none"> <li>• Few K–12 school districts have mature, valid, and reliable teacher evaluation systems that could provide valid information on the effectiveness of the graduates of teacher preparation programs.</li> <li>• Local variation in evaluation system design and implementation means that there will be variability in the rigor of teacher evaluation, which may be difficult to account for when comparing teacher preparation programs.</li> <li>• Few states currently have adequate data systems to link teacher evaluation results back to teacher preparation programs.</li> </ul> <p><b>In terms of using value-added data</b></p> <ul style="list-style-type: none"> <li>• Few states currently have adequate data systems to link teacher effectiveness data back to teacher preparation programs.</li> <li>• VAMs continue to be criticized for instability, bias, attribution error, and so forth; however, aggregated to the program level, these problems may be less concerning.</li> <li>• VAMs act as signals of performance but do not provide in-depth data that can be used to inform improvements in teacher preparation programs.</li> <li>• Recent studies have found more variation among teachers' VAM scores within programs than between programs, thus limiting their use as a way to differentiate program effectiveness.</li> </ul>

## How Are States on the Forefront of Change Approaching the Evaluation of Their Teacher Preparation Programs?<sup>12</sup>

In recent years, six states have led the way in changing how they evaluate the effectiveness of teacher preparation programs. In this section, we profile the efforts of these states in varying stages of implementation to provide real-world examples of how some states are combining measures to construct a more complete picture of the quality of teacher preparation programs. Many of these states continue to wrestle with the trade-offs associated with each measure and are working through challenges of implementing new evaluation systems. That being said, their lessons learned and ongoing efforts can help inform current and future efforts. Only two states (Louisiana and Texas) intend to use these measures for accountability purposes as of February 2012 (Sawchuk, 2012a), but all states intend to provide greater information to potential teacher candidates, teacher preparation programs, and the public.<sup>13</sup> Table 3 summarizes the content of the six profiles that follow.

**Table 3. Summary of Sample States Using Processes and Outcomes to Evaluate Teacher Preparation**

State	Measures Selected/Used	Recent Accomplishments	Challenges
Louisiana <sup>b</sup>	<ul style="list-style-type: none"> <li>• Review of reform proposals</li> <li>• NCATE accreditation</li> <li>• Praxis scores</li> <li>• Surveys of the graduates of teacher preparation programs</li> <li>• The change in the number of students completing teacher preparation programs</li> <li>• Value-added scores of graduates</li> <li>• Authentic university-school partnerships (selected but not implemented)</li> </ul>	<ul style="list-style-type: none"> <li>• The first state to use VAM in its assessment of teacher preparation programs</li> <li>• Adopted one VAM that will evaluate both teachers and teacher preparation programs</li> </ul>	<ul style="list-style-type: none"> <li>• Disaggregating VAM data to provide useful, actionable data</li> <li>• Accumulating sufficient data to permit public dissemination of the data</li> </ul>

<sup>12</sup> The authors would like to thank Julie Orange and Eileen Fisher (Florida State Department of Education), Martha Hendricks-Lee (Ohio Association of Colleges for Teacher Education), Tom Bordenkircher (Ohio Board of Regents), Jeanne Burns (Louisiana Board of Regents), Janice Lopez (Texas Education Agency), Emily Carter (Tennessee Department of Education), Elissa Brown (North Carolina Department of Public Instruction), and Grant W. Simpson (Texas Association of Colleges for Education) for their assistance in preparing these examples.

<sup>13</sup> A recent *Education Week* article featured a chart profiling states' plans to report value-added information on their teacher education programs. The District of Columbia and 13 states—Delaware, Florida, Georgia, Hawaii, Louisiana, Maryland, Massachusetts, North Carolina, New York, Ohio, Rhode Island, Tennessee, and Texas—currently or plan to soon report value-added data. Of those, 6 states plus D.C. plan to use these measures for accountability purposes: District of Columbia, Louisiana, Maryland, North Carolina, New York, Rhode Island, and Texas (Sawchuk, 2012a).

State	Measures Selected/Used	Recent Accomplishments	Challenges
Texas <sup>b</sup>	<ul style="list-style-type: none"> <li>• Certification examination pass rates</li> <li>• Appraisals of graduate performance</li> <li>• Value-added scores of the graduates of teacher preparation programs</li> <li>• Survey and extant data on the frequency, the duration, and the quality of field supervision</li> </ul>	<ul style="list-style-type: none"> <li>• Distributed principal survey to all principals in May 2011</li> <li>• Made requirements for certification programs much more uniform across teacher preparation program types</li> </ul>	<ul style="list-style-type: none"> <li>• Training principals on importance of survey</li> <li>• Gathering student achievement data in nontested grades and subjects</li> <li>• Linking teachers to students</li> </ul>
Tennessee <sup>a</sup>	<ul style="list-style-type: none"> <li>• Placement and retention rates</li> <li>• Praxis II results</li> <li>• Value-added scores of the graduates of teacher preparation programs</li> </ul>	<ul style="list-style-type: none"> <li>• Published reports in 2011</li> </ul>	<ul style="list-style-type: none"> <li>• Assessing the effectiveness of the graduates of teacher preparation programs who are working in nontested grades and subjects</li> <li>• Gathering data on program completers working in private or out-of-state schools</li> </ul>
North Carolina <sup>a</sup>	<ul style="list-style-type: none"> <li>• Value-added scores of the graduates of teacher preparation programs</li> </ul>	<ul style="list-style-type: none"> <li>• Released reports in 2010 and 2011</li> </ul>	<ul style="list-style-type: none"> <li>• Gathering data on program completers working in private or out-of-state schools</li> <li>• Assessing the effectiveness of out-of-state teacher preparation programs</li> </ul>
Ohio <sup>a</sup>	<ul style="list-style-type: none"> <li>• Results of TPA</li> <li>• Praxis II scores</li> <li>• Additional examination results</li> <li>• Appraisals of the graduates of teacher preparation programs</li> <li>• Surveys of teacher candidates</li> <li>• Feedback from educator residencies</li> <li>• Value-added scores</li> </ul>	<ul style="list-style-type: none"> <li>• Created a portal on the Ohio Board of Regents website to house candidate and employer surveys</li> </ul>	<ul style="list-style-type: none"> <li>• Finalizing what the higher education report card will look like</li> </ul>
Florida <sup>a</sup>	<ul style="list-style-type: none"> <li>• In process</li> </ul>	<ul style="list-style-type: none"> <li>• Currently preparing performance targets for the new teacher preparation program accountability system</li> </ul>	<ul style="list-style-type: none"> <li>• Organizing stakeholder meetings</li> <li>• Locating and leveraging expertise in assessing the quality of teacher preparation programs</li> </ul>

<sup>a</sup> Denotes the state is a Race to the Top winner. <sup>b</sup> Denotes the state uses or intends to use data for accountability purposes.

## Louisiana

Louisiana has been lauded as having the most advanced and comprehensive student and educator data system to date (Russell & Wineburg, 2007). Since 2001, Louisiana's IHEs have engaged in multiple efforts to demonstrate effectiveness at four different levels identified by Louisiana's Blue Ribbon Commission on Teacher Quality (Louisiana Board of Regents, n.d.):<sup>14</sup>

- “Level 1: effectiveness of planning (redesign of teacher preparation programs)
- Level 2: effectiveness of implementation (NCATE & PASS-PORT)
- Level 3: effectiveness of impact (teacher preparation accountability system)
- Level 4: effectiveness of growth in student learning (value-added teacher preparation program assessment)”

**Level 1.** To demonstrate the first level of effectiveness, IHEs were required to redesign their programs to address Louisiana's new certification standards. These redesigns coincided with the redesign of the standards set by the Office of Elementary and Secondary Education and progressed from 2002 to 2005. State and national experts reviewed the proposals for new or redesigned teacher preparation programs, evaluated them, and then made recommendations for approval (Noell, Burns, & Gansle, 2009).

**Level 2.** All teacher preparation programs were required to become accredited by NCATE and assess the knowledge, the skills, and the dispositions of teacher candidates using PASS-PORT, a Web-based performance-assessment system (Russell & Wineburg, 2007).

**Level 3.** The Blue Ribbon Commission on Teacher Quality also created an accountability system for teacher preparation programs, which it implemented up until Hurricane Katrina in 2005 (J. Burns, personal communication, February 17, 2012). As part of this system, the Louisiana Board of Regents (2003–04) generated a report for each IHE. The 2003–04 reports included the following information:

- The number of students in the teacher preparation program
- The number of students who participated in supervised student teaching or internship experiences
- The number of faculty who supervised student teaching and internship experiences
- The student-to-faculty ratio for student teaching and internship experiences
- The average number of hours per week, the total number of weeks, and the total number of hours that the school requires for student teaching
- Praxis scores (part of the institutional performance measure)
- The results from a graduate satisfaction survey, using 2 years of data (part of the institutional performance measure)
- The change in the number of students who completed teacher preparation programs (the quantity measure)

The Board of Regents combined some data points into measures of institutional performance and quantity. Using these measures, they created an institutional score that converted into one of six preparation performance labels (Louisiana Board of Regents, 2003–04).

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<sup>14</sup> In April 1999, the Louisiana governor, the Board of Regents, and the Board of Elementary and Secondary Education created the Blue Ribbon Commission on Teacher Quality. This group consists of “thirty-six state, university, district, school, and communication leaders” (Louisiana Board of Regents, n.d.).

Hurricane Katrina impacted the implementation of additional elements of the accountability system, and the state is slowly rebuilding its system. Although Louisiana has not yet implemented a new accountability system, such as the one prior to Hurricane Katrina, it has investigated the utility of data through additional studies. For example, a study conducted with funds from the Carnegie Corporation of New York used VAM and found that the graduates of teacher preparation programs are more effective at teaching some grades than others (J. Burns, personal communication, February 17, 2012). This finding suggests the new Louisiana model may need to incorporate value-added data divided by grades, grade bands, or subjects to really understand the effectiveness of their teacher preparation programs. In addition, when looking at how teachers responded to the survey, investigations revealed that teachers with the highest value-added scores had the lowest ratings for their teacher preparation programs. Jeanne Burns (personal communication, February 17, 2012) explained that this disconnect raised validity concerns that the Board of Regents will need to consider when revising its accountability system.

**Level 4.** As Noell and Burns (2006) noted, the reviewers of teacher preparation programs found that IHEs lacked the capacity to develop rigorous assessments and conduct individual analyses of the effects of their graduates given the “geographic dispersion of graduates, the variety of content and grade levels that graduates teach, the heterogeneity of the students the graduates teach, and the limitations of finite resources” (p. 39). This finding led the Blue Ribbon Commission for Educational Excellence (in Los Angeles) to recommend the creation of a statewide system for assessing the impact of new graduates, namely by using VAM (Noell & Burns, 2006).

Louisiana piloted a VAM created by Dr. George Noell from 2003 to 2006 and then fully implemented the model in the 2006–07 school year (Gansle, Burns, & Noell, 2011). Using this model, Louisiana reported the effectiveness of teacher preparation programs along five effectiveness levels, comparing the performance of the graduates of teacher preparation programs to other new teachers and to experienced teachers.

Since the introduction of VAM in Louisiana, some teacher preparation programs in Louisiana have used the data to help inform changes to their programs. For example, after viewing data showing that students taught by the graduates from the University of Louisiana at Lafayette struggled with essay questions, the school changed its requirements for teacher candidates to include more writing instruction in introductory English classes. In response to other data, the school set up faculty teams to examine the teacher preparation curriculum, changed the sequencing of the elementary mathematics courses, and increased the amount of time that faculty members must observe student teachers (Sawchuk, 2012a).

Beginning in the 2012–13 school year, all teacher evaluations in Louisiana must include a value-added measure. This measure, the Louisiana Department of Education value-added teacher evaluation model, will also be used to evaluate teacher preparation programs going forward. Using the value-added scores of first- and second-year teachers, the Board of Regents will calculate the mean value-added scores for IHEs and alternative teacher preparation programs that prepare new teachers. Gansle, Burns, and Noell (2011) argued that using the same metric used in teacher evaluations will increase cost efficiency, align supports given to K–12 systems and teacher preparation systems, enable Louisiana to communicate more clearly to the public, provide more information about student test histories and discipline histories, and permit subgroup analyses.

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Although the state released mean scores for the 2010–11 school year where sufficient numbers of graduates existed, Louisiana is still in the process of creating benchmark levels based on the new VAM. As of yet, few teacher preparation programs have enough data to warrant public reporting (Gansle, Noell, & Burns, 2012); thus, the implementation of VAM will take time.

## Texas

In 2009, the Texas legislature passed Senate Bill 174, which requires the evaluation of teacher preparation programs. Since then, the state has revised the Texas Education Code (TEC) in accordance with Senate Bill 174.<sup>15</sup> The new code requires that the Texas State Board for Educator Certification (SBEC) annually review the accreditation status of each teacher preparation program and assign one of five statuses (not rated, accredited, accredited–warned, accredited–probation, and not accredited–revoked) to each IHE based on the results of the review (TEC §21.0451). In addition, information and data about each IHE must be posted on the state’s website (TEC §21.0452). When conducting reviews, SBEC measures the effectiveness of teacher preparation programs according to the following four measures (J. Lopez, personal communication, May 21, 2012):

1. The pass rate performance standard of certification examinations of teacher preparation program candidates
2. The results of appraisals of beginning teachers by school administrators
3. The improvement in student achievement of students taught by beginning teachers for the first 3 years following certification
4. The frequency, the duration, and the quality of field supervision of beginning teachers

**Certification Examinations.** Teacher candidates in Texas are required to pass the Texas Examinations of Educator Standards classroom certification tests. Texas uses these results to assess the pass rate performance for teacher preparation programs. SBEC set progressive pass rate performance standards ranging from a 70 percent pass rate standard in the 2009–10 school year to 80 percent in the 2011–12 school year (Texas Education Agency, n.d.a).

**Appraisals.** SBEC piloted an electronic survey to all principals in 2010 (see page 11 for examples of items; Texas Education Agency, n.d.b). The extensive survey asks principals to assess the performance of new teachers and their preparedness to be classroom teachers. The state included this measure in the system in part to gather information about new teachers in nontested grades and subjects for which no student achievement data were available. After reviewing the pilot data and receiving stakeholder input, SBEC revised the survey and distributed it in May 2011. The responses from 42,000 principals will be used to determine the impact of teacher preparation programs and will be reported for the 2011–12 school year.

Despite revisions and gradual implementation, the survey remains imperfect. For example, recent results demonstrate a lack of variability in the responses. Nearly all principals assigned teachers ratings of highly skilled or adequately skilled. Given the skew of the data, few decisions or conclusions can be made about the quality of teacher preparation programs. In addition, IHEs,

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<sup>15</sup> For the relevant state code, see TEC §21.041 and §21.045 added §21.0451 and §21.0452.

which receive only aggregated data, cannot use the results of the appraisal surveys to make informed decisions on improving their programs. For example, the deans of teacher preparation programs would not be able to tell whether graduates from their elementary or secondary programs received negative ratings.

According to Grant Simpson of the Texas Association of Colleges for Teacher Education, principals need additional training on the survey. In large high schools, principals or their designees may need to complete upward of 20 surveys of recent graduates of teacher preparation programs. Completing this task is time consuming, but for the results to be relevant, the survey must also be accurate. Thus, principals may need a greater understanding of the implications of the survey (G. W. Simpson, personal communication, May 23, 2012).

**Student Achievement.** The Texas Education Agency contracted with the Lyndon B. Johnson School of Public Affairs at the University of Texas–Austin to develop a metric that includes an observational component based on surveys of principals and a value-added component based on student performance on the state’s standardized tests. In addition, the state engaged stakeholders in designing the metric by convening both IHEs and school practitioners to provide feedback and offer ideas. The state also invited statistical experts from various IHEs to serve in a separate measurement assessment group. The resultant model is a complex design that accounts for multiple confounding variables (G. W. Simpson, personal communication, May 23, 2012). The metric does not measure the effectiveness of any individual teacher. Rather, it estimates the aggregate achievement of all students taught by the graduates of a teacher preparation program. In the VAM analysis, individual teachers provide the link between a teacher preparation program and the students taught by its graduates (J. Lopez, personal communication, May 21, 2012).

Only student achievement results of beginning teachers who teach a Texas Assessment of Knowledge and Skills–related class in Grades 4–8 for reading and Grades 4–10 in mathematics are included in the model. Consequently, information about student achievement in other areas, such as science and social studies, is missing from the state’s evaluation system. In addition, although the model matches teachers and students based on class rosters, it does not always do so accurately. For example, Simpson recalled an instance where student achievement results for mathematics and reading were attributed to students’ homeroom teachers, who taught neither subject (G. W. Simpson, personal communication, May 23, 2012). Adding another layer of complexity, the state’s assessments changed in 2012; consequently, the value-added results for the first two years will be based on different tests.

Recognizing the limitations of VAM in its current state, the Texas Education Agency intends to have a two-year pilot of this new measure of teacher preparation programs because of its newness and recent changes in the state assessment program (Texas Education Agency, n.d.a). The state has assured teacher preparation programs that data from the first few years would not be released because VAM is not yet reliable given small sample numbers. However, because the state must present this information to SBEC, members of the Texas Association of Colleges for Teacher Education worry that the state’s assurances hold little weight. After information is presented to SBEC, it will become public information and thus be subject to “gross misinterpretation” (G. W. Simpson, personal communication, May 23, 2012).

**Field Supervision.** The fourth standard assesses the frequency, the duration, and the quality of field supervision. The Texas Administrative Code requires that teachers be observed for 45 minutes at

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least 3 times within their 12-week student-teaching or clinical experiences (19 TAC §228.35(f)). After each observation, teacher candidates must engage with the observer in a conference and receive written feedback. Texas sets yearly compliance percentages for frequency and duration (in the 2011–12 school year, the standard was 95 percent). Beginning in the 2011–12 school year, SBEC measured the quality of field supervision via an exit survey, which will be distributed to teacher candidates as they complete their teacher preparation programs (Texas Education Agency, n.d.a).

In addition to the four measures listed, teacher preparation programs must also submit data on the number of candidates who apply for admission into the program, the number admitted into the program, the number retained throughout the course of the program, the number of program completers, the number of candidates employed in the profession after program completion, and the number of candidates retained in the profession (TEC §21.045). Although most of these statistics are not new to teacher preparation programs, some programs contend that retention in the profession is not directly related to the quality of the teacher preparation program attended. Simpson explained, “Retention is a reflection of workforce conditions in the field, not necessarily a lack of quality preparation” (personal communication, May 23, 2012).

The new evaluation of teacher preparation programs may have its limitations, but it shows promise. According to Simpson, the new sources of data, if improved, could provide both the state and teacher preparation programs with more information about program quality and areas in need of improvement. In addition, the Texas Association of Colleges for Teacher Education is encouraged by the growing responsiveness of SBEC. In recent years, SBEC has made the requirements much more uniform across traditional and alternative certification programs, providing greater comparison across programs. In addition, it is much more attuned to failing teacher preparation programs and is willing to take action to stop the perpetuation of ineffective programs.

Texas’ new review process of teacher preparation programs combines multiple measures of teacher preparation program outcomes. Given the newness of these measures, the state has committed to continued development and refinement of surveys and value-added measures, suggesting that the development of new evaluation processes is not a one-shot deal. Despite these assurances, however, concerns persist regarding the use and the dissemination of decontextualized or weak data to evaluate teacher preparation programs.

## Tennessee

In 2007, the Tennessee General Assembly passed a bill that directed the State Board of Education to assess the effectiveness of teacher preparation programs. The law requires that the State Board of Education collect and report data on placement and retention rates, Praxis II results, and teacher effect data based on Tennessee Value-Added Assessment System scores (Tennessee Higher Education Commission, 2011).

The most recent set of reports, from November 2011, included general and demographic information for each IHE in Tennessee, including the school’s accreditation status, the largest endorsement areas in approved teacher education programs, and the average academic information of the teacher preparation program candidates. Based on data in the state’s Personnel Information Reporting System, the state reports the percentage of graduates from teacher preparation programs that enter and remain in the teaching field at the 1-, 2-, 3-, and 4-year marks. The reports also included the pass rates on teacher assessments and a map of where 2009–10

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graduates taught in 2010–11. Finally, the reports include comparisons of the effectiveness of beginning teachers—teachers with 1 to 3 years of experience—to teachers statewide (Tennessee Higher Education Commission, 2011). These reports are currently available online for users to view. In addition, Tennessee aims to provide teacher preparation programs with individualized feedback identifying the strengths and weaknesses of their programs in fall 2012 (E. Carter, personal communication, May 15, 2012).

Despite recent success in gathering information on teacher preparation programs, the Tennessee Higher Education Commission reported some limitations in its data. VAM data were available only for those teachers who worked in tested subjects and grades—about 35 percent of the 2009–10 teacher candidates from teacher preparation programs. In November 2012, the commission aims to have more VAM scores available as part of the new teacher and principal evaluation system. Another limitation of the data is that it includes only those graduates who are teaching in public K–12 schools in Tennessee; program completers who work in private schools or in out-of-state schools are currently excluded from the analyses (Tennessee Higher Education Commission, 2011). Tennessee’s recent reports provide the public with increased information about the effectiveness of teacher preparation programs, but the availability of data remains limited.

### North Carolina

The Carolina Institute for Public Policy at the University of North Carolina has released yearly reports on the effectiveness of teacher preparation programs using the value-added scores of the graduates. These reports are produced and published independently of the state. The most recent report drew on 2.6 million test scores of 1.7 million students in the state and data on more than 28,000 teachers with fewer than 5 years of experience (Henry, Thompson, Fortner, Bastian, & Marcus, 2011b).

North Carolina used two models to calculate teacher effects. Using a year-to-year multilevel model, researchers generated an estimate of effect for each of the state’s public IHEs by comparing the graduates of each IHE to the aggregate of all teachers in the state. Researchers then used each teacher preparation program as a reference group to calculate estimates of differences between each program and 12 other categories of teacher preparation (e.g., University of North Carolina graduate degree prepared, North Carolina private university undergraduate prepared, and TFA). When calculating the value-added scores, researchers included multiple covariates, including teacher, student, school, and classroom characteristics. These covariates served as controls that allowed the researchers to generate comparable estimates of teacher effects on student achievement across schools and teacher preparation programs (Henry et al., 2011b).

The reports by the Carolina Institute for Public Policy attempt to provide more information about the effectiveness of teacher preparation programs (see Henry et al., 2011a), but challenges remain. Data gathering is limited to public universities in North Carolina only; thus, the reports capture the effectiveness of only 15 of the state’s 48 teacher preparation programs (U.S. Department of Education, n.d.). In addition, 23 percent of all teachers in North Carolina were graduates from out-of-state teacher preparation programs in the 2009–10 school year (Carolina Institute for Public Policy, 2012). Therefore, the institute’s current research provides limited information on the effectiveness of teacher preparation programs in North Carolina.

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All the reports are publicly available but are difficult to access, both physically<sup>16</sup> and in readability. North Carolina intends to create educator preparation program report cards that will align with the current K–12 school report cards and accessible to the public (U.S. Department of Education, 2012c). Information for the educator preparation program report cards will be gathered from the annual North Carolina IHE Performance Report and will be hosted on the North Carolina Department of Public Instruction website.

## Ohio

In 2009, the 128th General Assembly of Ohio passed H.B. 1, which directed the Ohio Board of Regents to establish a system for evaluating the state's teacher preparation programs (University System of Ohio Board of Regents, n.d.). In response to the legislation, the Ohio Board of Regents worked with stakeholders, including deans from teacher preparation programs, to arrive at a consensus around key aspects of the evaluation system for teacher preparation programs. It has also partnered with Ohio State University to develop surveys and worked with Jim Cibulka, the CAEP president, to conduct a psychometric analysis of data to determine validity and reliability (Bordenkircher, 2012).

Ohio is developing indicators with 14 variables to be included in the state's higher education report card. The report cards will include data on teacher success on various measurements, the commitment to excellence and innovation by teacher preparation programs, and other measures of teacher preparation quality. By the end of 2012, the state aims to have data on 6 variables:

1. TPA results provided by Pearson
2. Praxis II examination results
3. Results of additional examinations with cut scores, such as foreign language exams
4. Employer satisfaction surveys
5. Teacher exit surveys
6. Feedback from educator residencies from the first year of pilots

Ohio is still finalizing the details regarding what its higher education report card will look like, but each IHE will receive a score based on a formula created by the Ohio Department of Education. No cut score exists, but the public will have access to the data and be able to see where each IHE ranks (Bordenkircher, 2012).

To facilitate data collection for teacher preparation programs, the Board of Regents houses a new portal on its website to store candidate and employer surveys. Teachers and employers will complete the surveys on the website. Website programming will tally the results, and the state will communicate the results to teacher candidates, preparation program providers, and employers (Bordenkircher, 2012).

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<sup>16</sup> The reports are located on two subpages of the Department of Public Policy's Web page on the University of North Carolina (UNC) at Chapel Hill website: <http://publicpolicy.unc.edu/research> and <http://publicpolicy.unc.edu/research/publications-presentations-and-reports/?searchterm=teacher%20portals>. For users to access these reports, they need have to know that they exist and navigate the UNC website until they find them.

Ohio's recent changes reflect multiple efforts by the state and the Ohio Teacher Quality Partnership to increase its understanding of various measures. Prior to the passage of H.B. 1, all of Ohio's 51 IHEs offering teacher preparation programs teamed together to create the Ohio Teacher Quality Partnership. Supported by the Ohio Board of Regents, the Ohio Department of Education, and private corporations, the Ohio Teacher Quality Partnership conducted 5 studies aimed at providing IHEs and policymakers with greater understanding of the effectiveness of teacher preparation programs. Specifically, the Ohio Teacher Quality Partnership aimed to understand the following (Lasley, Siedentop, & Yinger, 2006):

- The link between teacher preparation experiences and student achievement
- Which teachers have the greatest impact on students
- The relationship between institutional practice and student achievement
- The impact of teachers who were licensed through alternative and traditional pathways on student achievement

According to Martha Hendricks (personal communication, February 14, 2012) from Wilmington College, the research project struggled to obtain teacher-level VAM data to conduct the studies. The Ohio Department of Education could not provide teacher-level VAM data to the Ohio Teacher Quality Partnership because of inaccuracies in the reporting system. At that time, Ohio calculated VAM data at the grade level, not the teacher level. When the Ohio Teacher Quality Partnership compared the requirements and the offerings of teacher preparation programs statewide, it struggled to find significant differences among the programs. One possible explanation for the lack of discrimination in the data set could be that the national and state regulations for teacher preparation programs look very similar on paper (Franco & Hendricks, 2012).

Now, the Ohio Department of Education will provide aggregate student growth and achievement value-added data results linked to each teacher education preparation program. Ohio's most recent efforts demonstrate that the creation of teacher preparation programs require collecting and sharing data from multiple sources. Ohio will collect data from teacher preparation programs, employers, teacher candidates, the Ohio Department of Education, and test providers. The state anticipates that CAEP, the state's accreditation body, teacher preparation programs, and individuals will benefit from the additional and centrally located data that the report cards will provide. Users will be able to access the data and make informed decisions based on a greater breadth of information (Bordenkircher, 2012).

## Florida

Florida is in the preliminary phases of revising the evaluation of its teacher preparation programs. As part of its Race to the Top work, the Florida Department of Education (FLDOE) formed a committee (the Teacher and Leader Preparation Implementation Committee [TLPIC]) consisting of statewide stakeholders to provide input on how to improve its teacher preparation programs. This committee meets regularly in-person or via webinars and/or conference calls to collaborate on all recommendations and decisions. The committee has 24 members that include K–12 teachers, school leaders, district administrators and superintendents, and IHE faculty. The TLPIC meetings are open to the public and are webcast on the FLDOE website.

The committee's focus since November 2011 has been on selecting and setting performance measures to evaluate the quality of its teacher preparation programs. During recent meetings,

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FLDOE presented TLPIC with requested data and provided explanations of the data to help the committee evaluate the potential uses of each data element toward setting potential performance targets. FLDOE also tasks committee members with homework, such as individually submitting their recommendations for weighting data elements (FLDOE, 2012). Submitted information is then compiled and presented back to TLPIC for further discussion and decision making. In May 2012, the committee reconvened and made preliminary recommendations for performance targets for three levels of continued approval and one for denial. These recommended performance targets for the new teacher preparation program accountability system will be finalized during its fall 2012 meeting in central Florida (J. Orange, personal communication, May 22, 2012).

According to Julie Orange (personal communication, February 22, 2012), having a variety of stakeholders on TLPIC has been useful. Stakeholders come from a variety of backgrounds and have varied experience levels and expertise to contribute to committee work. During the May meeting, committee members recommended that a subset of IHE representatives on the committee form a subcommittee to discuss potential revised continued approval site visit procedures because they have firsthand experience working with the current process. This subcommittee will then present its recommendations to the full committee (TLPIC) for review and collective decision making (J. Orange, personal communication, May 22, 2012).

Although TLPIC has made progress, it has faced challenges. One challenge has been in organizing meetings. The TLPIC members are professionals who work full-time elsewhere, so coordinating schedules has been difficult. Although all the members agreed to serve for 4 years, some attrition has occurred due to retirement and unique circumstances. FLDOE replaced these members with new members with similar expertise to maintain the balance of the committee.

TLPIC is also faced with the challenge of navigating new territory. A lack of model programs in other states and limited data sources present barriers that the committee must address as it moves forward with its recommendations. The committee has met via Skype with Dr. George Noell, a professor at Louisiana State University and the executive director for strategic research and analysis at the Louisiana Department of Education, to discuss Louisiana's teacher preparation accountability system (FLDOE, 2011), but it has struggled to identify other states that have already piloted teacher preparation program accountability outcome measures (J. Orange, personal communication, February 22, 2012). In addition, TLPIC has expressed interest in the results of Florida's new teacher evaluation system and the data it will provide regarding the performance evaluation of recent completers of teacher preparation programs. Because these data are not yet available for the 2011–12 school year, TLPIC's recommendations will be delayed until fall 2012. In the meantime, committee members have begun their next task of reviewing the Uniform Core Curriculum and field experiences and admission requirements for teacher preparation programs and making recommended changes based on desired performance outcomes (J. Orange, personal communication, May 22, 2012).<sup>17</sup>

By engaging multiple groups of stakeholders, Florida has facilitated productive conversations that draw on the expertise of multiple groups. Florida's recent efforts suggest that the development of a new evaluation of teacher preparation programs requires a thoughtful and thorough review of available data and measures, including their strengths and their limitations.

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<sup>17</sup> The work of TLPIC and videos of recent meetings can be accessed at <http://www.fldoe.org/committees/tlp.asp>.

## CONCLUSION AND RECOMMENDATIONS

As discussed in this brief, multiple measures exist for assessing the quality of teacher preparation programs. Certain process measures, such as syllabi reviews and surveys of teacher candidates, capture the quality of program content and structures. Other measures focus on outcomes, such as a graduate's effects on student achievement and his or her effectiveness in the classroom. These measures are newer and largely untested, but despite their limitations, they hold promise for providing us with a greater understanding of the quality of teacher preparation programs.

For many educators, an outcome-based approach to teacher preparation accountability marks a paradigm shift. As states and other organizations revise their teacher preparation program accountability systems, stakeholder engagement is paramount. States such as Florida and Texas have already harnessed the expertise that multiple stakeholders, ranging from assessment experts to school leaders and educators and representatives from IHEs, can contribute. Furthermore, such engagement contributes to constructive change needed to meet this paradigm shift. Stakeholder involvement in designing and implementing the evaluation systems also ensures that they have an in-depth understanding of the processes, options, and challenges in the system that a state ultimately decides to use.

Challenges remain regarding the design of accountability systems for teacher preparation programs. Additional research and capacity building are needed to bridge the divide between our current data and evaluation capacity and what is needed for accountability, continuous program improvement, and equity. As demonstrated in the state examples described in this brief, states and other organizations require additional ways of communicating and sharing data across organizations and states. Some states, such as Ohio, have broken down data silos to facilitate the exchange of data, but additional progress is needed. Gathering data on out-of-state preparation programs and collecting effectiveness data from teachers working in private or out-of-state schools remains challenging. Furthermore, assessing the contribution of teachers to student learning growth in subjects and grades for which there are no standardized tests is a major challenge.

The revision of evaluation systems does not end with selecting and developing measures. As states begin to implement new evaluation methods, the field must strategically evaluate these methods to determine their validity, reliability, and best use. Finding the best combination of measures to fit each state's context and needs will require constant monitoring and an evaluation of those measures. In addition, accrediting agencies, states, teacher preparation programs, and school districts will need to augment their data collection, management, and analysis capacity to maximize the utility of the data for accountability, improvement, and equity purposes.

In the meantime, states and other organizations, in collaboration with stakeholder groups, should consider the strengths and the weaknesses of the available measures and select those that will best fit the context of the evaluation. Although each measure has inherent weaknesses, thoughtfully designed and carefully implemented combinations of measures can provide a more comprehensive and accurate picture of teacher preparation program quality than prevailing methods of evaluation currently do. Ensuring program effectiveness and equity requires that we do better.

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## APPENDIX. PROCESS AND OUTCOMES MEASURES: STRENGTHS AND WEAKNESSES

Measure	Examples	Strengths	Weaknesses
Selectivity of teacher preparation programs		<ul style="list-style-type: none"> <li>Supported by research that suggests that the selectivity of teacher preparation programs may correlate with their effectiveness (Decker et al., 2005; Henry et al., 2012; Kane et al., 2008; Rice, 2003)</li> </ul>	<ul style="list-style-type: none"> <li>Only accounts for a relatively small amount of variation in student achievement (Kane et al., 2008)</li> <li>May not account for less easily observable or measurable aspects of candidate aptitude that have a greater effect on teaching effectiveness (Farr, 2010; Rimm-Kaufmann et al., 2002)</li> </ul>
Syllabi as evidence of course content	<ul style="list-style-type: none"> <li>NCTQ's evaluations of teacher preparation programs (see Greenberg &amp; Walsh, 2012; Walsh et al., 2006)</li> <li>The Colorado Department of Education's (2010) use of content reviews as part of the program approval process</li> </ul>	<ul style="list-style-type: none"> <li>Strong indicator of content and requirements in teacher preparation coursework</li> <li>Can help identify potential redundancies or gaps in coursework</li> </ul>	<ul style="list-style-type: none"> <li>May not perfectly reflect all that is included in the class</li> <li>Criteria to assess syllabi can be difficult given disagreements regarding the essential learning of teacher preparation coursework</li> </ul>
Surveys of the graduates of teacher preparation programs regarding clinical experiences	<ul style="list-style-type: none"> <li>Texas surveyed educator preparation program candidates to determine whether teacher preparation programs met minimum standards for student teaching (Texas Education Agency, n.d.b)</li> </ul>	<ul style="list-style-type: none"> <li>Cost little to distribute</li> <li>Gain feedback directly from the graduates of teacher preparation programs</li> <li>Provide greater detail about the quality of student teaching than the number of hours devoted to clinical experiences</li> </ul>	<ul style="list-style-type: none"> <li>May be subject to bias</li> <li>Rely heavily on estimations and perceptions rather than actual facts</li> <li>Disseminating the survey in a timely manner and collecting sufficient response rates may be challenging</li> </ul>

Measure	Examples	Strengths	Weaknesses
Document reviews	<ul style="list-style-type: none"> <li>NCTQ's study of student teaching (Greenberg et al., 2011)</li> </ul>	<ul style="list-style-type: none"> <li>Draw on preexisting data</li> <li>Provide information about the structure and the format of and the requirements and the expectations for student teaching</li> <li>Provide greater detail about the quality of student teaching than the number of hours devoted to clinical experiences</li> </ul>	<ul style="list-style-type: none"> <li>May capture intention rather than practice</li> <li>Require development of criteria and time-consuming document review</li> </ul>
Value-added models	<ul style="list-style-type: none"> <li>Louisiana's value-added model (Noell et al., 2009)</li> </ul>	<ul style="list-style-type: none"> <li>Provide a common metric to compare programs</li> <li>Quantify differences between programs (Goldhaber &amp; Liddle, 2012; Noell et al., 2009)</li> <li>Can be used as a trigger for further action</li> </ul>	<ul style="list-style-type: none"> <li>Provide little guidance in terms of how to actually improve programs</li> <li>Are imperfect (e.g., attribution error and bias)</li> <li>Can be used only for a small number of graduates of teacher preparation programs</li> <li>Difficult to calculate given that few states have fully tested and functional data systems needed for collecting and analyzing of data for VAM (Data Quality Campaign, 2012)</li> <li>Can be problematic given the nonrandom assignment of graduates of teacher preparation programs</li> <li>Do not fully capture desired student learning outcomes (Henry et al., 2011a)</li> <li>Do not capture significant variation in teacher training program effects in recent research (Goldhaber &amp; Liddle, 2012; Koedel et al., 2012; Mihaly et al., 2012)</li> </ul>

Measure	Examples	Strengths	Weaknesses
State/district teacher evaluation results		<ul style="list-style-type: none"> <li>• Provide a more comprehensive picture of program effectiveness</li> <li>• Are based on multiple measures</li> <li>• Are or will soon be available for all public school teachers</li> <li>• Can help teacher preparation programs pinpoint strengths and weaknesses in their graduates' practices</li> </ul>	<ul style="list-style-type: none"> <li>• Lack comparability across school districts and states</li> <li>• Lack proven evidence of their validity and reliability</li> </ul>
Principal/employer surveys of teacher effectiveness	<ul style="list-style-type: none"> <li>• Texas' Teacher Preparation Effectiveness Survey</li> </ul>	<ul style="list-style-type: none"> <li>• Supported by research, which shows high correlation between principal assessment and teachers' value-added scores (Sartain et al., 2011; Tyler et al., 2010)</li> <li>• May help principals pay closer attention to how new hires are prepared</li> </ul>	<ul style="list-style-type: none"> <li>• Subject to bias</li> <li>• May rely too heavily on perception and not accurately measure practice</li> </ul>
Surveys of the graduates of teacher preparation programs	<ul style="list-style-type: none"> <li>• California State University System's Exit Survey</li> </ul>	<ul style="list-style-type: none"> <li>• Are inexpensive to distribute</li> <li>• Gather feedback from those most impacted by teacher preparation programs—the teacher candidates themselves</li> </ul>	<ul style="list-style-type: none"> <li>• Rely on timely administration and high response rates</li> <li>• Rarely are common instruments used across preparation programs</li> <li>• Are subject to bias and reliant on perceptions</li> </ul>
Hiring and placement data		<ul style="list-style-type: none"> <li>• Can help stakeholders understand if teacher preparation programs are preparing graduates to assume positions in high-need schools</li> <li>• Provide information about labor market needs</li> <li>• Are already collected data</li> </ul>	<ul style="list-style-type: none"> <li>• Assumes that teacher preparation programs have control over hiring and placement, but other economic and personal decisions may factor into employment decisions</li> </ul>

Measure	Examples	Strengths	Weaknesses
Retention/ persistence in teaching data		<ul style="list-style-type: none"> <li>• Can indicate a problem if a teacher preparation program has a disproportionately high percentage of graduates that leave teaching or do not have contracts renewed</li> </ul>	<ul style="list-style-type: none"> <li>• Overlook other potential reasons why teachers leave, such as poor school fit or lack of support (Liu &amp; Johnson, 2006)</li> </ul>
Licensure exams	<ul style="list-style-type: none"> <li>• Results of Praxis II exams (see U.S. Department of Education, 2011c)</li> </ul>	<ul style="list-style-type: none"> <li>• Are required of teacher candidates by nearly all states (Crowe, 2010; U.S. Department of Education, 2011c)</li> </ul>	<ul style="list-style-type: none"> <li>• Are not strongly correlated with student achievement (Clotfelter et al., 2007; Goldhaber, 2007)</li> <li>• Do not accurately predict whether teachers will be effective with groups of students (Goldhaber &amp; Hanson, 2010)</li> </ul>
Performance assessments	<ul style="list-style-type: none"> <li>• TPA</li> </ul>	<ul style="list-style-type: none"> <li>• Measure teachers' practices rather than proxies</li> <li>• Are more authentic measures than other alternatives</li> </ul>	<ul style="list-style-type: none"> <li>• Require significant effort from the candidate</li> <li>• Are unwieldy and time consuming to evaluate</li> <li>• May be subjective if not properly implemented</li> </ul>

## 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.



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