National Policies: Catalyst for Teacher Preparation Program Enrollment and Completion Decline?

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There is a concerning trend in teacher preparation program enrollment and completion rates from 2000–2017, using the most recent population data available from the US Department of Education, Higher Education Act Title II State Report Card System. Authors contextualize these trends alongside national education policies, such as No Child Left Behind, Race to the Top, and the Common Core State Standards to discuss the potential of these policies as catalysts for the substantial observed declines. Using a local context in New Mexico as an example, they discuss how such policies may be impacting teacher production.

In the current education environment, there are many discussions about what is causing the shortage of teachers participating in K–12 public school teacher candidate (TC) preparation programs. While some have claimed that there is no evidence of a widespread teacher shortage, except for in specific subgroups (e.g., Cowan, Goldhaber, Hayes, & Theobald, 2016), others have taken to examining some of the issues surrounding why a shortage may be occurring (Behrstock-Sherratt, 2016). For example, the American Institutes of Research's recent report claims that there are no robust methods for measuring teacher shortages and that any one measure would not allow for a reliable indication of the state and health of the pool of available teachers (Behrstock-Sherratt, 2016). Furthermore, a pair of articles published in *Phi Delta Kappan* claimed that teacher education programs should be strengthened and teachers should be better compensated and supported (Podolsky, Kini, Bishop, & Darling-Hammond, 2017), and that such supports should be sustained over time (Berry & Shields, 2017). Relatedly, the most recent PDK Poll, which boasts a nationally representative sample of public school teachers in the US, shows staggering rates of teacher dissatisfaction with pay (60%) and school funding (75%), as well as about 50% indicating a desire to leave the profession and 55% of teachers reporting that they "would not want their child to follow them into the profession" (PDK Poll Advisory Panel, 2019, p. K4).

To take another perspective, a recent nationally representative sample of US K–12 mathematics, science, and computer science teachers reported having very low control over "determining course goals and objectives (16–30 percent); selecting curriculum materials (11–27 percent); and selecting content, topics, and skills to be taught (11–26 percent)" (Banilower et al., 2018, p. 102). Moreover, Banilower and colleagues found that 33% of elementary, 27% of middle level, and 20% of high school mathematics teachers reported having no control of selecting curriculum materials, and approximately the same rates for determining course goals and objectives and for selecting content, topics and skills to be taught. Even more concerning is their finding that teachers of classes serving a high proportion of students from race/ethnicity groups historically underrepresented in STEM report lower instructional control than teachers of classes with relatively few students from these groups. Teachers of classes in higher-poverty schools and in

large schools tend to report less control than their counterparts in low-poverty and small schools (2018, p. 105).

When these findings from Banilower and colleagues (2018)—which indicate that teachers do not perceive much control over their classrooms—are combined with the evidence from the PDK poll (PDK Poll Advisory Panel, 2019) that teachers do not feel valued as professionals, they offer another potential source for why the US currently suffers from a teacher shortage. However, these issues only skirt the influence of policies that have changed the landscape of teacher education and the new kinds of challenges that teachers, and teacher candidates, face as a result. Over the next sections, we are critical of the national policies put in place over the past two decades and exemplify how they may be a catalyst for the substantial decline in both enrollment and completion rates for traditional and alternative teacher candidate programs.

Examining National Enrollment and Completion Trends

The current data available from the US Department of Education, Higher Education Act Title II State Report Card System (US Department of Education, 2019a; 2019b), through 2017, shows a stark drop in teacher education program enrollment and completion rates across the US (see Figures 1 and 2). Although there is much to examine within this data, there also seems to be a starting point from which this data can coincide with national policies. In this section, we analyze data from US Department of Education (2019a; 2019b), in the form of basic descriptives, to examine a connection between the implementation of No Child Left Behind legislation and decline in teacher education program enrollment and completion rates. In order to compare the enrollment and completion rates, because the 2008–2009 school year is the earliest year in which enrollment numbers are reported, all data are limited to between the 2008–2009 and 2016–2017 school year.

An examination of the data from the US Department of Education (2019a; 2019b) on the number of students enrolling in teacher education programs as well as the number of students who complete those programs in the United States indicates a decline for both categories since the academic year ending in 2009. Figure 1 reports the total number of students who enrolled (solid line) and who completed (dashed line) teacher education programs per year from the academic year ending in 2009 through 2017, and Figure 2 reports the percentage change per year from the previous year. These two figures indicate that substantial decreases in new teacher production have been in effect for both enrollment and completion over the past decade. The No Child Left Behind Act of 2001 (NCLB) went into effect for the 2002–2003 school year. NCLB policy came with an expectation of high-stakes testing that placed unprecedented attention on student performance. Not only could students be barred from graduation for low scores on Algebra I end of course exam, but teachers and school administrators could be replaced by state officials if adequate yearly progress was not met. Although many 2009 *completers* would not have experienced the high-stakes tests for themselves, they would have all been completing their field observations and student teaching in this environment. Moreover, the students *enrolling* in teacher education programs in 2009 would have certainly experienced these high-stakes test environments as high school students. It is also of note that although there appears to have been increases in the percent change in enrollment since 2013, those increases are only indicative of a slowing decline (percent change was still negative) rather than an increase in enrollment.

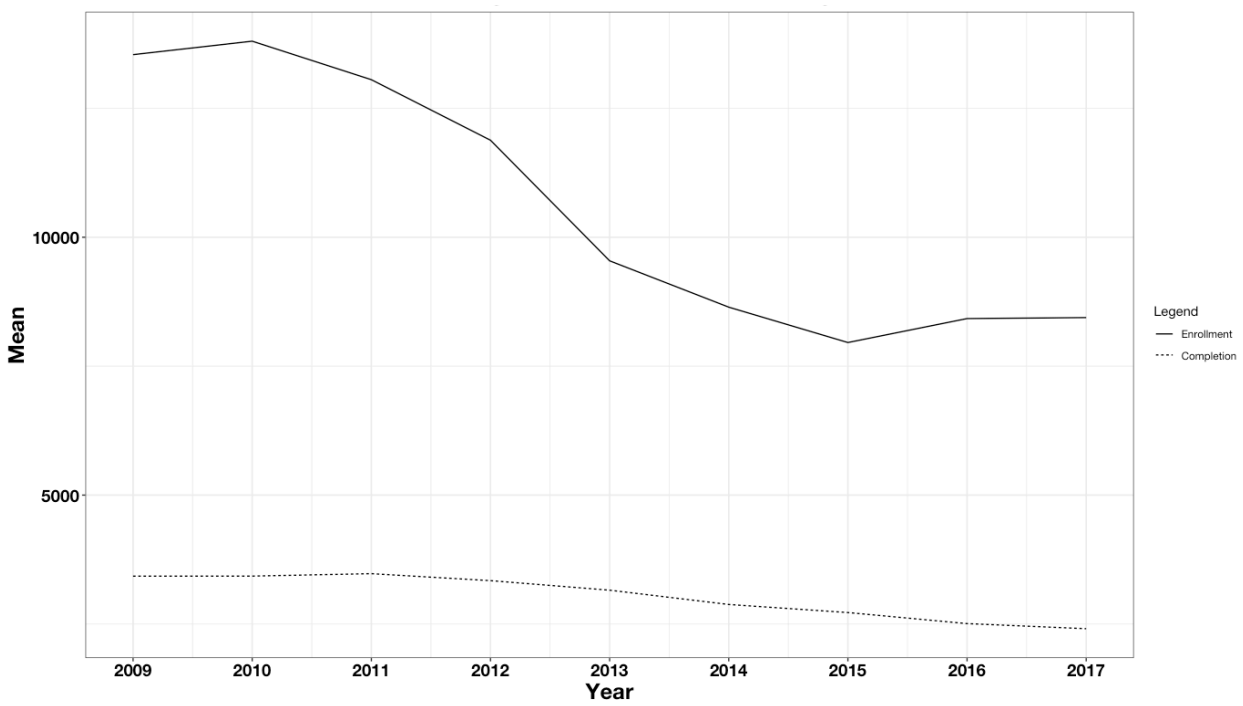

Figure 1. Mean enrollment and completion rates in US teacher education programs from year ending in 2009 to 2017 across all 50 States and the District of Columbia

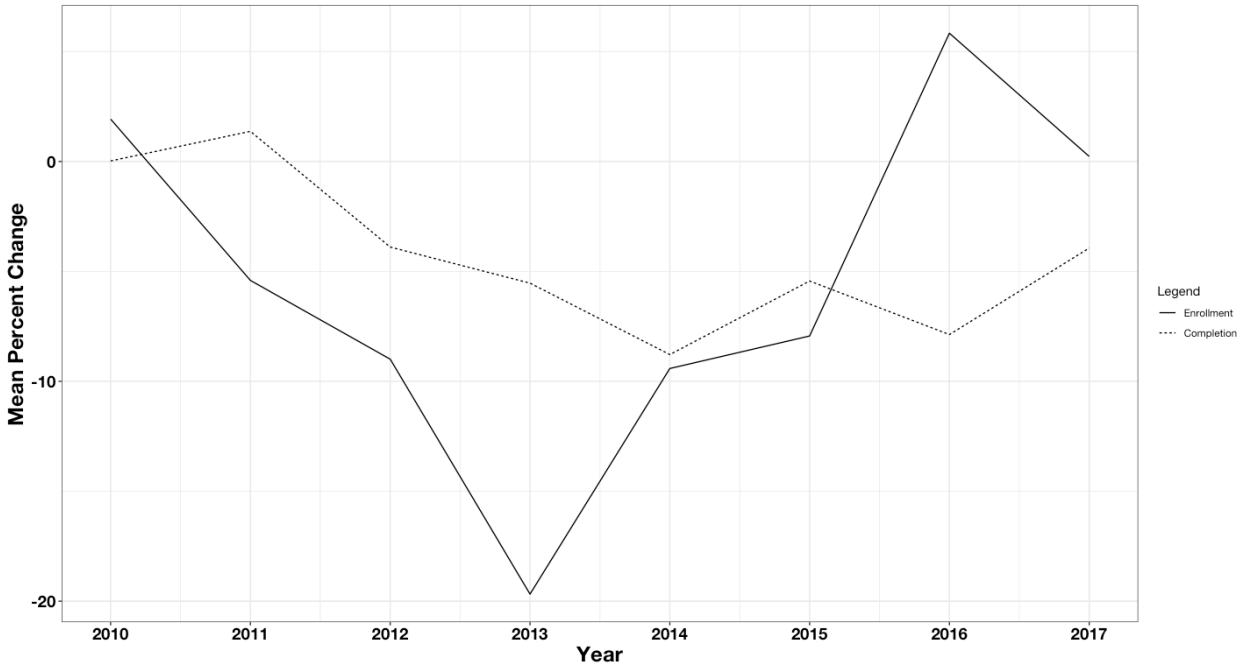

Figure 2. Mean percent change from the prior year in teacher education program enrollment and completion across all 50 States and the District of Columbia from year ending in 2009–2017

Following the path that NCLB paved, the Race to the Top Fund (RTT) was put into place in 2009 with the first phase of awards being administered in the 2009–2010 academic year. Although not all states participated in the competitive award RTT award program (see US

Department of Education (2020) for a list), the Common Core State Standards (CCSS) were officially published in 2010 and widespread adoption began—in part due to RTT. Due to the high-stakes testing environment that had carried over from NCLB and the need for assessments to be tied to the CCSS, implementation of the new standards began almost immediately, without adequate support for teachers and schools to 1) understand the standards and 2) design curriculum that aligned with them (Liebtag, 2013). Therefore, the consistent reduction in the number of candidates enrolling in and completing teacher education programs beginning in 2010 can be interpreted from this perspective. Both candidates enrolling and those completing would have experienced the high-stakes tests required of NCLB during their middle and high school experience. Moreover, the RTT era added a substantial amount of pressure on teachers and schools because of the added complexity of 1) the implementation of new standards and 2) new assessments aligned to the new standards.

To further exemplify the changes that have occurred, Figure 3 and Figure 4 show the percent change in enrollment and completion from the 2008–2009 academic school year to the 2016–2017 academic school year, for all 50 US States and the District of Columbia. Darker shades of yellow indicate more extreme *decreases* in enrollment or completion, while darker shades of blue indicate more extreme *increases* in enrollment or completion. Shades of purple indicate percent change values very close to 0, but still less than 0, with the change to zero starting the shades of blue. Taking a closer look at enrollment (see Figure 3), very few states (e.g., Washington, Nevada, Utah, Arizona, Texas) experienced *increases* in TC enrollment. Overall, the vast majority of states experienced *decreases* in TC enrollment, with a few observed in the 50% or greater range (e.g., Michigan, Oklahoma, Idaho).

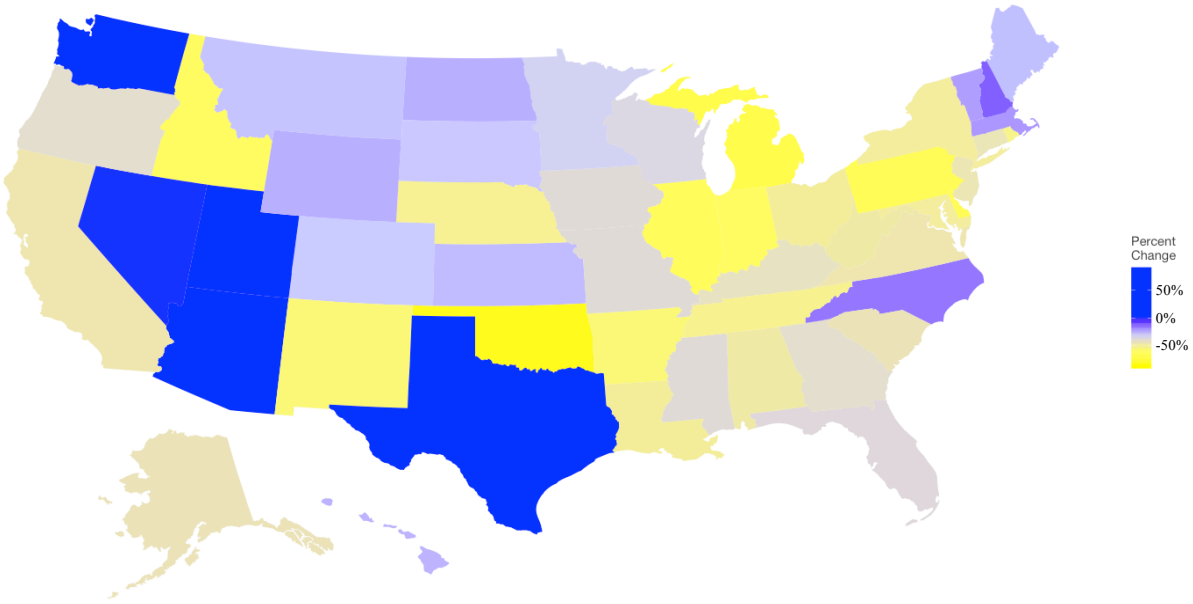

Figure 3. Percent change in enrollment in teacher education programs from 2008–2017 across the US and District of Columbia

A closer look at completion rates (see Figure 4) indicates a slightly more positive picture, with many more states having observed an *increase* in TC completion (e.g., Utah, Kansas, North Carolina), yet many also experienced *decreases* in TC completion (e.g., New Mexico, Michigan,

Illinois). The vast majority of states appear close to no change from the 2008–2009 school year to the 2016–2017 school year.

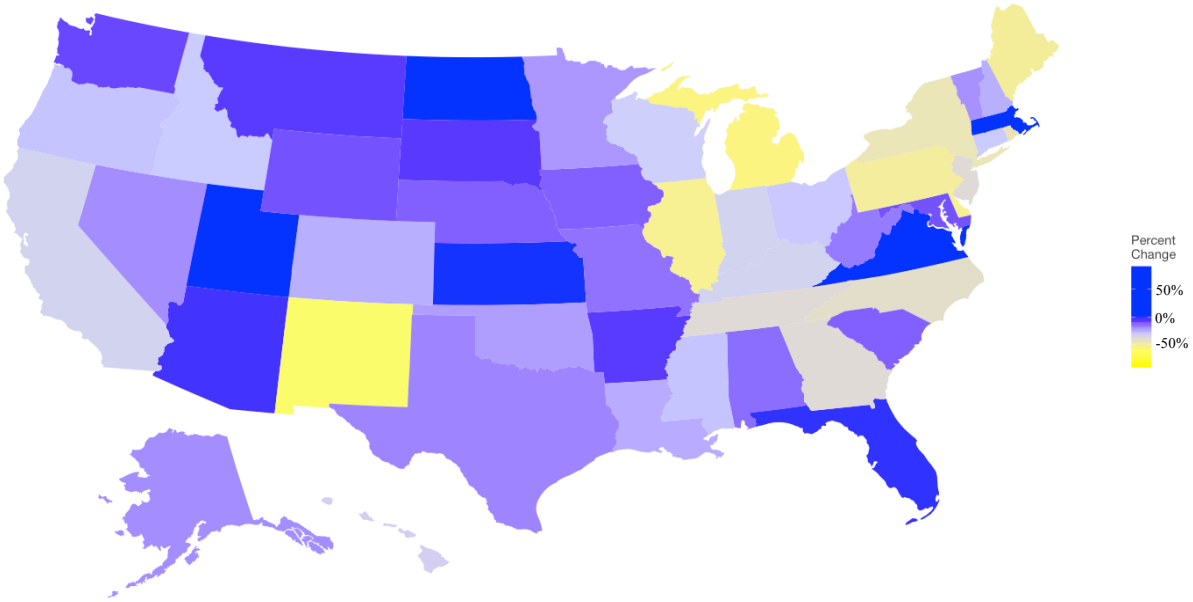

Figure 4. Percent change in completion of teacher education programs from 2008–2017 across the US and District of Columbia

Using this shift from the NCLB era to the RTT era as a cut point, the percent change on average in TC completion from 2001 to 2010 was an *increase* of 5.4%. Alarmingly, the percent change in TC completion from 2010 to 2017 was a *decrease* of 29.7% on average across the US. As a comparison, the percent change on average in TC enrollment from 2010 to 2017 was an overall *decrease* of 37.7%. Teacher candidate enrollment data is not available prior to the year 2008, so a comparison going back to 2001 is not possible. This change in proportion of students enrolling and completing teacher education programs is of practical significance (a significance test is inappropriate because it is population data). It provides an important piece of evidence that the longstanding policies that have been put into place may be having a substantial impact on teacher education programs' ability to prepare TCs for the teaching profession.

At the same time that high-stakes assessments commenced for student, teacher, and school accountability measures, individual states began implementing accountability systems for assessing teacher education programs. For instance, teacher education entrance and exit exams—such as Praxis, EdTPA, and NES—became de facto gatekeepers for gaining a license to teach in K–12 public schools. To provide additional evidence of how such high-stakes assessments may have caused some of the wide discrepancies in enrollment and completion rates, in the following section, we draw on data from an institution of higher education in New Mexico that serves to provide a comprehensive TC experience from enrollment to completion.

Examining New Mexico Enrollment and Completion Trends

To provide a more complete context (see Figures 3 and 4 in the previous section), New Mexico has experienced an overall reduction in both enrollment and completion over the past 10 years—

it is in the range of the shades of yellow in both figures. More specifically, in Figure 5 below, it is clear that, similar to the overall picture for the US, consistent drops in both enrollment and completion began in 2010 and largely continued to 2017. Although some slight increases occurred, the percent change has not been positive since 2011 for TC *enrollment* in teacher education programs (except for the slight uptick observed in 2015), and this data reveals that TC *completion* has never been positive since prior to 2010. In other words, over the past 10 years, New Mexico has only experienced varying magnitudes of *decreases* in both TC enrollment in, and TC completion in, teacher education programs—whether that program is for alternative or traditional TCs.

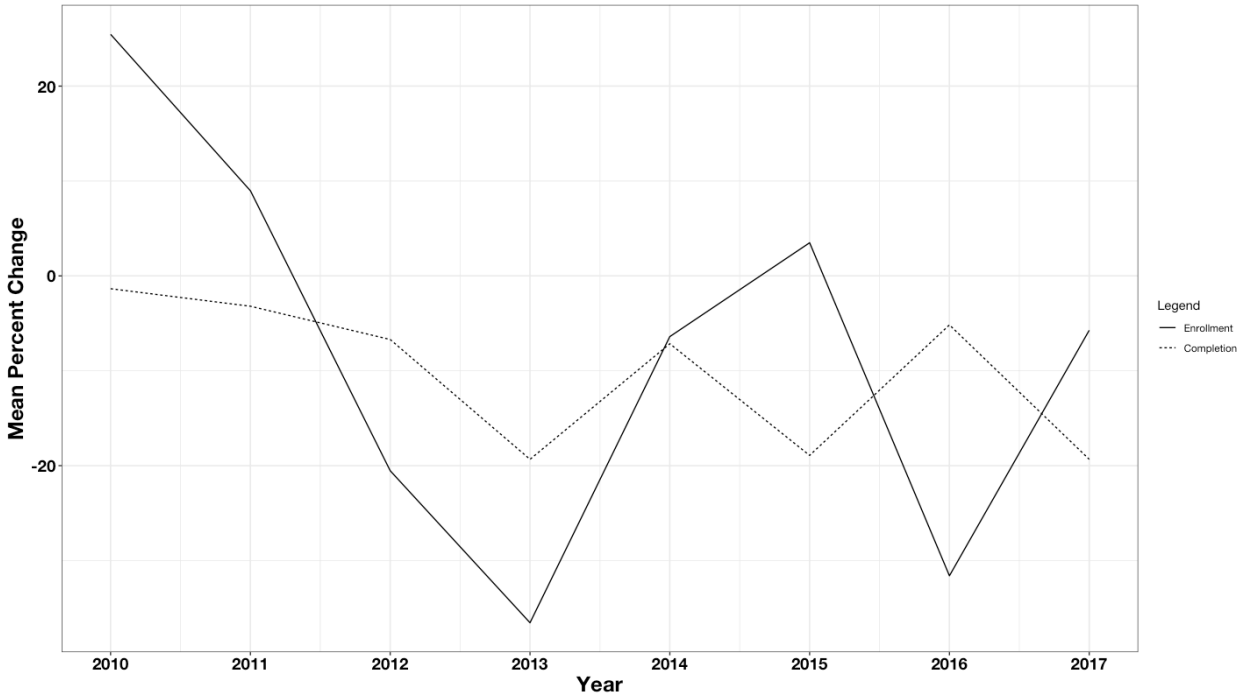

Figure 5. Mean percent change from the prior year in enrollment and completion in New Mexico

It is difficult to say exactly how much this decrease in TC enrollment and completion might be attributed to high-stakes TC assessment mechanisms such as NES. However, the following description drawing on data from one institution of higher education in New Mexico provides an example of how high-stakes TC assessments might be impacting enrollment for teacher education programs and their concomitant ability to increase TC completion rates.

Examining Enrollment, Completion, and Assessment Data in One NM Institution

Examining internal data from one New Mexico institution from the Spring 2016 semester to the Fall 2017 semester, only 32% of TCs who had declared their majors within the teacher education programs in the fall semester and had completed the required education coursework necessary to apply to the teacher education program, actually applied within 2 years. Moreover, comparing the 2017–2018 academic school year with the previous year data, enrollment *decreased* by 51.8% and completers *decreased* by 32.1%.

Examining TC enrollment data from 2015–2018, TCs pursuing careers in the traditional teacher education programs of early childhood, elementary, secondary, or special education and who had completed all three assessments required for licensure in the state of New Mexico indicated varying results. Of the TCs enrolled from 2015–2018, only 60% passed all three required exams, 12% passed only two of the three,15% passed only one of the three, and 13% did not pass any of the three.

What confounds these passing rates for the TCs is that the minimum GPA required to be granted admission into the teacher education program is 2.75 and the median GPA for those TCs actually accepted into the program during the 2017–2018 school year was 3.5. This appears to indicate a high level of quality among TCs being accepted into the program, somewhat contradicting the assessment data. For a more direct comparison to the median GPA of 3.5, drawing on only the most recent year's data, of those who completed all three assessments in the 2017–2018 school year, 55% passed all three, 16% passed two, 22% passed one, and 7% did not pass any. Moreover, nearly one-third of the students who could have applied to the teacher education program, but did not, had taken at least one of the three assessments. Of these, 81% had failed at least one of the three assessments at least one time—many of these had re-taken assessments they had failed.

Concluding Thoughts

When this information about how TC assessments are examined within the context of teacher and school accountability systems, an understanding of how teacher education programs struggle to recruit and retain TCs becomes clearer. First, the requirement for TC assessments does not follow the recommendations compiled by national experts regarding what kinds of methods are appropriate to assess. Specifically, though many states continue, the use of value-added modeling has been deemed inappropriate to assess teachers, schools, and colleges of education (see AERA Council, 2015, for a critique). In relation to results calculated through value-added modeling, state education policies have employed harsh consequences when expected gains related to K–12 schooling are not met. In the end, policy changes that support teacher education programs and their respective TCs are needed to establish a more engaging context where all learning environments can better support in-service teachers, K–12 students, and colleges of education on the pathway to developing a more collaborative schooling environment.

As states begin to develop new ways of measuring teacher shortages (Behrstock-Sherratt, 2016) and work to develop policies for sustained support systems for practicing teachers (Podolsky et al., 2017), and as colleges of education begin to strengthen their programs—which should include improving TCs' career self-efficacy (Slone & Hancock, 2008)—policies aimed to hold schools and teachers accountable should act in support of these initiatives and should consider less punitive actions and less high-stakes accountability systems. Existing policies have had a lasting, and seemingly negative, impact on teachers and teacher education. In this paper, we did not attempt to account for other possible causes for the decline, such as economic downturns that may have made the profession itself less desirable. Moreover, we did not include a comparison to how teacher enrollment and production may have been impacted in states where high stakes testing began prior to NCLB. However, enrollment totals are unavailable prior to the 2008-2009 school year. Future research should measure the impact and consider the types of policy changes

that would enable accountability while also supporting the teaching profession with the potential for growth in both enrollment and completion rates among teacher candidates.

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References

AERA Council. (2015). AERA Statement on Use of Value-Added Models (VAM) for the Evaluation of Educators and Educator Preparation Programs. *Educational Researcher*, *44*(8), 448–452. https://doi.org/10.3102/0013189X15618385

Banilower, E. R., Smith, P. S., Malzahn, K. A., Plumley, C. L., Gordon, E. M., & Hayes, M. L. (2018). *Report of the 2018 NSSME +*. Chapel Hill, NC: Horizon Research, Inc. Retrieved from http://horizon-research.com/NSSME/

Behrstock-Sherratt, E. (2016). *Creating coherence in the teacher shortage debate: What policy leaders should know and do*. Washington, DC. Retrieved from http://www.air.org/sites/default/files/downloads/report/Creating-Coherence-Teacher-Shortage-Debate-June-2016.pdf

Berry, B., & Shields, P. M. (2017). Solving the teacher shortage. *Phi Delta Kappan*, *98*(8), 8–18. https://doi.org/10.1177/0031721717708289

Cowan, J., Goldhaber, D., Hayes, K., & Theobald, R. (2016). Missing elements in the discussion of teacher shortages. *Educational Researcher*, *45*(8), 460–462. https://doi.org/ 10.3102/0013189X16679145

Liebtag, E. (2013). Moving forward with Common Core State Standards implementation: Possibilities and potential problems. *Journal of Curriculum and Instruction*, *7*(2), 56–70. https://doi.org/10.3776/joci.2013.v7n2p56-70

PDK Poll Advisory Panel. (2019). The 51st annual PDK poll of the public's attitudes toward the public schools: Frustration in the schools: Teachers speak out on pay, funding and feeling valued. *Phi Delta Kappan*, *101*(1), K1–K24. Retrieved from https://www.kappanonline.org/wp-content/uploads/2019/08/pdk_101_1_PollSupplement.pdf

Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2017). Sticky schools: How to find and keep teachers in the classroom. *Phi Delta Kappan*, *98*(8), 19–25. https://doi.org/10.1177%2F0031721717708290

Slone, M. B., Hancock, M. D. (2008). Teacher efficacy and career indecision among pre-service teachers: A model of direct and indirect effects. *Mid-Western Educational Researcher, 21*(2), 24–29. Retrieved from https://www.mwera.org/MWER/documents/MWER-2008-Spring-21-2.pdf

US Department of Education. (2019a). US Department of Education, Higher Education Act Title II State Report Card System: Enrollment, by state, by program type (2008–2017). Retrieved from https://title2.ed.gov/Public/DataTools/Tables.aspx.

US Department of Education. (2019b). US Department of Education, Higher Education Act Title

II State Report Card System: Completers, by state, by program type (1999–2017). Retrieved from https://title2.ed.gov/Public/DataTools/Tables.aspx.

US Department of Education. (2020). Race to the Top Fund: Awards. Retrieved from https://www2.ed.gov/programs/racetothetop/awards.html.