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Potential Testing Barriers for Teacher Candidates of Color

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This research review responds to a request from the Washington Professional Educator Standards Board's (PESB) Testing Barriers Work Group. The group's goal is to investigate the barriers that testing—such as basic skills or certification exams—may create for teacher candidates, particularly candidates of color and bilingual candidates, and to develop recommendations for consideration by PESB and the Washington State Legislature. REL Northwest is helping this work group use data and research to evaluate the role teacher certification testing may play in Washington state.

WHY IS THIS IMPORTANT?

Currently, 35 states require teacher candidates to pass a basic skills exam—and 41 states require that they pass a certification exam—before they become a certificated teacher. The creators and consumers of these exams say that they can be used to identify gaps in academic skills that need to be addressed and that they screen out candidates who do not have the knowledge or skills to be effective teachers (Gitomer, Brown, & Bonett, 2011).

Black and Latino students pass these exams at lower rates than their White peers, resulting in fewer candidates of color (Nettles, Scatton, Steinberg, & Tyler, 2011). For this reason, some researchers argue that—regardless of their intended purpose—standardized tests may perpetuate a segregated teacher workforce and that the tests and testing environments may be biased against people of color (Petchauer, 2012; Rogers-Ard, Knaus, Epstein, & Mayfield, 2013).

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WHAT IS THIS DOCUMENT?

In this document, REL Northwest summarizes and synthesizes some of the research literature on certification exams, examining whether their benefits outweigh the costs of losing diverse candidates (Goldhaber & Hansen, 2010). Specifically, we address three main questions:

- How well do certification assessments predict the effectiveness of teachers?
- Why do a lower percentage of candidates of color pass teacher certification assessments than White candidates?
- How can colleges of education support candidates of color to pass teacher certification assessments at a higher rate?

To address these questions, we scanned research literature using ERIC and Google Scholar to identify peer-reviewed articles published between 2001 (when Congress passed the No Child Left Behind Act) and the present.

During our scan, we found only one article (Goldhaber, Gratz, & Theobald, 2016) that examined the current Washington certification assessments (Pearson’s WEST-B, WEST-E, and NES assessments). Therefore, the search was expanded to include the ETS Praxis I and II certification assessments, which are used in 28 states. Thirteen states, including Washington, contract with Pearson to create state-specific versions of the exams (Petchauer, 2016).

Although we found rich literature on the testing barriers for candidates of color, we were unable to locate research on testing barriers for bilingual candidates or on the relationship between certification testing and poverty, gender or sexuality, prior schooling, or immigration.

HOW WELL DO CERTIFICATION ASSESSMENTS PREDICT THE EFFECTIVENESS OF TEACHERS?

Most research finds that certification exams are not strong predictors of teaching effectiveness (Goldhaber 2007; Goldhaber & Hansen, 2009; Clotfelter, Ladd, & Vigdor, 2007), and there is little evidence that testing translates to better teachers overall (Angrist & Guryan, 2008; Shuls, 2017). Other measures, such as preservice teachers’ performance in college, may predict teaching effectiveness better than tests (D’Agostino & Powers, 2009).

Teaching effectiveness is often measured by value-added modeling. Research that used value-added modeling to determine the predictive validity of these exams generally found that, regardless of statistical significance, the correlation between scores on certification assessments and student achievement was not strong (Goldhaber, 2007; Goldhaber, Cowan, & Theobald, 2017; Goldhaber & Hansen, 2010).

Value-added modeling estimates a teacher’s contribution to student learning based on students’ performance on state standardized achievement tests. It does so by comparing students’ current assessment scores with their previous scores while accounting for other factors outside of teachers’ control, such as students’ prior schooling and academic achievement, students’ family environment and the influence of peers.

The effects appear to be highest in math and science. For example, two studies, using Washington (WEST-B) and North Carolina (Praxis II) data, respectively, both found that a one standard deviation difference in a teacher's math test score was associated with a 0.03 standard deviation difference in student achievement in algebra or geometry (Clotfelter et al., 2007) or middle school math (Goldhaber, Gratz, & Theobald, 2016). This is equivalent to moving a student from the 50th percentile to the 51st percentile. The Washington study found a much larger relationship (0.16 standard deviations) between teacher and student achievement outcomes in high school biology (Goldhaber et al., 2016).

Measures other than basic skills or certification exams may be necessary to predict effective teaching. For example, a meta-analysis of 123 studies found that "preservice teachers' performance in college, especially during student teaching, predicted performance better than teacher tests" (D'Agostino & Powers, 2009).

Similarly, there are alternatives to using student performance on standardized tests as a measure of teacher effectiveness. Classroom observations and student surveys are valid measures of teacher effectiveness, especially when combined with student achievement gains (Cantrell & Kane, 2013). Finally, an economic analysis found that although state testing requirements for teachers are associated with slightly higher wages, there is no evidence that testing translates to better teachers (Angrist & Guryan, 2008).

WHY DO A LOWER PERCENTAGE OF CANDIDATES OF COLOR PASS TEACHER CERTIFICATION ASSESSMENTS THAN WHITE CANDIDATES?

Research shows that Black and Latino candidates pass certification assessments at lower rates than their White peers. Even after controlling for undergraduate GPA, institution selectivity, and parents' education level, Black test takers "were still likely to have a score seven points lower [out of a possible 200 points] on the Praxis I Mathematics test compared to their White contemporaries" (Nettles et al., 2011). In addition, some research suggests that certification exams may not function uniformly across race, with different levels of predictive validity for different groups of candidates (Goldhaber & Hansen, 2010).

There are two general explanations for why a lower percentage of candidates of color pass teacher certification assessments than White candidates. The first is that candidates of color may not have the necessary skills and knowledge to pass the assessments because of inadequate K-12 education (Gitomer et al., 2011; Nettles et al., 2011). Both studies were conducted by researchers employed by ETS, the producer of Praxis assessments.

The second explanation is that teacher certification assessments and testing events may be culturally biased and are inequitable obstacles that make it challenging to increase the number of teachers of color in schools (Bennett, McWhorter, & Kuykendall, 2006; Memory, Coleman, & Watkins, 2003; Petchauer, Baker-Doyle, Mawhinney, & Ciarkowski, 2015; Petchauer, 2012).

For example, Petchauer (2014) found that interactions with test proctors and administrators at the testing site, as well as actions of other test takers, may signal negative racial stereotypes for test takers (Steele & Aronson, 1995). Elsewhere, Petchauer suggests that a lack of peers who have successfully completed certification exams creates additional barriers for students of color (2012).

HOW CAN COLLEGES OF EDUCATION SUPPORT CANDIDATES OF COLOR TO PASS TEACHER CERTIFICATION ASSESSMENTS AT A HIGHER RATE?

We identified three sets of recommendations in the literature for supporting candidates of color to pass teacher certification assessments. Much of the evidence for these recommendations is based on the experience of university faculty who run teacher preparation programs rather than causal research evidence.

Offer test preparation classes and use exam results to identify and train candidates who may have gaps in their academic skills.

- Provide test preparation classes and activities to candidates (Petchauer et al., 2015). Exam preparation should build test takers' beliefs about their capabilities (Petchauer, 2012, 2016).
- Use the basic skills test to identify and support candidates who may have gaps in their academic skills and provide a general education program to address areas of weakness (Bennett et al., 2006; Gitomer et al., 2011).

Communicate with candidates about the exams and celebrate other students' successes.

- Provide candidates with information about the exams immediately after they express an interest in choosing education as a major. These messages could come through orientation meetings, introductory classes, and the successful experiences of other students (Petchauer, 2012, 2016).
- Celebrate other students' successful experiences on certification exams to provide vicarious models of success for students who have not yet taken the exams (Petchauer, 2012, 2016).

Provide accommodations and study the impact of changing the minimum requirements to pass the exams for all candidates.

- Provide unlimited test-taking time for students whose first language is not English (Bennett et al., 2006).
- Evaluate the minimum requirements for passing basic skills tests by comparing the increase in the size of the pool of qualified candidates of color to the predicted decrease of effectiveness of newly licensed teachers (Memory et al., 2003). In addition, consider other ways of establishing a passing score, such as attaining a composite score on reading, math, and writing that equals or exceeds the composite of required cutoff scores (Bennett et al., 2006).

Summary of possible testing barriers for teacher candidates of color

How well do certification assessments predict the effectiveness of teachers?	Why do candidates of color pass at lower rates than their White peers?	How can we support candidates of color to pass the assessments?
<ul style="list-style-type: none"> • Exams are not strong predictors of effectiveness • Other measures predict effective teaching • Testing policy does not improve teacher quality 	<ul style="list-style-type: none"> • Equivalent candidates of color still pass at lower rates • Candidates of color may have unequal K-12 preparation • The assessments may be culturally and racially biased 	<ul style="list-style-type: none"> • Offer test preparation classes and support • Communicate with candidates and celebrate success • Provide accommodations and evaluate passing scores for all candidates

Potential Testing Barriers Framework for Teacher Candidates of Color

This framework is intended to guide reflection and discussion about the potential testing barriers your candidates may face.

Test Preparation and Academic Support

State teacher credentialing agencies

- What test preparation resources are offered statewide?
- How do we measure the impact of statewide test preparation?

Teacher preparation programs

- How do we assess the needs of individual teacher candidates? What do we do with test results?
- How does our college support diverse teacher candidates on basic skills tests and certification exams? How do we measure the impact or effectiveness of these supports?

Communication

State teacher credentialing agencies

- How is our agency working with teacher preparation institutes to communicate with candidates about testing requirements and options for teacher certification?
- How can we leverage resources and collaborate on building a coordinated communication strategy that reaches a diverse pool of teacher candidates?
- How do we measure the impact of our communications approach?

Teacher preparation programs

- Currently, how and when do we communicate with students about testing requirements for teacher certification?
- In what ways do we assess their awareness of these requirements and options?
- How can we enhance communication to ensure candidates understand the testing requirements for teacher certification and are prepared to meet them?
- How do we measure the impact of our communications approach?

Policy

State teacher credentialing agencies

- What do our statewide data suggest about the pass rate on basic skills tests and certification exams of teacher candidates when disaggregated by race/ethnicity and/or bilingual status? Are there any disparities?
- In what ways do state requirements or policies create barriers to increasing diversity in our teaching force?
- What can be done about these barriers? Can they be removed? Can accommodations or supports help students overcome these barriers?

Teacher preparation programs

- What does our institute's data suggest about the pass rate on basic skills tests and certification exams of our teacher candidates when disaggregated by race/ethnicity and/or bilingual status? Are there any disparities?
- What are potential barriers for students in completing the requirements to become certified teachers?
- What can be done about these barriers? Can they be removed? Can accommodations or supports help students overcome these barriers?

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