

Literature Review for the Virginia Board of Education

The Impact of Teacher Licensure Assessments on Student Outcomes

**Reviews Completed by the Virginia Department of Education Office
of Research and the Learning Policy Institute**

January 2022

Brief Literature Review: Predictive Value of Teacher Licensure Assessments on Student Outcomes

January 4, 2022

Overview

There has been much research on the topic of the predictive value of teacher licensure assessments on student outcomes. Research on the topic has been conducted globally and spans more than 25 years. This review focuses primarily on research conducted within the last twelve years in the United States.

Academic Research

Researchers attempting to determine the predictive value of teacher licensure assessments on future student outcomes face a number of challenges. Most importantly, by their very nature, teacher assessments prohibit some individuals who do not pass the exams from teaching, thus removing those candidates from study populations as a potential comparison group (LeGeros, 2013). Given the fact that the majority of research on this topic is observational in nature, researchers must also attempt to control for numerous variables in order to determine the impact of any single variable (LeGeros, 2013). Additionally, in many cases, data are incomplete or impossible to track longitudinally as teachers move out of state or leave the profession (McConnell, Bruster, & Smith, 2019).

In an effort to overcome some of these challenges, much of the recent research conducted on the predictive value of teacher assessment exams attempts to look at multiple variables together to see if there is a correlation between any one variable or group of variables and future student outcomes (Henry et al, 2013; McConnell, Bruster & Smith, 2019).

A 2009 study looked at the teacher assessments exam scores and the results of the Urban Teacher Perceiver Interview to determine the predictive value of those results on future teacher performance. The study found that while the results of the interview could be correlated with strong teacher performance, when taken on their own, teacher assessments exam scores did not have a significant predictive value on future teacher performance (Gimbert & Chesley, 2009).

A 2019 study looked at five predictor variables among university students in teacher preparation programs in the southeast United States during the 2011–12 academic year who became public school teachers in the same state: education level (undergraduate vs. graduate); age; grade point average (GPA); ACT scores; and Praxis II scores. After collecting and analyzing the data, the researchers found that only education level (i.e., undergraduate vs. graduate) was predictive of teacher effectiveness, as measured by student standardized test scores. Neither ACT nor Praxis II assessment scores had any predictive value (McConnell, Bruster & Smith, 2019).

Researchers in Massachusetts took advantage of a policy change to conduct a quasi-experimental study on licensure assessments. When the Massachusetts Department of Education implemented a new, more rigorous mathematics licensure test, an amendment allowed test takers to temporarily pass the new test at a threshold lower than the state cut score. Researchers tracked

teachers who had passed the assessment under this amendment and compared their classroom outcomes to those teachers who scored at or above the standard state cut score. Researchers found that prospective teachers who failed and had to retake the exam had poorer student outcomes, but that those who passed their assessment exam through the amendment were no more or less likely to have positive student outcomes than those who passed their assessment exam at the standard state cut score (LeGeros, 2013).

Reports and Memos

The section below details recent reports from educational organizations summarizing research on the impacts of licensure assessments on teacher effectiveness. Their summaries offer different conclusions on the relationship between licensure assessments and student outcomes.

In December 2021, the Learning Policy Institute provided the Virginia Department of Education a memo summarizing the literature on the impacts of standardized assessments on teacher effectiveness and on the racial diversity of the teacher workforce. The memo states:

Based on a review of recent studies of teacher licensure exams, there is no conclusive evidence that teacher performance on these exams consistently predicts student test performance. The relationship between teacher reading test performance and student reading test performance is consistently found to be small, practically zero, or not statistically distinguishable from zero (Learning Policy Institute, 2021).

The memo also goes on to explain that, historically, teacher candidates of color have disproportionately failed teacher licensure assessment exams at higher rates than white teacher candidates (Learning Policy Institute, 2021).

The National Council on Teacher Quality (NCTQ) has published several reports on the topic of the predictive value of licensure testing on student outcomes. One review of the literature highlighted 15 selected studies on licensure test predictive validity. Eleven of those found a positive correlation between licensure test scores and student outcomes, two found mixed results, one had a negative correlation and one had no relationship at all (NCTQ, 2021). However, several of the studies highlighting positive correlations between teacher assessment tests and student outcomes were not statistically significant.

Summary

While the value of teacher licensure assessments on future student outcomes has been widely studied for more than two decades, there has been very little research evidence to indicate a significant relationship between teacher assessment scores and student outcomes (Learning Policy Institute, 2021). There is some evidence of racial disparities in assessment testing, which can lead to a greater barrier to entry for teacher students of color (Goldhaber, Cowan & Theobald, 2017; Learning Policy Institute, 2021).

References: Research

Gimbert, B. G., & Chesley, D. (2009). Predicting Teacher Success Using Teacher Selection Practices and Classroom Performance Assessment. Journal of School Leadership, 19(1), 49–80. <https://doi.org/10.1177/105268460901900104>

Predicting Teacher Success Using Teacher Selection Practices and Classroom Performance

Assessment: The study evaluated the predictive value of the Urban Teacher Perceiver Interview and the Academic Skills Assessment portion of the Praxis Series test—in urban high-need and hard-to-staff school district. When considered separately, the Praxis Series test scores were not found to have a significant predictive value on teacher’s future performance. The Urban Teacher Perceiver Interview was found to have a statistically significant predictive value. When both Urban Teacher Perceiver Interview and Praxis Series test scores were considered together the results indicated increased predictability of teacher future performance.

Goldhaber, D., Cowan, J., & Theobald, R. (2017). Evaluating prospective teachers: Testing the predictive validity of the EdTPA. Journal of Teacher Education, 68(4), 377-393. doi: <https://eric.ed.gov/?redir=http%3a%2f%2fdx.doi.org%2f10.1177%2f0022487117702582>

Evaluating Prospective Teachers: Testing the Predictive Validity of the edTPA:

Using longitudinal data from Washington State, the study attempted to estimate the extent to which performance on the edTPA is predictive of the likelihood of employment as a teacher and teacher effectiveness. The study found that scores are highly predictive of employment as a teacher but the relationship between edTPA and teacher effectiveness are less clear. The study also found that passing the edTPA is significantly predictive of teacher effectiveness in reading but not in mathematics. Actual scores, rather than the binary pass/fail measure, appeared to be more predictive for math than reading. The study also found that Hispanic candidates were more than 3 times more likely to fail the edTPA than non-Hispanic White candidates.

Henry, G. T., Campbell, S. L., Thompson, C. L., Patriarca, L. A., Luterbach, K. J., Lys, D. B., & Covington, V. M. (2013). The predictive validity of measures of teacher candidate programs and performance: Toward an evidence-based approach to teacher preparation. Journal of Teacher Education, 64(5), 439-453. doi:<http://dx.doi.org/10.1177/0022487113496431>

The Predictive Validity of Measures of Teacher Candidate Programs and Performance:

Toward an Evidence-Based Approach to Teacher Preparation: The study looked at several indicators of progress and performance used by teacher prep programs to predict effectiveness, including assessment test scores. Analysis found that teacher candidates' scores on standardized exams did not predict future effectiveness in the classroom. The study also found that teacher candidates' grade point averages during their preparation program and number of math courses were positively associated with their students' math score gains.

LeGeros, L. (2013). The association between elementary teacher licensure test scores and student growth in mathematics: An analysis of Massachusetts MTEL and MCAS tests (Order No. 3608303). Available from Publicly Available Content Database; Social Science Premium

Collection. (1496772445). Retrieved from <https://www.proquest.com/dissertations-theses/association-between-elementary-teacher-licensure/docview/1496772445/se-2>

The association between elementary teacher licensure test scores and student growth in mathematics: An analysis of Massachusetts MTEL and MCAS tests: This study looked at a natural experiment that arose after a policy change in Massachusetts. When the Massachusetts Department of Education implemented a new more rigorous math licensure test, an amendment allowed test takers to temporarily pass the new test with a lower than normal cut score. This allowed for the creation of comparison groups of teachers; those who received conditional licensure without fully passing the licensure exam and those who passed the licensure test at or above the normal cut score and measure student growth for the two groups. The analysis found that student growth were highest for those who passed licensure test at or above the normal cut score when compared to those who failed the test or received the conditional licensure. However, when the analysis was broke into three groups, those fully passed the licensure test, those who conditionally passed the test and those who failed the test, the impact of pass status seemed to have come from the difference between those who failed the exam and those who passed the test conditionally. No difference in predicted student growth was found when looking at students whose teachers fully passed the test versus students whose teachers conditionally passed, there were however strong results when analyses were limited to the failed and conditionally passed teacher groups.

McConnell, J. R., Bruster, B. G., & Smith, V. B. (2019). *Predicting Teacher Effectiveness Based on Various Preservice Factors: Implications for Higher Education and the Evaluation of Teacher Preparation*. *International Journal of Educational Reform*, 28(1), 63–78. <https://doi.org/10.1177/1056787918824204>

Predicting Teacher Effectiveness Based on Various Preservice Factors: Implications for Higher Education and the Evaluation of Teacher Preparation: The study looked at education level (i.e., undergraduate vs. graduate), age, GPA, ACT, and Praxis II scores to see if predictors of teacher effectiveness. The analysis showed that among the variables tested only education level (undergraduate vs. graduate) was shown to have a predictive value. Undergraduates were less likely to have higher teacher effectiveness than graduates. However, age, GPA, ACT, and Praxis II scores were not significant predictors.

References: Reports and Memo

National Council on Teacher Quality. (2021). Literature review on licensure test predictive validity. Available at: https://www.nctq.org/dmsView/NCTQ_Driven_by_Data_Appendix_B

Learning Policy Institute. (2021). Assessments for Teacher Licensure: Standardized Exams and Performance Assessments. Memorandum via email communication.

Assessments for Teacher Licensure: Standardized Exams and Performance Assessments

December 2021

The following memo provides a review of the research on teacher licensure exams, including a look at both the impacts of standardized assessments on teacher effectiveness and on the racial diversity of the teacher workforce. The memo concludes with a look at the research on teacher performance assessments.

Research on Teacher Licensure Exams

Teacher Licensure Exams, Teacher Effectiveness & Student Outcomes

There is little conclusive evidence that a teacher candidate's performance on licensure exams, including basic skills exams, is associated with their students' achievement. That is, teacher licensure exams have typically not been found to be strong predictors of the quality of teacher a candidate will become.ⁱ Basic skills tests for teachers rarely have significant influence on student achievement, and other teacher characteristics – experience, certification status, and the positive effects of same-race assignment for black teachers and students – have decidedly larger effects. Occasional findings of positive relationships between basic skills math performance and student math achievement are small, and these effects disappear when controls for the non-random assignment of students are added. Subject matter tests for single subject teachers show small, mixed (positive, negative, and nonsignificant) relationships with student performance.

Below we summarize some of the key findings from a review of the research on this issue.

- **Teacher Effectiveness:** Based on a review of recent studies of teacher licensure exams, there is no conclusive evidence that teacher performance on these exams consistently predicts student test performance. The relationship between teacher reading test performance and student reading test performance is consistently found to be small, practically zero, or not statistically distinguishable from zero.ⁱⁱ The relationship between teacher test performance and student math test performance is mixed, with findings ranging from negative to positive.ⁱⁱⁱ Importantly, these findings tend not to be significant in analyses that take into account that teachers are not randomly distributed across schools and students.
 - It should be noted that a 2020 study of the Massachusetts Test for Educator Licensure (MTEL) found that the assessment was a significant predictor of teachers' in-service performance ratings and contributions to student test scores. While this finding does run counter to the research highlighted above, the study also found that the assessment could be serving as a barrier to potential candidates of color. This finding is discussed further below.

- **Student Math Performance:** In studies that find positive associations between licensure exam performance and student math test performance, effect sizes tend to be modest compared to other teacher characteristics, such as being certified or experienced.^{iv} According to one study, for example, having a more experienced teacher can have up to eight times the effect of having a teacher with above average math licensure test scores.^v
- **Variation Across Demographics:** Licensure exams do not have the same predictive relationship with student test performance across teacher and student demographics. One study shows that, after accounting for non-random sorting of teachers, for Black teachers there is no statistically significant effect of passing the Praxis II on student math test scores. Furthermore, Black teachers, regardless of Praxis score, have a positive effect on math test performance for Black students and other students of color, which outweighs any modest effect of having a high-scoring teacher.^{vi}

The Impact of Teacher Licensure Exams on the Teacher Pipeline

Research has shown that many multiple-choice teacher licensure exams reduce the teacher pipeline, produce racial disparities in pass rates, and negatively impact access to quality teacher preparation for candidates of color.^{vii}

A 2018 study in California is indicative of how licensure exams, including basic skills exams, can constrict the teacher pipeline.^{viii} The study found that at least 40% of those who initially intend to teach in California are unable to move forward due to failing one of four licensure tests at some juncture, and in some fields, including mathematics and science, this includes well over half of those who initially intended to teach. Further, the study noted that, of the required teacher assessments, only the teacher performance assessment has been shown to be related to teachers' effectiveness in the classroom.

Finally, a 2018 study of Arkansas teachers finds that Praxis I scores are not a strong predictor of their students' math and English-language arts (ELA) scores. The difference is only significant when comparing teachers at the top and bottom quintiles of Praxis I scores, and even then the effect sizes are small. Importantly, the researchers found that, in both math and ELA, the difference in student test scores between teachers who pass the exam and those who failed the exam is not significant, suggesting that the Praxis I exam may be screening out some individuals who may be effective teachers.^{ix}

Teacher Licensure Exams & Racial Disparities

Historically, Black and Latinx teacher candidates have disproportionately failed standardized teacher licensure exams.^x In many cases, the disparities in failure rates have been large. For example:

- Over 18% of Black teachers and administrators failed a Texas teacher exam that is now out of use, while just 1% of White test takers did.^{xi}
- A Georgia teacher certification exam resulted in failure rates four times higher for Black test takers compared to White test takers, with just 40% of Black test takers passing.^{xii}

A 1985 report by the Educational Testing Service—maker of the National Teacher Examination (NTE), which later became Praxis—estimated that based on the lowest and highest passing scores in each state, between 31% and 70% of Black teacher candidates would be disqualified from teaching. Between 15% and 45% of Latinx candidates would be disqualified. In contrast, only 2% to 14% of White candidates would fall short of passing.^{xiii} Later, an examination of 1998–99 Praxis scores in states across the country found that Latinx, Black, and Asian American test takers had lower average scores and lower pass rates than White test takers.^{xiv} That analysis found a gap in pass rates as high as 38 percentage points.

In the 2020 study of the Massachusetts Test for Educator Licensure (MTEL) referenced above, the researchers acknowledge that the tests may disproportionately exclude potentially effective teacher candidates of color. They found that candidates of color are less likely than White candidates with the same failing score to retake licensure tests. Thus, the exam could be posing a greater barrier to candidates of color than to White candidates.^{xv}

Historians have also pointed to the racial legacy of these exams—noting that, in the wake of *Brown v. Board of Education*, licensure exams were used as a tool to restrict Black teachers from the profession.^{xvi}

Teacher Performance Assessments

Since 2014, many states have begun to incorporate performance assessments, such as Praxis Performance Assessment for Teachers (PPAT) and edTPA, into their licensure processes, either as standard requirements or as optional substitutions for traditional tests. These newer assessments typically require teaching candidates to develop portfolios of work that include unit plans, videos of their instruction, evaluation of student work, and written reflections that connect their teaching practice to theory. They are designed to more authentically evaluate candidates' readiness for teaching, and indeed, initial research finds that teacher candidates' scores on the performance assessment often predict their students' academic gains.

In addition, as states grapple with efforts to recruit and retain a more racially diverse teacher workforce, a number are reviewing the role different assessment requirements may play in preventing more teachers of color from entering the classroom. A number of states have implemented policies to provide multiple pathways for candidates to demonstrate basic skills and/or subject matter competence, including not only standardized assessments but also coursework.^{xvii} Additionally, teacher performance assessments can be another strategy to mitigate against the racial disparities in licensure assessments. When compared with the

traditional licensure assessments discussed in the previous section, including assessments of basic skills and subject-matter knowledge, teacher performance assessments have been found to have less of a racially disparate impact on candidate pass rates and have proven better at predicting teaching effectiveness.

Below we detail the existing research on teacher performance assessments and explore whether they demonstrate the disparate outcomes across racial and ethnic subgroups that have often been found with traditional multiple-choice state licensure assessments.

- **Disparities in Pass Rates:** Initial data suggest that performance assessments may reduce barriers to entry into the profession for teachers of color. A study of the Performance Assessment for California Teachers (PACT) found no disparities in pass rates between candidates of color and White candidates.^{xviii} An analysis of 2013 field test results for the edTPA found that there was relatively small variation in the average scores of test takers by race, ethnicity, and primary language. Further, the study found that there was greater variation in scores within subgroups than between subgroups.^{xix} A 2014 study by edTPA found that while the average score for Black teachers was somewhat lower than for White teachers, the gaps were smaller than those found in more traditional teacher licensure exams.^{xx} A later study of the edTPA in Washington found no disparities in pass rates between Black and White candidates, but slightly higher failure rates for Latinx candidates.^{xxi}
- **Predictive Validity:** These results are significantly better than the outcomes of traditional multiple-choice teacher exams, and they are arguably more important because they deal with the actual ability of candidates to teach.
 - For example, research on beginning teacher performance assessments, such as PACT, Connecticut’s Beginning Teacher Educator Support and Training Program (BEST), and edTPA, suggests that, like the National Board assessment, teacher candidates’ scores on the performance assessment predict their students’ gains on standardized tests.^{xxii}
 - In addition, a study from North Carolina’s early implementation of the edTPA suggests that future teachers of color who score higher on the performance assessment also have higher value-added estimates and evaluation ratings.^{xxiii}
 - Massachusetts recently piloted its own practice-based performance assessment of teaching skills called the [Massachusetts Candidate Assessment of Performance \(CAP\)](#). The assessment is taken during a candidate’s student teaching placement, aligned to the evaluation system for fully certified educators, and is a requirement for teacher preparation program completion. [An October 2019 research study](#) found that candidate performance on CAP predicts in-service summative performance evaluations in their first year of teaching after program completion, and that there is stronger alignment between teacher in-service performance and CAP than the state’s traditional licensure exams.

- Finally, a 2018 study in California exploring the impact of licensure exams on the teacher pipeline noted that, of the state’s required teacher assessments, only the teacher performance assessment has been shown to be related to teachers’ effectiveness in the classroom.^{xxiv} These assessments also function as learning tools, and they have been found to develop teachers’ skills and increase their effectiveness as they learn to demonstrate the ability to plan and implement curriculum, address a range of student needs, instruct effectively, and assess student learning to improve instruction.^{xxv}

ⁱ Mitchell, K., Robinson, D., Plake, B., & Knowles, K. (2001). *Testing teacher candidates: The role of licensure tests in improving teacher quality*. Washington, DC: National Academy Press.

ⁱⁱ Boyd, D., Lankford, H., Loeb, S., Rockoff, J., Wyckoff, J. (2008). The narrowing gap in New York City teacher qualifications and its implications for student achievement in high-poverty schools. Cambridge, MA: National Bureau of Economic Research Working Paper Series: 28; Buddin, R. & Zamarro, G. (2009). Teacher qualifications and student achievement in urban elementary schools. *Journal of Urban Economics*, 66(2): 110; Clotfelter, C.T., Ladd, H.F., Vigdor, J.L. (2007). How and why do teacher credentials matter for student achievement? (NBER Working Paper No. 12828). Cambridge, MA: National Bureau of Economic Research: 46; Goldhaber, D. (2007). Everyone’s doing it, but what does teacher testing tell us about teacher effectiveness? *Journal of Human Resources*, 42(4): 787; Goldhaber, D., & Hansen, M. (2010). Race, gender, and teacher testing: How informative a tool is teacher licensure testing? *American Educational Research Journal*, 47(1): 233.

ⁱⁱⁱ Boyd, D., Lankford, H., Loeb, S., Rockoff, J., Wyckoff, J. (2008). The narrowing gap in New York City teacher qualifications and its implications for student achievement in high-poverty schools. Cambridge, MA: National Bureau of Economic Research Working Paper Series: 28; Buddin, R. & Zamarro, G. (2009). Teacher qualifications and student achievement in urban elementary schools. *Journal of Urban Economics*, 66(2): 110; Clotfelter, C.T., Ladd, H.F., Vigdor, J.L. (2007). How and why do teacher credentials matter for student achievement? (NBER Working Paper No. 12828). Cambridge, MA: National Bureau of Economic Research: 44; Goldhaber, D. (2007). Everyone’s doing it, but what does teacher testing tell us about teacher effectiveness? *Journal of Human Resources*, 42(4): 787; Goldhaber, D., & Hansen, M. (2010). Race, gender, and teacher testing: How informative a tool is teacher licensure testing? *American Educational Research Journal*, 47(1): 242.

^{iv} Boyd, D., Lankford, H., Loeb, S., Rockoff, J., Wyckoff, J. (2008). The narrowing gap in New York City teacher qualifications and its implications for student achievement in high-poverty schools. Cambridge, MA: National Bureau of Economic Research Working Paper Series: 28; Clotfelter, C.T., Ladd, H.F., Vigdor, J.L. (2007). How and why do teacher credentials matter for student achievement? (NBER Working Paper No. 12828). Cambridge, MA: National Bureau of Economic Research: 43–44; Goldhaber, D., Gratz, T., & Theobald, R. (2017). What’s in a Teacher Test? Assessing the Relationship Between Teacher Licensure Test Scores and Student STEM Achievement and Course-Taking. *Economics of Education Review*, 61(C): 123; Shuls, J. V. (2018). Raising the bar on teacher quality: Assessing the impact of increasing licensure exam cut-scores. *Educational Policy*, 32(7), 969-992. <https://doi.org/10.1177/08959048166682315>

^v Clotfelter, C.T., Ladd, H.F., Vigdor, J.L. (2007). How and why do teacher credentials matter for student achievement? (NBER Working Paper No. 12828). Cambridge, MA: National Bureau of Economic Research: 43–44.

^{vi} Goldhaber, D., & Hansen, M. (2010). Race, gender, and teacher testing: How informative a tool is teacher licensure testing? *American Educational Research Journal*, 47(1): 236–238.

^{vii} Carver-Thomas, D. (2018). *Diversifying the teaching profession: How to recruit and retain teachers of color*. Palo Alto, CA: Learning Policy Institute.

^{viii} Darling-Hammond, L., Sutchter, L., & Carver-Thomas, D. [Teacher Shortages in California: Status, Sources, and Potential Solutions](#) (2018). Stanford University: Getting Down to Facts II.

^{ix} Shuls, J. V. (2018). Raising the bar on teacher quality: Assessing the impact of increasing licensure exam cut-scores. *Educational Policy*, 32(7), 969-992. <https://doi.org/10.1177/08959048166682315>.

^x National Research Council. (2001). *Testing teacher candidates: The role of licensure tests in improving teacher quality*. Committee on Assessment and Teacher Quality, K. J. Mitchell, D. Z. Robinson, B. S. Plake, & K. T. Knowles (Eds.). Washington, DC: National Academy Press; Nettles, M. T., Scatton, L. H., Steinberg, J. H., & Tyler, L. L. (2011). *Performance and passing rate differences of African American and White prospective teachers on Praxis examinations*. Princeton, NJ: Educational Testing Service; Cole, B. P. (1986). The Black educator: An endangered species. *Journal of Negro Education*, 55(3), 326–334.

^{xi} Report of the NCTE Task Force on teacher competency issues. (1987). *English Education*, 19(3), 181–192.

^{xii} Report of the NCTE Task Force on teacher competency issues. (1987). *English Education*, 19(3), 181–192.

^{xiii} Goertz, M. E., & Pitcher, B. (1985). *The impact of NTE use by states on teacher selection*. (RR-85-1). Princeton, NJ: Educational Testing Service.

^{xiv} National Research Council. (2001). *Testing teacher candidates: The role of licensure tests in improving teacher quality*. Committee on Assessment and Teacher Quality, K. J. Mitchell, D. Z. Robinson, B. S. Plake, & K. T. Knowles (Eds.). Washington, DC: National Academy Press.

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- ^{xv} Cowan, Goldhaber, Jin, Theobald. (2020). Teacher Licensure Tests: Barrier or Predictive Tool? Working Paper No. 245-1020. <https://caldercenter.org/publications/teacher-licensure-tests-barrier-or-predictive-tool>; Note: There have been two primary studies that investigate whether performance on teacher licensure exams predicts teacher effectiveness for teachers of color. Goldhaber & Hansen (2010) found that one North Carolina Praxis exam predicted White teacher effectiveness but not Black teacher effectiveness. This raised the concern that the exam could screen out Black teacher candidates who would be effective teachers. In contrast, the second study, by Cowan et al. (2020), finds that the Massachusetts Test for Educator Licensure predicts both teacher performance ratings and student performance. The study does not find that the test is differentially predictive for teachers of color. There are several reasons why these two studies could have such different results. The MTEL and Praxis are different exams that might have different levels of bias. Importantly, Massachusetts convenes a bias review panel to identify and eradicate bias in the MTEL while ETS has an internal bias audit procedure. These exams may have different cut scores that determine whether test takers pass or fail. They may also have different trends in whether test takers choose to retake the exam if they fail and whether they enter the teacher workforce.
- ^{xvi} Haney, W., Madaus, G., & Kreitzer, A. (1987). Charms talismanic: Testing teachers for the improvement of American education. *Review of Research in Education* 14(1987): 169–238; Baker, R. S. (2006). Paradoxes of desegregation: African American struggles for educational equity in Charleston, South Carolina, 1926–1972. Columbia, SC: University of South Carolina Press, p. 61–62.
- ^{xvii} [California](#); [Washington](#); [Connecticut](#); [Illinois](#)
- ^{xviii} Darling-Hammond, L. (2010). *Evaluating teacher effectiveness: How teacher performance assessments can measure and improve teaching*. Washington, DC: Center for American Progress.
- ^{xix} edTPA. (2013). *2013 edTPA Field test: Summary report*. Stanford, CA: edTPA.
- ^{xx} edTPA. (2015). *Educative assessment & meaningful support: 2014 edTPA administrative report*. Stanford, CA: edTPA.
- ^{xxi} Goldhaber, D., Cowan, J., & Theobald, R. (2017). Evaluating prospective teachers: Testing the predictive validity of the edTPA. *Journal of Teacher Education*, 68(4), 377–393.
- ^{xxii} Darling-Hammond, L. (2010). *Evaluating teacher effectiveness: How teacher performance assessments can measure and improve teaching*. Washington, DC: Center for American Progress; Wilson, M., Hallam, P. J., Pecheone, R., & Moss, P. A. (2014). Evaluating the validity of portfolio assessments for licensure decisions. *Education Policy Analysis Archives*, 22(6); edTPA. (2015). *Educative assessment & meaningful support: 2014 edTPA administrative report*. Stanford, CA: edTPA; Goldhaber, D., Cowan, J., & Theobald, R. (2017). Evaluating prospective teachers: Testing the predictive validity of the edTPA. *Journal of Teacher Education*, 68(4), 377–393.
- ^{xxiii} https://publicpolicy.unc.edu/files/2018/07/edTPA-ResearchBrief-2018-r3_Final.pdf
- ^{xxiv} Darling-Hammond, L., Sutchter, L., & Carver-Thomas, D. [Teacher Shortages in California: Status, Sources, and Potential Solutions](#) (2018). Stanford University: Getting Down to Facts II.
- ^{xxv} Darling-Hammond, L. (2010). *Evaluating teacher effectiveness: How teacher performance assessments can measure and improve teaching*. Washington, DC: Center for American Progress.

Appendix

Personal Communication

From: **McKinley, Malik K**

Subject: RE: [EXTERNAL] Praxis Math- Praxis Effectiveness for Prediction

To: Johnson, Joan

Cc: Maggie Clemmons

Hi Dr. Johnson:

All states want teachers to have the knowledge and skills needed for safe and effective practice before they receive a license. To address this desire, **Praxis tests are designed to assess test takers' job-relevant knowledge and skills**. States adopt Praxis tests as *one* indicator that teachers have achieved a specified level of mastery of academic skills, subject area knowledge, and pedagogical knowledge before being granted a teaching license. Each of the Praxis tests reflects what practitioners in that field across the United States believe to be important for new teachers. The knowledge and skills measured by the tests are informed by this national perspective, as well as by the content standards recognized by that field. The Praxis assessments offer states the opportunity to understand if their test takers are meeting the expectations of the profession.

States that have chosen to use one or more of the Praxis Subject Assessments require their applicants to take the tests as part of the teacher licensure process. Each Praxis test is designed to provide states with a standardized way to assess whether prospective teachers have demonstrated knowledge that is important for safe and effective entry-level practice.

How the Praxis Assessments Address States' Needs

States have always wanted to ensure that beginning teachers have the requisite knowledge and skills. The Praxis tests provide states with the appropriate tools to make decisions about applicants for a teaching license. In this way, the Praxis tests meet the basic needs of state licensing agencies. But the Praxis tests provide more than this essential information.

Please find attached a host of resources on the following topics:

- The Technical Manual for All Praxis Tests: https://www.ets.org/s/praxis/pdf/technical_manual.pdf
- Understanding Teacher Quality & Past Publications: <https://www.ets.org/research/topics/teaching/>
- Validity for Licensing Tests: <https://www.ets.org/s/praxis/pdf/validity.pdf>
- ETS Comprehensive Fairness and Validity Links: <https://www.ets.org/praxis/institutions/about/fairness>
- ETS Overall Approach to Testing: https://www.ets.org/understanding_testing/
- NCTQ has a potentially useful overview of external research on this topic: [NCTQ Driven by Data Appendix B](#).
 - In their survey of 15 studies, NCTQ identifies 11 as finding a positive correlation between licensure tests and student outcomes. 4 of 11 studies cited involve Praxis tests.

[NCTQ State of the States 2021: Teacher Preparation Policy](#)

NCTQ examines state policy trends that govern some of the most essential aspects of teacher preparation, from reading and content knowledge licensure exams...

In the **Praxis Program**, we offer multiple choice, selected response, and constructed response teacher licensure and certification exams. Exams that focus on both academic content and classroom pedagogy have a defined purpose in understanding the knowledge and skillset of a potential classroom teacher.

However, over the last several years the Praxis Program has developed a performance assessment that helps the teaching field drive even closer to analyzing a candidate's teacher effectiveness in the classroom. This exciting new assessment developed by teachers for teachers is entitled the Praxis Performance Assessment for Teachers (PPAT). With that in mind, I'd like to share a little bit about this program.

The PPAT assessment was developed by 26 education professionals and teacher educators from 16 states and facilitated by ETS experts. More than 500 additional educators and teacher educators, who participated in piloting and pilot evaluation sessions, contributed to the final form of the PPAT assessment. PPAT pilots included nearly 1,000 participants over a two-year period. The PPAT assessment was developed as a requirement for educator preparation program (EPP) approval. Passing the PPAT assessment signals successful completion of a candidate's clinical experience, typically a requirement for program completion and/or licensure. This assessment evaluates test takers on their abilities to impact student learning as it relates to the InTASC Model Core Teaching Standards, demonstrating that they have the basic pedagogical content knowledge and application for the classroom to begin teaching as an entry-level or beginning teacher. In specific, it is designed to: 1. Develop more effective teachers in the classroom; 2. Identify strengths and areas for improvement of practice; 3. Allow student teachers to continually refine their teaching practices; and 4. Contribute to a development plan for professional growth. The PPAT assessment promotes the learning and refinement of practical teaching skills as candidates engage the tasks throughout their clinical experience. In addition, the PPAT assessment initiates the practice of reflective professional development through the completion of its Professional Growth Plan (PGP). Lastly, the PPAT assessment provides rich performance results to help programs analyze and improve their curricula over time.

The assessment contains four tasks requiring written commentary and submission of artifacts. A video submission also is required for one of the tasks. Teacher candidates will complete tasks by entering a written response for each textbox, uploading artifacts and linking those artifacts to their written responses, uploading a video and uploading required permission forms via an online submission system on or before the submission deadline. The PPAT tasks include: **Task 1:** Knowledge of Students and the Learning Environment; **Task 2:** Assessment and Data Collection to Measure and Inform Student Learning; **Task 3:** Designing Instruction for Student Learning; and **Task 4:** Implementing and Analyzing Instruction to Promote Student Learning.

The PPAT website (highlighted below) provides free and public access to resources for all stakeholders and decision makers involved in the assessment experience, including teacher candidates, cooperating teachers, superintendents, state department officials, faculty advisors and policymakers. These resources include, but are not limited to, the full text of all the task prompts

and rubrics, the library of exemplars (which includes videos), and the Reflective Practice Guide and the Cooperating Teacher Handbook. Other resources include state and regional implementation support workshops at the request of all programs. Overall, teachers and teacher candidates are extremely familiar with the Praxis Program, so they are aware of the abundant resources we have for study materials and accommodations for teachers who have a disability or health related need.

For more information, please see the attached link here: <https://www.ets.org/ppa/test-takers/teachers/about>.

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