



University-Based Beginning Teacher Induction: Outcomes for North Carolina New Teacher Support Program Teachers in 2015-16

In this policy brief we assess levels of program participation and outcomes for North Carolina New Teacher Support Program (NC NTSP) participants in the 2015-16 school year. Descriptively, we find increases in program participation—NC NTSP teachers received more instructional coaching and professional development in the 2015-16 school year. Relative to comparison sample teachers, NC NTSP teachers have significantly higher retention rates and similar levels of performance. We stress the importance of having research evidence and urge other beginning teacher support programs to engage in research that can benefit program improvement and data-driven decision-making.

Introduction

Research evidence consistently shows that novice teachers have lower value-added estimates, ratings of instructional practice quality, and retention percentages than their more experienced colleagues. Furthermore, novice teachers are concentrated in high-need schools where they are more likely to teach low-income, minority, and low-performing students. For example, in North Carolina schools with the highest concentrations of economically-disadvantaged students, 20 percent of the teacher workforce has less than three years of experience; in schools with the lowest concentrations of economic-disadvantage, only 10 percent of the teacher workforce has less than three years of experience. To improve outcomes for schools and the students attending them, novice teachers need intensive supports targeted at developing their instructional practices and retaining them in the profession. While such supports exist, there is considerable variation across districts and

schools in the intensity and quality of novice teacher supports. These concerns may be particularly acute for high-need districts and schools with limited human capital and financial resources.

Therefore, to provide schools, especially high-need schools, with intensive and high-quality novice teacher supports, the UNC system created the North Carolina New Teacher Support Program (NC NTSP). Developed during the state's Race to the Top (RttT) grant, the NC NTSP continues to provide comprehensive support services to novice teachers in districts and schools across North Carolina. In this policy brief, we assess the NC NTSP in the 2015-16 school year, with a specific focus on who the program served, the supports it provided, and the performance and retention of NC NTSP teachers. We hope this evidence benefits the decision-making of state policymakers and school district officials and aids the program improvement efforts of NC NTSP leadership.

Background

The NC NTSP is a university-based novice teacher support program targeted at first, second, and third-year teachers. The program is centrally administered by the UNC General Administration (UNCGA) and is implemented by six UNC system sites—East Carolina University (ECU), North Carolina State University (NCSU), UNCGA, UNC Greensboro (UNCG), UNC Charlotte (UNCC), and Western Carolina University (WCU). Through teacher education faculty and instructional coaches, these sites deliver on-going professional development and coaching to NC NTSP teachers; in coordination with the program’s central office, these sites also provide multi-day institutes targeted at first-year teachers. Importantly, all novice teachers in participating schools, not just the graduates of these UNC system institutions, are eligible to participate in the program.

The current year marks our third time evaluating the NC NTSP—we previously evaluated the program during RttT (2012-13 and 2013-14) and in its first year post-RttT (2014-15). From these previous analyses there have been two key results: (1) NC NTSP teachers are more likely to return to teaching in their school and the state, with evidence that more instructional coaching benefits teacher retention; and (2) NC NTSP teachers perform comparably to other novice teachers, with evidence of some positive results for NC NTSP teachers receiving more intensive program supports.

As shown in Table 1, in the 2015-16 school year the NC NTSP evaluation sample includes 553 novice teachers working in 113 schools and 34 school districts.¹ Notably, 75 percent of these schools and 85 percent of the participating teachers were new (never before served) to the NC NTSP in 2015-16. This may have implications for the effectiveness of the program if it takes time to integrate into newly participating schools and their teachers’

Table 1: Teacher and School Characteristics for the NC NTSP and Matched Comparison Sample

Characteristics	NC NTSP Sample	Matched Comparison Sample
Unique Teacher Count	553	1155
Number of Schools	113	155
Number of School Districts	34	71
First-Year Teachers	46.11%	28.99%
Second-Year Teachers	34.36%	37.62%
Third-Year Teachers	19.53%	33.39%
Lateral Entry License	40.91%	21.76%
School Characteristics		
Elementary School	28.70%	34.84%
Middle School	33.33%	31.61%
High School	37.96%	33.55%
City/Suburb	14.82%	17.42%
Rural/Town	85.18%	82.58%
Percent Economically-Disadvantaged	58.41%	59.79%
Percent Minority	60.41%	60.47%
Performance Composite	44.14	46.73

Note: This table displays teacher and school level characteristics for the teachers and schools in the 2015-16 NC NTSP evaluation sample and a matched comparison sample.

¹ Our NC NTSP evaluation sample excludes teachers who began receiving program supports in the second half of the school year. In total, the NC NTSP served 636 teachers during the 2015-16 academic year; we excluded 83 teachers who began receiving supports after December 2015.

practices. These NC NTSP teachers worked in schools where, on average, 60 percent of students were a racial/ethnic minority, 58 percent of students were economically-disadvantaged, and 44 percent of state assessments were passed. We primarily assess outcomes for NC NTSP teachers against those of a matched comparison sample working in similar schools.² Our matched sample includes 1155 teachers working in 155 schools and 71 school districts. School characteristics are similar for the NC NTSP and matched comparison sample teachers; however, the NC NTSP sample has much higher concentrations of first-year teachers (46.11% vs. 28.99%) and lateral entry teachers (40.91% vs. 21.76%). Therefore, we control for teacher experience and lateral entry status in all of our teacher performance and retention models.

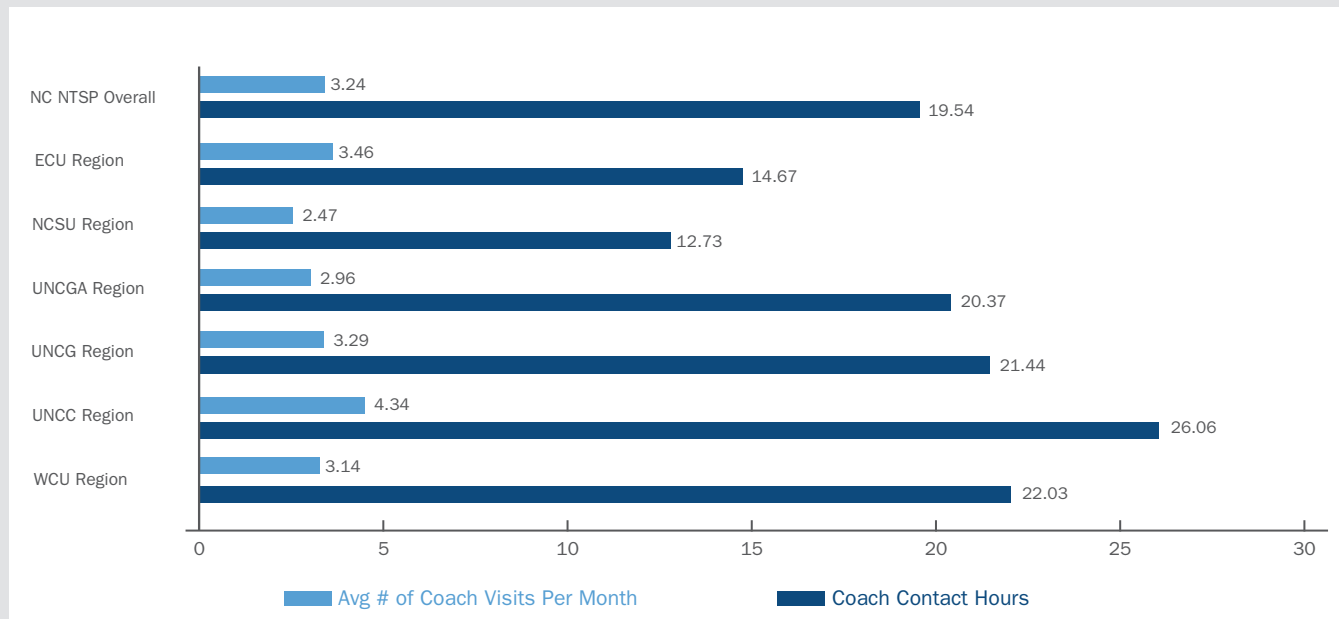
We assess outcomes for NC NTSP and matched comparison sample teachers on three policy relevant measures—teacher EVAAS estimates, North Carolina Educator Evaluation System (NCEES) evaluation ratings, and retention. In this policy brief, we present results from our overall models comparing the performance and retention of NC NTSP teachers with matched comparison

sample teachers. We also estimated models by level of teaching experience or years in the NC NTSP, models for each NC NTSP region, and models to assess whether intensity of program participation predicts outcomes. To better understand our overall results, we comment on, but do not display, meaningful findings from these additional analyses.

Intensity of NC NTSP Supports

Figure 1 displays the average number of instructional coach visits per month and the average number of instructional coach contact hours during the 2015–16 school year. Overall, NC NTSP teachers averaged 3.24 coach visits per month and nearly 20 instructional coach contact hours during the 2015–16 school year. This is an increase from the 1.79 coach visits and 12 instructional coach contact hours during the 2014–15 school year. During the 2015–16 school year, instructional coaching intensity ranged from 4.34 visits per month and 26 total contact hours in the UNCC region to 2.47 visits per month and 12.73 total contact hours in the NCSU region.

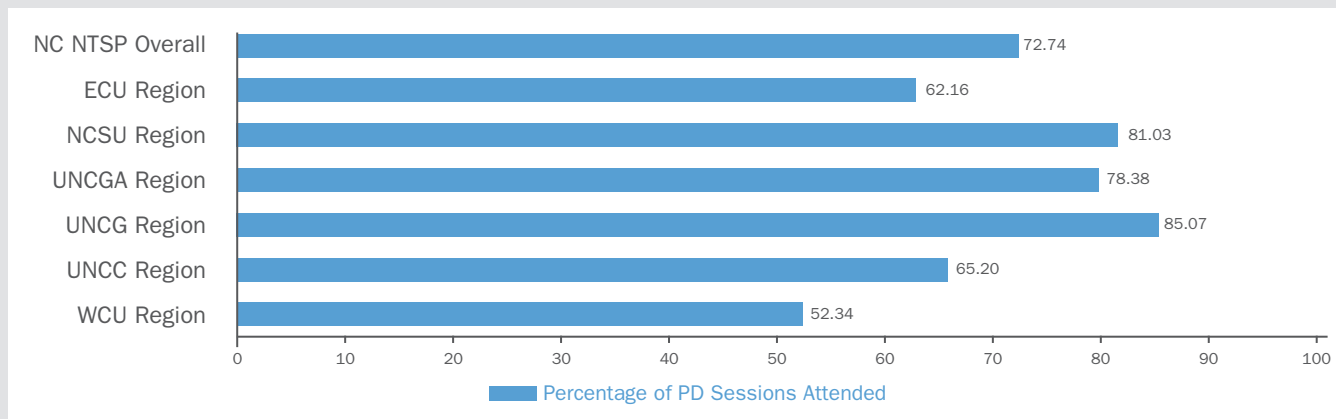
Figure 1: Intensity of NC NTSP Instructional Coaching



Note: For NC NTSP evaluation sample teachers, this figure displays the average number of instructional coach visits per month and the average number of instructional coach contact hours.

²To identify this matched comparison sample, we used school characteristics from 2014–15 to estimate nearest neighbor propensity score matching models. We also compared NC NTSP teachers to all other novice teachers in North Carolina. These results are qualitatively similar to our matched sample results.

Figure 2: Participation in NC NTSP Professional Development Sessions



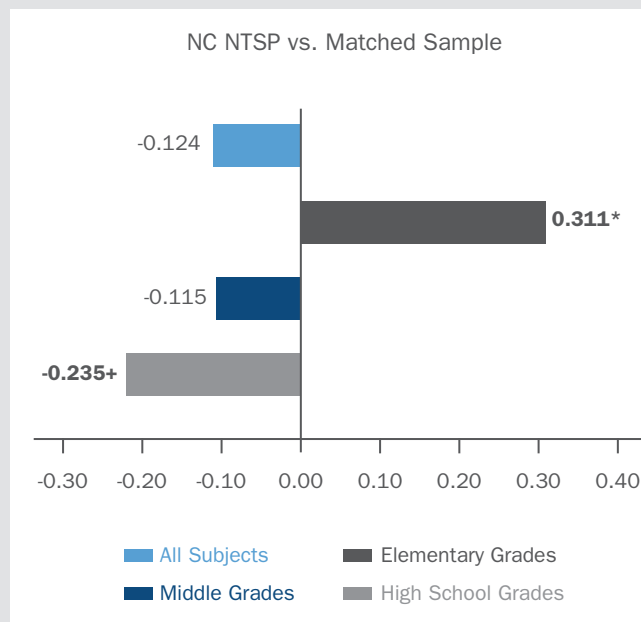
Note: For NC NTSP evaluation sample teachers, this figure displays the percentage of NC NTSP professional development sessions attended.

Figure 2 illustrates that NC NTSP teachers attended approximately 73 percent of the program’s professional development sessions. This is an increase of 11 percentage points over the 2014–15 school year. These professional development attendance figures varied from 85 percent in the UNCG region to 52 percent in the WCU region. Finally, the intensity of instructional coaching and professional development attendance also varied by level of teacher experience, as first-year teachers averaged more instructional coaching visits and contact hours and attended a higher percentage of professional development sessions than second or third-year NC NTSP teachers.

Are NC NTSP Teachers More Effective Than Other Novice Teachers?

We assess the effectiveness of NC NTSP teachers with two measures of performance: EVAAS estimates from the state’s End-of-Grade, End-of-Course, early-grades reading, and final exams and evaluation ratings from the NCEES. We estimate a single EVAAS model across all grades and subject areas and separate models for elementary, middle, and high school grades. In all models the outcome measure is teachers’ standardized EVAAS estimates. For each of the five NCEES standards, we estimate models where the outcome variable is teachers’ evaluation rating on a 1–5 scale (not demonstrated to distinguished). All of these teacher performance models control for teacher experience and lateral entry status and school characteristics.

Figure 3: NC NTSP EVAAS Results



Note: This figure displays teacher EVAAS results for NC NTSP teachers versus a matched comparison sample. ‘+’, ‘*’, and ‘***’ indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Figure 3 displays our EVAAS results comparing NC NTSP teachers with the matched comparison sample. Across all subjects and in middle grades, NC NTSP teachers perform comparably to our matched sample. In elementary grades—for early-grades reading exams and for EOG exams in mathematics, reading, and science—NC NTSP teachers are significantly more effective. To contextualize this finding, we note that this effectiveness difference—31 percent of

Table 2: NC NTSP NCEES Results

	Leadership	Classroom Environment	Content Knowledge	Facilitating Student Learning	Reflecting on Practice
NC NTSP vs Matched Sample	0.727	0.765	0.806	0.837	0.711
Count	1479	1478	1478	1479	1478

Note: This table displays NCEES results for NC NTSP teachers and the matched comparison sample. Cells report odds ratios. Odds ratios above '1' indicate higher evaluation ratings; odds ratios below '1' indicate lower evaluation ratings.

a standard deviation—is approximately two-thirds of the difference between first and second-year teachers in our sample. Further analyses to better understand these positive elementary grades findings (not presented) show that results are strongest for the early-grades reading exam (mCLASS Reading 3D), for teachers in their first-year in the NC NTSP (never served by the program), and for teachers receiving more instructional coaching visits per month. Conversely, in high school grades, NC NTSP teachers have EVAAS estimates that are significantly lower than those for matched comparison sample teachers. Further analyses to investigate this finding show that the negative results are driven by teachers in their first year in the program.

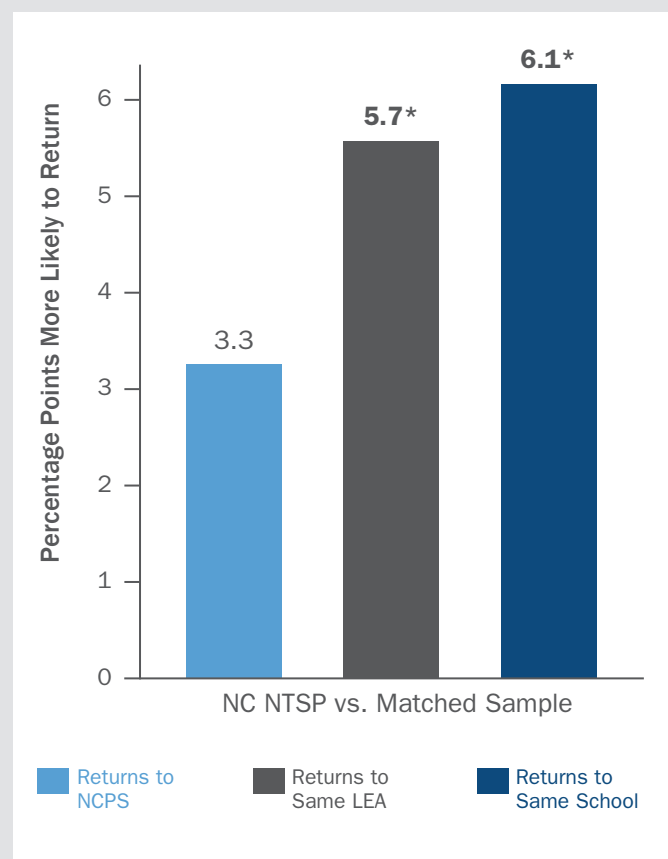
Table 2 presents our NCEES results comparing NC NTSP teachers with the matched comparison sample. Across all five NCEES standards, there are no significant differences in the evaluation ratings of NC NTSP and matched comparison sample teachers.

Are NC NTSP Teachers More Likely to Persist in Teaching Than Other Novice Teachers?

Figure 4 presents results from models assessing whether NC NTSP teachers are more likely than matched comparison sample teachers to return to the teaching workforce in North Carolina, the same school district, and the same school in the 2016-17 school year. Like our teacher performance analyses, these models control for teacher and school characteristics. Results show that NC NTSP teachers were approximately six percentage points more likely to return to the same district or school. NC NTSP teachers were also significantly more likely to return to the state’s teaching workforce than *all other* novice teachers. Further analyses (not presented) indicate that these positive retention results are strongest for those in their first year in the program and for NC NTSP teachers in the NCSU

region. Consistent with previous evaluations, results also show that more NC NTSP instructional coaching visits (particularly in-person visits) are related to higher levels of within-school retention. Specifically, an additional, in-person instructional coaching visit per month is associated with a 3.5 percentage point increase in within-school retention.

Figure 4: NC NTSP Retention Results



Note: This figure displays results for returning to NCPS, returning to the same LEA, and returning to the same school for NC NTSP versus matched comparison sample teachers. '+', '*', and '**' indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Discussion

These evaluation results for the NC NTSP are consistent with those from previous analyses. Specifically, we find that NC NTSP teachers are more likely to return to the same district or school in the following year and that more in-person instructional coaching visits predicts higher levels of within-school retention. These results suggest that NC NTSP services help retain novice teachers and that the intensity of coaching matters to teachers' retention decisions. Additionally, we find that the performance of NC NTSP teachers—measured by value-added or evaluation ratings—is generally comparable to that of other novice teachers. This suggests a need for the NC NTSP, through its instructional coaching and professional development, to further emphasize beginning teachers' instructional quality and rigor. Towards this end, in the 2016-17 school year, the NC NTSP reoriented its coaching activities around edTPA and the knowledge and skills underlying its teaching domains. This change may allow the program to better support and enhance the instructional practices of novice teachers; evaluation work with 2016-17 data will allow us to assess the impact of these reforms.

In these analyses there are two potential limitations to consider. First, we are not aware of the beginning teacher induction services—in terms of their quality or intensity—that comparison sample teachers receive. Therefore, we are comparing the performance and retention of NC NTSP teachers, and by extension the quality of the NC NTSP, with an unknown status quo. Second, districts and schools choose to participate in the NC NTSP. This means there may be unobserved characteristics of these schools that are related to program participation and the novice teacher outcomes we assess.

Lastly, we emphasize the value of having research evidence. The NC NTSP is unique in tracking how program participants perform and persist in teaching in North Carolina. This evidence can be valuable to policymakers, school officials, and program leadership and we urge other beginning teacher support programs to engage in research that can benefit program improvement and data-driven decision-making.

For more research on this topic

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Glazerman, S., Isenberg, E., Dolfin, S., Bleeker, M., Johnson, A., Grider, M., & Jacobus, M. (2010). Impacts of comprehensive teacher induction: Final results from a randomized controlled study. NCEE-2010-4027. *Washington, DC: US Department of Education*.

Ingersoll, R.M. & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(2), 201-233.

Smith, T. & Ingersoll, R. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal*, 41(3), 681-714.

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