Teacher Compensation Models and Advanced Teaching Roles Pilot Programs

Year 3 (2019-20) Final Report

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June 2020

Acknowledgements

We once again would like to thank the students, teachers, principals, and other representatives from the six pilot Local Education Agencies who took time out of their very busy schedules to discuss their experiences with and impressions of their Advanced Teaching Roles pilot programs with us, review our descriptions of those plans, and entertain countless additional follow-up questions. In addition, we would like to thank Tom Tomberlin and Paul Marshall at the North Carolina Department of Public Instruction for their help in securing the school- and teacher-level data necessary to complete our initial quantitative analyses. Finally, special thanks to the Belk Foundation for their generous support for this work, without which we would have been able to incorporate only a fraction of the qualitative data that informs our series of evaluation reports.

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TEACHER COMPENSATION MODELS AND ADVANCED TEACHING ROLES PILOT PROGRAMS YEAR 2 (2018-19) INTERIM REPORT

Executive Summary

Overview

In 2016, the North Carolina General Assembly provided support for several advanced teaching roles and compensation plan [ATR] pilots,¹ with a requirement for evaluation of two components of those pilots: their *Academic and Instructional Impact*; and their *Impact on the Teaching Profession*. The North Carolina Department of Public Instruction proposed additional evaluation components: a *Comparative Analysis of Programs*; and *Financial and Policy Considerations*.

This evaluation report—the fourth and final one commissioned by the North Carolina State Board of Education—summarizes qualitative results from the third year of the initiative and quantitative analyses from the first two years of implementation. In general, most of the qualitative indicators were again positive, and in the areas for which one-year and two-year quantitative estimations were possible there also were continuing signs of positive outcomes.

Even with two years of outcome data available, the evaluation team continues to caution against giving undue weight to the quantitative estimations: The number of directly impacted teachers and students remains small; differences across the six pilots reduce the overall strength of the analyses; analyses are correlational and not causal; and analyses are limited to only two years of data, with some analyses including data from only a few of the pilots.

Quality of Classroom Instruction

Most educators reiterated their belief that teaching practices at their schools had improved as a result of the pilot programs. Lead teachers repeated their impressions from previous years that the pilot programs impacted both *school-wide diffusion of best practices* and *vertical alignment*.

These improvements may come at a cost, however; while still higher on average than the EVAAS ratings of their same-school colleagues, EVAAS ratings for some advanced roles teachers fell over time. There may be value in investigating under what circumstances an advanced role takes a toll on a teacher's instruction, and whether that toll is worth the benefits gained by others (both teachers and students) in the same schools.

Evidence of Student Growth

Students in ATR schools were more likely to exhibit positive changes in performance after both one year and two years of implementation than were students in matched schools, though evidence was stronger and typically only statistically significant for the first year. Most of the improvement appears to have been in student *growth* rather than proficiency.

¹ Session Law 2016-94, Section 8.7

Even though preliminary impact estimates are neither consistent nor definitive, they do suggest that the presence of an ATR program has the *potential* to contribute to positive changes in overall school performance and classroom instruction, if implemented well and with fidelity. However, no single initiative on its own can lead to the ultimate desired result of significant and sustained changes in student outcomes.

Attractiveness of the Teaching Profession

Applications for lead teacher roles remained higher than the number of roles available, and lead teacher turnover was very low. Salary supplements continued to make roles more appealing; they also encouraged some lead teachers to devote extra time to their work and led others to feel that their roles were more professionalized as a result. Prospective teachers identified the opportunity for supplemental pay as the most appealing aspect of the programs. A growing segment of lead teachers did not believe the supplements were adequate for the amount of work expected of them. A subset of teachers continued to be unsupportive of pay differentials for lead teachers.

The salary supplement was not the only attractive aspect of the ATR programs; a notable proportion of teachers identified the opportunity to provide support for other teachers as the primary attraction.

Recognition of High-Quality Classroom Teachers

A large majority of administrators, lead teachers, and teacher colleagues (85% overall) continued to agree that the pilot programs identified high-quality teachers, but focus group data suggest that perceptions about the selection process remained mixed. Concerns remained about whether the lead teacher selection criteria identify the best potential *leaders*, and whether strict adherence to those criteria always resulted in identifying the best teachers. Perhaps more problematic were persistent instances of teachers who were largely unaware of the selection process. LEAs made adjustments across the three years in response to this feedback.

The pilot LEAs that provided data about applicants appear to have been somewhat selective, opting to leave some lead teacher vacancies unfilled even though there were more than enough applicants. Also, successful ATR applicants appeared to be somewhat stronger than unsuccessful applicants in terms of their Leadership ratings and EVAAS scores across all three years. The EVAAS score gap between successful and unsuccessful applicants did close each year, however—possibly as a result of a strengthening applicant pool over time, but also as a result of the strongest teachers already having been identified in Years 1 and 2.

Retention of High-Quality Classroom Teachers

During the third year of implementation, the pilot programs appeared to continue to influence teachers' decisions to stay in the classroom. A large majority of lead teachers (82%) remained consistent in their belief that working in an advanced teaching position with supplemental pay increased the likelihood that they would remain in the classroom. In addition, many lead teachers shared that they felt more valued, and some even noted that their advanced roles allowed them to stop supplementing their income with part-time work. Their colleagues indicated that the opportunity to collaborate with lead teachers at their school influenced their decision to continue

teaching. Administrators, however, marginally tempered their (still-high) faith in the ability of ATR programs to help them retain high-quality teachers.

Support for and Retention of Beginning Classroom Teachers

Most educators continued to believe that the pilot programs provided support for beginning teachers, particularly in LEAs that were able to provide only a limited number of other supports. Beginning teachers valued the opportunity to work with an experienced colleague on a daily basis, and lead teachers felt that they were able to provide more targeted guidance than could mentors who did not have daily contact. Not surprisingly, lead teachers who felt like they had to apportion their time across multiple responsibilities also felt like they had insufficient time to provide support for beginning teachers.

Other Impacts

The strongest recurring theme across the three years was educators' recognition of the role the pilot programs played in *establishing and strengthening a within-school sense of community*. In particular, educators reported an increase in *cross-grade cohesion* and school-wide acceptance of the importance of having a *comprehensive coaching process for all teachers*.

Recommendations and Closing Thoughts

We believe the State should move forward—cautiously and with deliberation—with finding more ways to support the development and growth of ATR programs.

The pilots with the most comprehensive set of program components² most closely address the State's evaluation criteria. While each is different, their common elements—teacher teams with vetted teacher leaders who serve as co-teachers or team leads, coupled with building-level flexibilities that allow for optimization of available resources—appear to offer the best opportunities for success. That said, these models likely will be the hardest to scale, mostly as a *result* of their comprehensiveness. The State should support efforts to streamline these models in ways that make successful adoption and implementation not only more likely but also more sustainable in the widest number of LEAs. In addition, the State can increase the likelihood of successful future implementations by:

- 1. Requiring ATR proposals to address both local needs and statewide lessons learned, and to demonstrate a commitment to collecting the data necessary to evaluate their success;
- 2. Providing recurring supplemental implementation funding;
- 3. Providing start-up funding for planning and early one-time costs;
- 4. Creating opportunities to share lessons learned across LEAs;
- 5. Providing options for LEAs to receive third-party or State technical support; and
- 6. Allowing LEAs adequate time for both planning and program maturation.

² Charlotte-Mecklenburg, Edgecombe, Pitt, and Vance

Introduction

North Carolina General Assembly Session Law 2016-94, Section 8.7, directs the North Carolina State Board of Education to evaluate the advanced teaching roles and compensation plan pilots described in that law. The law requires evaluation of several components that fall into two broad categories: *Academic and Instructional Impact*; and *Impact on the Teaching Profession*. In addition, the North Carolina State Board of Education and the North Carolina Department of Public Instruction (NCDPI) proposed evaluation components that fall into two other broad categories: *Comparative Analysis of Programs*; and *Financial and Policy Considerations*.

This report—the fourth and final in a series of evaluation reports commissioned by the State Board of Education—summarizes qualitative results from third year of the initiative and quantitative analyses from the first two years of implementation.

The Advanced Teaching Roles Pilots Initiative

Legislatively-Prescribed Goals for the Pilot Programs

Per Section 8.7(a) of the enacting legislation, the intent of the pilot programs is to (emphases added):

- 1. Allow highly effective classroom teachers to *reach an increased number of students* by assuming accountability for additional students, by becoming a lead classroom teacher accountable for the student performance of all of the students taught by teachers on that lead classroom teacher's team, or by leading a larger effort in the school to implement new instructional models to improve school-wide performance;
- 2. Enable local school administrative units to *provide salary supplements* to classroom teachers in advanced teaching roles. Selection of an advanced teaching role classroom teacher and award of related salary supplements shall be made on the basis of demonstrated effectiveness and additional responsibilities;
- 3. Enable local school administrative units to *create innovative compensation models* that focus on classroom teacher professional growth and student outcomes; and
- 4. Utilize local plans to *establish organizational changes related to compensation* in order to sustain evidenced-based teaching practices that *have the capacity to be replicated* throughout the State.

Participation and Support

The original legislation supported implementation of three-year pilots, to begin with the 2017-18 school year and conclude with the 2019-20 school year. In 2018, legislation expanded the pilot period to eight years and provided funding to support the addition of more Local Education Agencies (LEAs—North Carolina's term for school districts). For the first round of implementation, proposals from six LEAs were selected by NCDPI: Chapel Hill-Carrboro City Schools, Charlotte-Mecklenburg Schools, Edgecombe County Schools, Pitt County Schools, Vance County Schools, and Washington County Schools. After the expansion, four more

proposals were selected in 2018 for the 2019-20 school year: Bertie County, Halifax County, Hertford County, and Lexington City.³

The initial allocation for the 2017-18 fiscal year was \$7,180,000, with an additional \$3 million (\$1 million recurring for three years, 2017-18 through 2019-20) to be distributed among the three largest LEAs each year of the pilot. The disbursement of funds across the six accepted pilot programs is detailed in Table 1. Though the original six LEAs can continue their pilots through 2024-25 and can carry over any funds unspent by 2020, at this time no new state funding has been allocated for those pilot programs for the extension years.

	Total Project	Recommend-	Annua	Total		
LEA	Budget	ed Funding	2017-18	2018-19	2019-20	Funding
Charlotte-Meck.	\$ 2,645,131	\$ 1,947,995	\$257,477	\$257,477	\$182,182	\$2,645,131
Pitt	\$ 4,810,169	\$ 2,161,613	\$492,596	\$492,596	\$542,547	\$3,689,352
Chapel Hill-Carrboro	\$ 2,258,952	\$ 1,096,732	\$249,927	\$249,927	\$275,271	\$1,871,857
Vance	\$ 898,000	\$ 898,000	NA	NA	NA	\$ 898,000
Edgecombe	\$ 1,002,210	\$ 943,480	NA	NA	NA	\$ 943,480
Washington	\$ 132,180	\$ 132,180	NA	NA	NA	\$ 132,180
Total	\$11,746,642	\$ 7,180,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$10,180,000

 Table 1. Distribution of State-Provided Funding for Pilots

The extension of the initiative in 2018⁴ included additional funds for new pilots, but the terms of the evaluation were not similarly amended, so this evaluation continues to focus only on the first three years of implementation in the original six LEAs.

Purpose of the Evaluation and Evaluation Questions Addressed by the Current Report

The complete set of questions that guide this evaluation is included in **Appendix A**. This list was revised over the course of the first year of the evaluation to better reflect not only the evolution of the quantitative components of this evaluation (summarized in the *Preliminary Report* [May 2018] and explained in more detail in the **Two-Year Quantitative Estimations of Pilot Program Impacts** section of the current report) but also the evaluation team's better understanding overall of how implementation of the pilot programs has unfolded across the six participating LEAs.

This report includes updated findings for several of the evaluation questions, as well as initial findings for the Comparative Analysis and Financial and Policy Considerations questions (Questions 9 through 11; Table 2, following page). This report does not include an update of Question 8 (What do the pilot programs have in common? What are each pilot program's unique components?), which was addressed fully in previous reports. **Appendix H** includes a full matrix

³ Twelve LEAs submitted proposals for 2017-18; 13 more LEAs applied for 2018-19. Proposals from both rounds can be found here: <u>http://www.ncpublicschools.org/district-humanresources/</u>.

⁴ Session Law 2018-5, Section 7.9; funding for FY 2018-19 was increased by \$700,000 (\$500,000 recurring, \$200,000 non-recurring).

of all evaluation questions, related measurable outcomes, indicators used to measure those outcomes, data sources, and (when applicable) applied quantitative analysis methods.

Table 2. Evaluation Questions Addressed in this Report

Evaluation Question	Related Outcome(s) Available for this Report
Q1. Do advanced teaching roles improve the	Teachers demonstrate quality classroom instruction
quality of classroom instruction?	Students exhibit increased interest and engagement in class
	(Indirect) School performance scores increase over time
	Teachers exhibit value-added growth
Q2. Do advanced teaching roles increase school-wide student growth?	Students demonstrate academic growth
Q3. Do advanced teaching roles and/or related local-level salary supplements, either collectively or individually, increase attractiveness of the teaching profession?	Teachers apply for, accept, and remain in positions in participating LEAs because of the initiative
Q4. Do the pilot programs provide recognition to high-quality classroom teachers?	Schools/LEAs provide role-based incentives for lead teachers
	Schools/LEAs recruit and hire/reassign high-quality teachers for advanced roles
Q5. Do the pilot programs support retention of	Programs sustain advanced positions
high-quality classroom teachers?	The proportion of high-quality teachers at participating schools increases
Q6. Do the pilot programs provide assistance to	Lead teachers support new/beginning teachers (e.g., mentor,
and support retention of beginning classroom	planning, model strategies, etc.)
teachers?	New/beginning teachers remain in pilot school/LEA
Q7. In what other ways do these pilot programs impact high-quality experienced classroom teachers?	(Other unanticipated/ untracked program impacts ([direct and indirect])
Q9. As measured by the quantitative and qualitative outcomes of interest described above, which pilot program or programs appear to be the most successful?Q10. Which pilot programs appear to be most scalable? What resources would the State need to commit in order to successfully scale them?	
Should the State consider scaling one or more of the pilot programs?	All data gathered and results generated for evaluation questions described above
Q11. What are the costs and benefits associated with establishing advanced teaching roles? To what extent does the return on investment in establishing new compensation models that correspond with these roles (as measured by the outcomes of interest described above) justify the investment?	

Because this final report is much longer than previous reports and attempts to answer several new questions alongside updates to previous questions, we have included for the first time a series of icons to help readers quickly identify which aspects of the General Assembly's and State Board of Education's proposed evaluation criteria (reflected in Table 2, above) each section addresses (Figure 1, following page).

Figure 1. Design Component Assessment Criteria



Improvement of Classroom Instruction (Q1)



Increase in Schoolwide Student Growth (Q2)

Increase in the Attractiveness of the Teaching Profession (Q3)

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Recognition of High-Quality Teachers (Q4)



Support for Retention of High-Quality Teachers (Q5)



Support for Beginning Teachers (Q6)



Scalability (Q10)

Data and Methods

Data

Survey Data

Impacted Educators Surveys. Data were collected from all six participating LEAs via formal online surveys that were administered to advanced roles teachers, other educators directly impacted by those teachers, and school and LEA-level administrators. The surveys collected information on program impact related to teacher growth, recruitment, retention, and job attractiveness.

Educator Preparation Program Survey. To gauge the overall appeal of career ladder programs to young professionals, for this final report, the evaluation team asked teacher licensure candidates in colleges of education across the state to review short descriptions of each program (with a focus on role/position descriptions and salary/bonus schedules) to assess their relative appeal.

Teacher Working Conditions Survey. To help determine whether and to what extent the presence of the pilots may have impacted different aspects of school working conditions directly related to the pilots, the evaluation team compiled relevant spring 2016 and spring 2018 North Carolina Teacher Working Conditions survey⁵ results for pilot schools and for the schools with which they were matched for the quantitative portion of the evaluation (see *Analysis of Administrative Data* below). Data for the 2020 administration of the survey are now available online,⁶ but because they were not available in time for analysis, the comparisons included in this report are only for schools that began implementing an ATR program at the start of the 2016-17 or 2017-18 school year (that is, schools for which the spring 2016 Teacher Working Conditions survey would have been their last pre-ATR survey).

Copies of all surveys developed by the evaluation team are provided in **Appendix B**, as is a list of the Teacher Working Conditions items referenced for the evaluation.

Interviews and Focus Groups

During the third year of pilot implementation (2019-20), the evaluation team conducted a total of 28 focus groups with teachers, school administrators, and LEA-level administrators from all six participating LEAs. A total of 114 individuals participated in focus groups (Table 3, following page). The focus group protocols were designed to gather participant's perceptions and experiences of their local pilot programs. Focus groups were approximately 30 to 60 minutes in length and were conducted at school sites or at the LEA's main office. Protocols were slightly amended for Year 3 to encourage respondents to reflect on differences between the first program years and Year 3 implementation. Copies of the protocols are provided in **Appendix B**.

⁵ <u>https://asqnc.com/</u>

⁶ <u>https://2020results.asqnc.com/</u>

	Focus Group Participants							
LEA	Advanced Roles Teachers	Teacher Colleagues	Admini- strators	Total				
Chapel Hill-Carrboro	0	0	2	2				
Charlotte-Mecklenburg	11	12	3	26				
Edgecombe	7	11	3	21				
Pitt	11	20	2	33				
Vance	3	6	3	12				
Washington	5	8	7	20				
Total	37	57	20	114				

Table 3: Focus Group Participants by LEA

Administrative Data

Because many end-of-year data are not available until the late fall/winter following the previous school year, administrative data for this second interim report are from the first and second years of the pilots (2017-18 and 2018-19⁷) only. Administrative data were provided by seven partners: NCDPI and all six pilot program administration teams.

To help detect longer-term trends, data provided by NCDPI span pre-ATR and ATR school years (2013-14 through 2018-19) and include school demographics, teacher characteristics, and student achievement—all reported in aggregate at the school level.

Data provided to the evaluation team by LEA pilot administrators—also aggregated at the school level—primarily highlight features of each initiative as implemented at each participating school, such as grades impacted, number of participating teachers, and teacher application and selection data. Each LEA also provided NCDPI with teacher-level identifiers, to allow NCDPI staff to generate LEA- and cross-pilot-level averages of relevant teacher-level data for the evaluation team.

Methods

Pilot Plan and Logic Model Updates

For the *Preliminary Report*, in response to Evaluation Question 8 (**Appendix A**), the Team developed narratives for each pilot plan, along with logic models that illustrate how LEA representatives envisioned their plans working. For this report and previous reports, these narratives and models were shared with the LEAs for ongoing confirmation of their accuracy. Updates to narratives and logic models that reflect new information and changes in plans between years are included in **Appendix C**.

⁷ Since the first year for Chapel Hill-Carrboro City Schools was 2016-17, data for that year are included in outcomes analyses that include Chapel Hill-Carrboro City Schools.

Survey Data Analysis

For 2019-20, surveys were administered online between February and May 2020. Advanced roles teachers (n=261), other teachers (n=536), and administrators (n=94) from all six pilot LEAs responded to the survey. Survey data were aggregated within and across groups and were compared to results from prior years to identify emerging and changing perceptions among groups affected by the ATR programs. Results are included in **Appendix D**; selected findings also are included in the **Analysis of Year 3 Qualitative Data** section, below.

For Teacher Working Conditions survey items, the evaluation team compared results across time for ATR schools and matched schools to determine whether and to what extent there were any differences in changes in the perceptions of teachers in ATR and matched school settings. Relevant results are included in the **Analysis of Year 3 Qualitative Data** section, below.

Analysis of Interview and Focus Group Data

Interview and focus group audio from Year 1 was transcribed and coded by at least one evaluation team member, with inter-rater reliability determined prior to coding all interview data.⁸ Because the primary goal for analysis of Year 3 interview and focus group data was to determine whether and to what extent participant impressions had changed with respect to the coded themes identified in the first year, analysis of data from the 28 Year 3 focus groups was handled differently. Team members reviewed each session for indications of overall or LEA-specific stability or changes with respect to each of the seven themes identified in Year 1 (aligned with the approved evaluation questions). After this review was complete, the evaluation team integrated new data for each theme into the qualitative sections of this report.

As we did for the first interim report, in most cases, LEA identifiers for focus group quotations and supplemental descriptive passages included in the **Analysis of Year 3 Qualitative Data** section have been removed. In some situations, however, we have reinstated LEA identifications in this report in keeping with our end-goal of making recommendations about which pilots appear to be better suited for regional or statewide scale-up. The one exception in this report continues to be for some quotations from Chapel Hill-Carrboro City Schools (CHCCS) focus group participants. By the end of Year 2, it became clear that the structure and purpose of the CHCCS Advanced Teaching Roles pilot (Project ADVANCE) is significantly different enough from those of the other five pilots⁹ that inclusion of data from that LEA sometimes requires additional context. As a result, and in keeping with one of the original charges of the enacting legislation to compare the other pilots to the CHCCS program, we have continued our inclusion of a section in the CHCCS entry in **Appendix C** dedicated specifically to unique observations related to the CHCCS implementation.

⁸ 80% Inter-Rater Reliability: reliability = number of agreements/(number of agreements + disagreements); Miles and Huberman (1994).

⁹ **Appendix C** includes a details description of the CHCCS initiative.

Analysis of Administrative Data

Our methods for completing our initial analyses of the administrative data collected for this evaluation are summarized at the beginning of the **Two-Year Quantitative Estimations of Pilot Program Impact** section, with additional technical information included in **Appendix E**.

Analysis of Year 3 Qualitative Data

In this section, we use focus group and survey data collected during the 2019-20 school year to continue to address six of the evaluation questions (questions 1, 3, 4, 5, 6, and 7; Table 2, above). Since there is no common naming convention across the pilots for the various advanced roles, this report uses generic terms—"lead teachers" and "advanced roles teachers"—to signify any teacher in one of the many advanced roles. Teachers who directly work with those lead teachers are referred to as "teacher colleagues."

Do Advanced Teaching Roles Improve the Quality of Classroom Instruction?



In Year 1, focus group data suggested four ways in which the presence of the Advanced Teaching Roles pilots appeared to impact instruction:

- Enhancing the value of Professional Learning Communities/Communities of Practice;
- Increasing school-wide diffusion of best practices;
- Providing opportunities for more direct coaching; and
- Increasing the number of students who receive direct instruction from advanced teachers.

In Year 2, participating teachers (both lead teachers and the teachers with whom they worked) believed they grew in their:

- Instructional skills;
- Confidence;
- Use of data to inform instruction; and
- Ability to vertically align content and instruction across grades.

In Year 2, some teachers remained cautious about the extent to which the pilots impacted instruction, but these concerns were less pronounced than they were in Year 1.

During the third year of implementation, most lead teachers and teacher colleagues continued to believe that teaching practices at their schools had improved as a result of the pilot programs. Noting that her "school went up a whole [school performance] grade," one teacher colleague directly attributed the increase to "[lead teacher] support in the lower grades." Lead teachers shared similar sentiments:

I think this program is really working and I do believe that it has made a difference in our school. I know the data shows that it does, but I'm talking about even with the morale of the teachers. Even with the teachers' skill and their ability to feel good about themselves. So I think the program really works. (Advanced Roles Teacher)

These teachers frequently cited increased professional development, enhanced teacher selfefficacy, and more favorable student outcomes as examples of improvement. Agreement on a related item on the 2018 Teacher Working Conditions survey—"Provided supports (i.e. instructional coaching, professional learning communities, etc.) translate to improvements in instructional practices by teachers"—was higher in ATR schools than in matched¹⁰ schools.

Lead teachers also reiterated their beliefs from previous years that the pilot programs impacted both school-wide diffusion of best practices (a theme from the Year 1 report) and vertical alignment (a theme from the Year 2 evaluation report):

Being able to see sixth, seventh, and eighth grade has [helped] a lot in terms of like vertical alignment for math. . . . So now I know how to build off of it better. And then of course teaching seventh and eighth now I'm like, "Oh yeah, I've got that." So it has been helpful to . . . really understand the standards and why they are structured the way they are and how very subtly different they are from grade to grade, but then also seeing other people actually teach and being like, "Huh, I never thought of doing it like that." (Advanced Roles Teacher)

ATR survey responses suggest that administrators also continue to believe that the pilot programs improve the quality of the instruction of teacher colleagues. In Year 2, 83% of administrators (n=23) agreed that, since the implementation of the program, the quality of teacher colleagues' instruction had improved. In Year 3, more administrators from more LEAs responded to the survey, but the same large proportion (83%; n=66) agreed with that statement. In addition, in some focus groups, administrators reported "watching [their] staff grow with regards to their pedagogical prowess." One administrator attributed some of this growth to the school community as a whole—staff and students— learning how to use data to inform decisions:

I would say that they're owning the past data, and they're using the data to really inform their decisions. That's staff and students. That means that they're looking at what goalsetting really means and they're starting to take ownership of their own abilities to succeed. So while we may [have been] a failing school in the past, they're looking at the data and ways to improve across the board. They understand what their data means and they're internalizing the data to better. (Administrator)

Do Advanced Teaching Roles and/or Related Local-Level Salary Supplements Increase the Attractiveness of the Teaching Profession?



Year 1 focus group data suggested that the pilots appeared to contribute to the attractiveness of the profession in three ways:

- The opportunity they provide classroom teachers to be in an official leadership role;
- The addition of an advancement pathway that does not require leaving the classroom and entering administration; and
- Financial recognition of the less directly observable leadership work many of the advanced roles teachers already are doing.

¹⁰ Matched schools refers to the non-ATR schools identified as statistical matches for the purposes of our quantitative analyses. See **Appendix E** for details about our matching procedures.

In the second year, many teachers continued to indicate that a combination of the availability of advanced roles and the salary supplement made participation in the pilots attractive. In addition, administrators added that the pilots helped them recruit and retain not just lead teachers but also a stronger team of teachers overall.

During the third year of implementation, salary supplements continued to make participation in the pilots attractive for some teachers; however, the extent to which salary motivated teachers appeared to vary. Many lead teachers acknowledged that their advanced role was, as one teacher put it, "a lot of extra work." Like most educators, lead teachers already were managing multiple priorities with limited time *before* they assumed their leadership roles, and the advanced roles require even more time and planning. However, the bump in compensation encouraged some lead teachers to devote the extra time and prevented their new responsibilities from feeling like "just another task."

I think the money is very important. I think that, without the money, it becomes just one more thing. I think the money . . . sets it apart. . . . When my group meets together, we love to meet together. Every time we meet together, we wish we could meet together more. We enjoy the collaboration but I don't know that any of us would be there without the money, because teachers are already so strapped out with what they're doing. So I think an incentive—not just a "Here's \$100;" I mean they've put good money behind it here— . . . makes you feel appreciated. (Advanced Roles Teacher)

For other lead teachers, the pay differential helped them feel valued for their increased work and contributions, to the point of making them feel like their roles had become professionalized. One lead teacher said that the supplemental pay made her feel comparable to professionals in other career fields who "get raises [or promotions] every year." On the survey of students in educator preparation programs across the state, preservice teachers shared similar sentiments; as one respondent reflected, "In other jobs, you can work up the ladder. I don't see why teaching can't be the same way. Also, more pay is always better, in my opinion, even if it comes with more responsibility."

Although they were generally appreciative of the pay differential, it is important to note that a growing segment of lead teachers did not believe the salary supplements were adequate for the amount of work expected of them. For example, when asked on the survey if their supplemental pay was adequate, 79% of lead teachers (n=243) strongly agreed or agreed, but that proportion was down from 92% of lead teachers (n=98) in Year 2. In focus groups, some lead teachers recommended more nuanced funding allotments to compensate lead teachers with especially heavy workloads, such as those who serve in more rural LEAs or who serve a larger proportion of beginning teachers.

When you're coaching beginning teachers, or teachers with poor management, the time needed to coach those teachers is immense. I don't know that the pay allocation [takes that into consideration]. [The roles look] the same on paper because it says [this teacher] has three [teacher colleagues], she has three, [and] she has three, but . . . your three team teachers . . . look very different in [terms of] years of experience. . . . [A] rural community [may be] completely saturated with beginning teachers . . . [who] have no education background. (Advanced Roles Teacher)

Teacher colleagues' perspectives about salary supplements remained mixed. For teacher colleagues in LEAs with modest increases in compensation for lead roles, the increase did not appear to enhance the attractiveness of those roles, though teachers did indicate that they appreciated that the roles came with at least some salary supplement. In other LEAs, teacher colleagues appeared to be somewhat more motivated by the lead teacher salary supplements:

[The salary supplement] gives . . . teachers something to look forward to, because as a teacher, you don't have much to step up to. . . . I feel that [for] newer teacher, sometimes [the supplement] can give them kind of a motivation . . . to want to achieve and to kind of just be a leader. . . . (Teacher Colleague)

It is important to note that the salary supplement may not be the primary attractive aspect of the pilot programs for many teachers. For example, teacher colleagues were more likely to agree that the opportunity to provide support for other teachers at their school was more attractive to them than was the pay supplement (47.9% vs 19.5%, n=338), though they also indicated that the specific prospect of eventually having an opportunity to earn supplemental pay was more likely to influence their decision to remain in teaching than was the more general prospect of having the opportunity to become a lead teacher (64.2% vs 52.9%, n=327).

Finally, though less pronounced than it was in Year 1, there is still a subset of teacher colleagues who were not supportive of pay differentials for lead teachers—and lead teachers feel this lack of support. As one lead teacher explained, "I feel like [the supplement] breeds resentment towards the program. That's why I feel like I'm constantly [feeling] like, 'Let me prove myself.'"

Do the Pilot Programs Provide Recognition to High-Quality Classroom Teachers?

In the first year of the program, lead teachers, their colleagues, and administrators all indicated that the selection process for advanced teaching roles was rigorous, but some teachers questioned whether the process might be *too* rigorous, excluding applicants with strong leadership potential.

In the second year, some educators suggested that lead teacher selection criteria might identify some of the best *teachers*, but not necessarily the best *leaders*. Quantitative evidence supported these concerns: Application-year Educator Value-Added Assessment System (EVAAS) scores were higher for successful applicants than for unsuccessful applicants, but application-year leadership ratings for successful applicants appeared to be similar to ratings for unsuccessful applicants. In terms of EVAAS scores only, the candidate pool appeared to strengthen between 2016-17 and 2017-18.

During the third year of implementation, a large majority of administrators, lead teachers, and teacher colleagues (85% overall) continued to agree that the pilot programs identified high-quality teachers,¹¹ but focus group data suggest that perceptions about the selection process remained mixed. For example, concerns remained about whether the lead teacher selection

¹¹ Changes in school-level Teacher Working Conditions survey responses also indicate that the presence of ATR programs may improve perceptions of teacher recognition: The gap between ATR and matched school responses in the proportion of educators who agreed with the item, "The faculty are recognized for their accomplishments," widened between 2015-16 and 2017-18—especially in the four LEAs with similar programs.

criteria identify the best potential *leaders*; as one lead teacher put it, "[D]ealing with adults is very different than with children. You have excellent teachers[, but] they do not always make excellent coaches." A teacher colleague elaborated:

High test scores don't always mean that you're a good coach either. [You must be] understanding and open, too. You got your results from [teaching] this way, but I'm a totally different person than you. So [you must understand this is] also a coaching position—you can't just always be telling someone, "This is the right way, this is the right way." Just because it's your way doesn't mean it's the only way. [It's important to take] into account that it is a coaching job. Just because your test scores are great . . . doesn't always [equate with being] a great coach. (Teacher Colleague)

A smaller proportion of educators also wondered whether strict adherence to lead teacher selection criteria always resulted in identifying the best teachers. As an example, one teacher raised the issue of requiring "Exceeds Growth" as a criterion, when meeting that criterion in any given year sometimes is influenced by factors outside of a teacher's control (such as the "fit" between a teacher and her or his cohort of students).

Perhaps more problematic were instances of teacher colleagues who were largely unaware of the selection process for advanced roles—a carry-over issues from previous years. While most teacher colleagues agreed with the identification of the lead teachers in their schools, ambiguity about the selection process led others to question whether the best candidates had been selected. A secondary concern is that an incomplete grasp of the lead teacher identification process may keep some teachers with leadership potential from applying.

I think before I went through the process of applying . . . for the program, it was more me not understanding what the requirements were. And so for me it would be like, "Okay, I don't really know about this teacher being placed in that position. . . . [M]aybe they aren't as qualified," because I didn't really understand what those qualifications were. So I think [more] transparency around those qualifications would help a lot of people. (Teacher Colleague)

LEAs have not remained stationary, however, in their approaches to identifying lead teachers but instead have made adjustments across the three years in response to this feedback. For example, one LEA altered its selection criteria so that it could recruit more broadly, and it also refined and clarified its expectations for advanced roles. Lead teachers in this LEA were pleased with the pivot: "I think they've done a really good job from the first year to now. You can tell they're really accepting feedback and trying to refine the process and what the expectations are of us." In another LEA, lead teachers noted that new selection criteria made the application process even more competitive:

I think each year they add a layer of complexity into the screening process. . . . I think people are starting to now know what [advanced roles are] and they want to be [a part of it]. (Advanced Roles Teacher)

Do the Pilot Programs Support Retention of High-Quality Classroom Teachers?

While the variety of pressures and reasons that motivate a teacher to leave education are difficult to overcome with a single initiative, in Year 1, lead teachers reported that the pilots may have increased their willingness to stay in the classroom, rather than transition to a different role, such as administration. Teacher colleagues were less certain of the pilots' ability to single-handedly improve retention. Year 2 focus groups with teachers and administrators provided additional evidence that, for many teachers, access to advanced teaching roles gave them more reasons to stay in the classroom. Teachers not in leadership roles also indicated that the presence of the pilots influenced their decision to stay in teaching, as well as their motivation.

During the third year of implementation, the pilot programs appeared to continue to influence teachers' decisions to stay in the classroom. Based on Year 2 and Year 3 survey responses, a large majority of lead teachers remained consistent in their belief that working in an advanced teaching position with supplemental pay increased the likelihood that they would remain in the classroom (82% each year). In Year 3 focus groups, lead teachers often described how the career advancement, compensation, and recognition provided by their advanced role all gave them a reason to stay.

I think it helps with teacher retention. You have the opportunity to advance and there is financial gain and there's knowledge gain. You're more likely to stay in the profession as opposed to completely leaving it for moving into administration or something that's not a direct impact on the classroom. (Advanced Roles Teacher)

I'm grateful. I don't think I would stay in teaching and be putting in as much if I didn't feel like I was being compensated fairly for the amount of work that I put in. So I'm really grateful to have it and to be able to keep growing. It's been nice to have vertical growth in a profession [in which before] I felt like, "Oh, I have to either be an [administrator] or I have to be a teacher." (Advanced Roles Teacher)

In addition, many lead teachers shared that they felt more valued and less burnt out as a result of their advanced roles, and some even noted that their advanced roles allowed them to stop supplementing their income with part-time work.

As noted in a previous section, pilot programs also may have influenced other teachers' decisions to stay in the classroom. In Year 2, 63% (n=131) of teacher colleagues agreed that the opportunity to collaborate with lead teachers at their school influenced their decision to continue teaching. In Year 3, that figure rose by over 10 percentage points (74.5%, n= 330). In their Year 3 focus groups, teacher colleagues explained the importance of collaboration to them by sharing how their lead teachers' support helped them feel more connected to their school community.

Teaching is a profession where you can feel like you are just drowning or falling, and there's no one to help. There's no one. So having somebody just to come in the room and just say, "Hey, do you need [anything]?" (Teacher Colleague)

Lead teachers also believed that their roles affected their colleagues' retention. One lead teacher shared that her teacher colleagues "can't imagine teaching anywhere else without a coach now."

Consistent with changes in their impressions about other outcomes highlighted in our series of evaluation reports, administrators appeared to wane somewhat in their belief about the ability of ATR programs to help them retain high-quality teachers. In Year 2, 96% of administrators (n=22) strongly agreed or agreed that their pilot program was having a positive impact on the overall retention of teachers in their school or LEA; however, in Year 3, the proportion—while still high—dropped to about 83% (n=65). The difference here and for other administrator survey responses may be attributable in part to the larger sample size in Year 3, but it also may illustrate changes in administrators' nuanced understanding of the multiple factors that motivate teacher decisions to stay in or leave education.

Do the Pilot Programs Provide Assistance to and Support Retention of Beginning Classroom Teachers?

We noted in Year 1 that most pilots did not appear to be designed explicitly to provide support for beginning teachers, and lead teachers acknowledged that such support occurred as part of the regular cycle of support in their schools anyway, even without the pilots. Even so, though not a strategic focus for most of the pilots, it appeared that the program did in fact support beginning teachers. For instance, in Year 1's survey, 70% of lead teachers and 61% of teacher colleagues either agreed or strongly agreed with the statement, "I believe the program provides adequate support to beginning teachers."

Relative to Year 1, in Year 2, more teachers believed that the program provided support for beginning teachers. Beginning teachers who worked with lead teachers believed that they were better prepared and that they were improving more quickly than they would have on their own; however, it was not clear whether the support provided justified the cost, relative to the cost of other available support options for beginning teachers.

During the third year of implementation, most educators continued to believe that the pilot programs provided support for beginning teachers, particularly in LEAs that were able to provide only a limited number of other supports. Beginning teachers who had benefitted from access to lead teachers for two or more years described how the sustained support during their first years in the profession helped them improve:

I have been with my coach for three years, and she started coaching me when I was a brand-new teacher. Her coaching really shaped my behavior management, and just some of the basic instructional strategies that I use every day." (Teacher Colleague)

Other teachers noted that working with a lead teacher helped reduce the time beginning teachers typically need for lesson-planning, because lead teacher were able to share vetted activities and other curriculum supports. In addition, educators continued to believe that beginning teachers with lead teacher support made gains more quickly than they would have without a lead teacher.

We've seen some teachers really bloom. I mean, we got a second-year teacher down there who's just phenomenal... She's one of the best teachers I have ever seen. She's going to end up being top-notch. I eventually see her in a role like this... I don't think [she

would have been as good in her second year without ATR]. I think she would have had the work ethic and tried but I don't think she would be where she is now. . . . I think she'd have been a great teacher, but I think she's had that push to be even better, faster. (Administrator)

I think it's huge for these first-year teachers to have a coach. Like [another lead teacher] was saying, her first-year teacher last year was able [not only] to exceed growth, or get expected growth, but then also be one of the top teachers in the state and in the county. And I wholeheartedly believe that wouldn't have happened if she wasn't her coach last year. So . . . our new teachers [are] getting better faster, they're more equipped to be able to affect these students. (Advanced Roles Teacher)

Year 3 was the first year that teachers commented on ways in which they believed the pilots were superior to other new teacher support options. Teacher colleagues valued the opportunity to work with an experienced colleague on a daily basis, and lead teachers felt that they were able to provide more targeted guidance than could others who did not have the opportunity to work alongside the beginning teachers every day. Several veteran teachers added that they would have liked to have had access to such a program during their first years in the profession.

This is a more personal relationship. (Teacher Colleague)

[There is no comparison between] what they said I would get [from other programs and] what I actually get on a consistent basis having the coach. (Teacher Colleague)

[I participate in my LEA's] onboarding process of new teachers, [in which we] start[] to survey them and prime them for what their goals are in education. [It's a]lmost like we have a mentor program, but it's very ineffective and really it just puts out fires, if at all. You only see them once every three months. What does that really do? But [in] a school-level type environment . . . you could start talking to teachers about their goals and aspirations in education and then start giving them individualized pathways. . . . "Do you want to be Nationally Board Certified? Do you want to continue in your grade level? Would you like to have a realm of grade-level span knowledge? Do you want to be a [lead teacher]? . . . Would you like to be an administrator? Do you want to go into law?" There's a lot of things in education that teachers just don't know. I think they're quickly leaving the profession because they think that it's only teaching. (Advanced Roles Teacher)

As is true for many of the outcomes discussed in our series of evaluation reports, the degree to which the pilots provided benefits for beginning teachers depended on each program's design. In LEAs in which lead teachers felt like they had to apportion their time across several responsibilities, those same teachers not surprisingly felt like they had insufficient time to provide support for beginning teachers: "On a scale of one to five, I'd say [the support for beginning teachers] was probably a three to four. . . . They don't have time because they're involved in their own instructional courses. So their time that they can spend with them is limited." (Administrator)

In What Other Ways Do These Pilot Programs Impact High-Quality Experienced Classroom Teachers?

In Year 1, the evaluation team summarized several potential impact areas outside of those targeted by the original legislation, including: lead teacher satisfaction with *professional development, resources, and support*; increased lead teacher *awareness of variability in instructional quality* across their schools; and increased *leadership confidence* among teachers and administrators. Focus groups in Year 1 also shared that some pilots had trouble fully staffing all of their new positions before starting up, and that they experienced some variability in the quality of those who took on some of the available roles. In Year 2, the evaluation team continued to track these areas (especially growth in lead teachers' feelings of *empowerment* and *confidence in their leadership*¹²), and also made note of new developments, both positive and negative, including: perceptions of improvement in *overall school culture and community* as a result of the pilots; less-than-unanimous support for differentiated pay among teachers not in lead roles;¹³ possible mismatches between selection criteria and leadership expectations;¹⁴ and uncertainty among some teachers not in lead roles about the overall purpose of the initiative.

The evaluation team continued to track all of these themes in Year 3, but the strongest recurring theme across the three years was educators' recognition of the role the pilot programs played in *establishing and strengthening a within-school sense of community*. Participating teachers and administrators alike identified two key ways in which the pilot programs helped to foster a sense of community. First, they reported an *increase in cross-grade cohesion*—a cohesion above and beyond that generated by the typical within-grade team arrangement. As noted above and as examined in greater detail in the Year 2 report, this cohesion manifested most prominently in the development of stronger vertical curriculum alignment as a result of the increased amount of cross-team connections that resulted from the intentional pairing of lead teachers with teacher colleagues. The posited that establishing shared norms both within-grade and across grade unifies the entire school community and helps to ensure that all students are similarly prepared for next grade.

It's really just kind of created this cohesiveness where we are actually all planning and doing things more—like a lot more work together. Everyone's not hodgepodge doing everything [separately].... So I feel like, as a whole, our whole team is honestly working together more, doing things that are for the best interests for children and then sharing it so that everyone [is] impact[ed]. So ... for the greater good of the students, I feel like my role has helped kind of solidify a sense of unity with our team. (Advanced Roles Teacher)

Everybody is interpreting the assessment the same way and grading it the same way.... So if we are talking about it in grade level or in [cross-grade Community of Practice] or outside of my room, we're all talking about the same thing. Because I would say five or more years ago I didn't necessarily think about it like that as much.... I mean, we

¹² While this area did not come up as often in Year 3 focus groups, it was reinforced by Year 3 survey results, with nearly 96% of lead teachers agreeing that their participation in an ATR program helped them to improve their ability to lead other teachers.

¹³ A topic we carried forward for this report but now embedded above in the section on salary supplements.

¹⁴ Another topic carried forward for this report but now embedded above in the section on providing recognition to high-quality teachers.

worked together, don't get me wrong, but . . . we just weren't as mindful of, "Well, if she's teaching it in her classroom and I'm teaching it in mine, then when they go to the next grade it needs to be similar." Not robotic, because she's a different teacher than I am, but it needs to be similar enough that they're carrying the same knowledge to the next grade level. Which is powerful to grasp and see. (Advanced Roles Teacher)

The second way in which the pilot programs helped to foster a sense of community was their support for school-wide acceptance of the *important role that a comprehensive coaching process can play* in fostering that sense of community. In many schools, the pilot programs have helped to normalize the concept of coaching by building partnerships among lead and collaborating teachers and encouraging continuous improvement for all teachers. For instance, when asked whether engaging with a lead teacher changed her perception of being a teacher, one teacher colleague responded:

Definitely, because I could see, "Okay, now I can ask this person for help," and I don't have to do everything on my own, and think that, you know, "Oh I'm perfect, I'm fine just the way I am." I can continue to improve. I can continue to work on things. And I'm sure, even when I have 16 years [of] experience, I can continue working on stuff. (Teacher Colleague)

These sentiments were echoed by one administrator as she reflected on the entire three-year experience:

[ATR] has changed the culture in general in all of our schools.... I think it has created across the district the idea [that] *everyone* needs and deserves a coach, [needs and deserves] to be coached up.... Coaching is [no longer] viewed as [being just for] someone who has a deficiency and therefore they need a coach. (Administrator)

Two-Year Quantitative Estimations of Pilot Program Impacts

During the first pilot year, ahead of the availability of quantitative data, evidence of the impact of the pilots on teacher effectiveness and student growth primarily was anecdotal, but promising. As we noted in a previous report, one lead teacher exclaimed at the time, "We made tremendous growth this year; we had not met our proficiency that we hoped to meet, but as far as growth measurements and our . . . tested subjects, it was remarkable how much growth the students made, and it made it possible to know that the effort that [we]'re putting forth was making [a difference]." When asked if she believed that this growth could be attributed to the new roles available via the pilot, she responded, "Absolutely!"

For last year's report, with student outcome data available from the 2017-18 school year, the evaluation team was able to introduce a quantitative lens alongside the ongoing qualitative work to help determine if, indeed, the presence of advanced teaching roles appears to have had a measurable impact on teacher effectiveness and student performance outcomes. In general, our quantitative analyses of one-year-out data indicated that one-year changes in student performance were larger for ATR schools on the whole than they were for comparison schools, but that the differences often were not statistically significant and were not consistent across all ATR schools.

For this year's analyses, with the availability of data from the 2018-19 school year, the team was able to generate estimates in which we have a somewhat greater degree of confidence, since they now represent multiple years of implementation. Even so, the evaluation team still urges that *all quantitative outcomes included in this report continue to be considered preliminary results only*—in most cases, they are two-year, school-level estimates only, not student- and teacher-level trend data across three or more years (see **Appendix E**). We incorporate highlights of our analyses into this section; full results are included in **Appendix F**.

Quantitatively Addressing Similarities and Differences across LEA Implementations

As we have cautioned in every previous report, there are significant challenges associated with attempting to quantify the impact of the advanced teaching roles initiative (**Appendix E**). Without a truly experimental design (one in which participating LEAs, schools, and even teachers and students are randomly selected to participate), at least some (if not the majority) of any impact detected might be attributable to other initiatives and/or overall school changes, and not just to the presence of an advanced roles program. In addition, differences in implementation fidelity across and within LEAs also can impact estimates (Backes and Hansen 2018). Finally, bear in mind that we are looking not at implementations of the same program in different settings but instead at implementations of *different* (though sometimes related) programs in different settings—with some differences even evident across schools within LEAs.

That said, while there are several structural and implementation differences across the pilots—to be expected, given the experimental nature of pilots in general—Table C1 (**Appendix C**) also identifies important similarities across several programs. We used these similarities in the previous report to aid in our team's efforts to conduct what we believe were useful, if limited, initial estimations of variations in some of the quantifiable impacts of the pilot programs. We

continue to believe that the similarities across four of the six pilots is pronounced enough to continue to warrant analyses not just of the combined data across all six LEAs but also of the four LEAs with the greatest implementation similarities (Charlotte-Mecklenburg [CMS], Edgecombe [ECPS], Pitt [PCS], and Vance [VCS]) Hence, school-level results included in this section once again are reported for data from all six LEAs and for data from the four similar LEAs.

Quantitative Analysis Methods

For this year's analyses, we again rely on the same general analytic procedure we used last year—a difference-in-differences (DD) model using a matched sample of schools—but this time we have added the ability to control for school fixed effects (school-level characteristics that do not change from year to year but that still affect outcomes), as well as a separate variable for each year of outcome data included in our analyses.¹⁵ While data limitations (detailed in a Technical Appendix **E**]) prevented us once again from using a full Interrupted Time Series (ITS) analysis as originally planned for this last phase of the evaluation (which would have allowed for a more robust assessment of differences in multi-year *trends* for ATR schools versus comparison schools),¹⁶ the additional variables included this year helped us incorporate some of the key aspects of an ITS model, despite our data limitations. As a result, our analytic approach allows us to start to draw some preliminary conclusions about the impact of the ATR initiative over time.

Because at the time of the development of the previous report we had only one year of outcome data available (outcomes from 2017-18) for most of the pilot schools,¹⁷ statistical analyses conducted for that report were one-year-change analyses. All other analyses were observational only and did not involve statistical estimations; we continue to report observational-only analyses in some cases in this report as well.

Do Advanced Teaching Roles Increase Schoolwide Student Performance?

For this report, we once again examined two school-level student performance variables. The first was the overall **School Performance Grade** score, which is the value used to generate the annual School Report Card grades. It is based on a weighted average of school-level achievement (80%) and school-level growth (20%). The second was the achievement portion only—the **School Performance Composite** score—which is the proportion of all End-of-Grade or End-of-Course English/Language Arts, mathematics, and science tests taken at a given school on which students demonstrated grade-level proficiency or better.

¹⁵ For example, for schools that started their ATR initiative in School Year 2017-18, we include a separate variable for several pre-ATR years (SY 2014-15, 2015-16, and 2016-17) and for each post-ATR year (2017-18 and 2018-19), which helps us to detect changes for each post-ATR year separately, rather than just general changes for all years combined after the introduction of ATR.

¹⁶ For more on ITS, please see the technical appendix (**Appendix E**).

¹⁷ Because CHCCS began implementation a year ahead of legislative support (2016-17), two-years-out data were available as well as one-year-out data. Acknowledging the programmatic differences noted in the **Data and Methods** section, and in keeping with the availability of only one-year-out data for the other five LEAs, only CHCCS data from 2016-17 were included in last year's one-year-out group analyses; CHCCS data from 2017-18 has been incorporated in this year's two-years-out analyses.

School Performance Grade. When considering raw results alone for all six LEAs, students in the ATR schools do appear to have been more likely to exhibit positive changes in performance after both one year and two years of implementation than were their counterparts in matched schools (Table 4).

		Change (Count)				Change (Proportion)			С	Change (+/-10 Pt:				
All Scho	ols	Increase	No Change	Decrease	Total	_	Increase	No Change	Decrease		Gained 10 or More Points	Dronnod 10 or	n nt naddn in	
1-Year	ATR	40	8	11	59	_	68%	14%	19%	4	1 79	% 0)	
Change	Matched	160	30	161	351		46%	9%	46%	17	7 59	6 8	,	
2-Year	ATR	36	1	22	59		61%	2%	37%		129	% 0)	
Change	Matched	170	21	160	351		48%	6%	46%	23	3 79	6 23	,	
Schools	with Simila	r Prog	rams'	A		=								
1-Year	ATR	28	3	7	38		74%	8%	18%	۷	119	6 0	1	-
Change	Matched	119	21	118	258		46%	8%	46%	13	3 59	6 7		
2-Year	ATR	28	0	10	38		74%	0%	26%	(5 16 9	% 0)	
Change	Matched	125	16	117	258		48%	6%	45%	19	9 79	6 16	,	

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[^]Excludes ATR schools in CHCCS and Washington County Schools (WCS) and their unique matches

Two-thirds (68%) of all ATR schools showed one-year increases, with only about one in five (19%) declining. Among all matched comparison schools, less than one-half (46%) showed increases, and about the same number (46%) declined. The proportion of schools whose Performance Grade scores improved 10 or more points was less distinct, with 7% of ATR schools (greatest gain=17 points) and 5% of matched schools (greatest gain=17) meeting that standard. Only matched schools saw drops of 10 or more points, however. Gains were more pronounced for schools in the four LEAs with similar programs. Almost three-fourths of that sub-set of ATR schools (74%) showed increases, and less than one in five (18%) declined.

Results for two-year changes were similar but not as stark, suggesting that at least some of the ATR schools gave back some of their initial, Year 1 gains. Slightly fewer (61%) ATR schools showed net increases after the second year, and a little more than one-third (37%) showed net losses. Results remained relatively stable for matched schools, with only a few more (48%) showing net two-year increases, and nearly the same number (46%) losing ground across two years. However, the proportion of schools whose Performance Grade scores improved 10 or more points was more distinct across two years, with 12% of ATR schools (greatest gain=17 points) but only 7% of matched schools (greatest gain=17) meeting that standard. Matched

schools were again the only schools that saw drops of 10 or more points, with more falling below that line after two years (about 7%). As with one-year results, two-year gains were more pronounced for schools in the four LEAs with similar programs. The same number of that subset of ATR schools (74%) showed two-year increases as had shown one-year increases, though a few more (about one in four) (26%) declined.

In several cases, the differences in overall performance reported above were statistically significantly different, but only for one-year increases, whether considering the entire group of schools or just the sub-set of schools with similar programs. Two-year increases were not statistically significantly larger for either group (Table 5).

		Coefficient	Std. Error	t-Statistic	p-Value
All Schools	Elementary Only				
	1 Year Out	2.67	0.92	2.90	0.00
	2 Years Out	1.03	1.05	0.98	0.33
	Elementary and Middle				
	1 Year Out	2.29	0.80	2.86	0.00
	2 Years Out	0.74	0.98	0.75	0.45
	High School				
	1 Year Out	0.49	0.89	0.55	0.58
	2 Years Out	0.78	1.34	0.58	0.56
w/o CHCSS,	Elementary Only				
WCS	1 Year Out	3.22	1.37	2.36	0.02
	2 Years Out	2.40	1.39	1.72	0.09
	Elementary and Middle				
	1 Year Out	2.89	1.18	2.44	0.02
	2 Years Out	2.29	1.25	1.83	0.07
	High School				
	1 Year Out	2.26	1.00	2.26	0.03
	2 Years Out	1.98	1.67	1.19	0.24

Table 5. Chang	e in Schoo	l Performanc	e Grade Score,	1 and 2 Years Out
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School Performance Composite. In many ways, the School Performance Grade is a somewhat crude measure and only begins to tell us some of the story, primarily because it is an artificial and arbitrarily-weighted combination of two slightly more precise but very different measures—the proficiency-based School Performance Composite (80%) and the growth-based School Accountability Growth Score (20%). To get a better sense of what is happening behind the changes in School Performance Grade values, we look at its two components separately, starting here with the Performance Composite measure of proficiency.

The most notable outcome of our analyses of one- and two-year changes in the Performance Composite measure is that, while they are larger for ATR in all but one case, almost none of those differences are statistically significantly different (Table 6, following page).

		Coefficient	Std. Error	t-Statistic	p-Value
All Schools	Elementary Only				
	1 Year Out	1.97	0.99	1.99	0.05
	2 Years Out	1.43	1.09	1.32	0.19
	Elementary and Middle				
	1 Year Out	1.50	0.85	1.76	0.08
	2 Years Out	1.08	1.08	1.00	0.32
	High School				
	1 Year Out	1.48	1.15	1.28	0.20
	2 Years Out	-2.12	2.31	-0.92	0.36
w/o CHCSS,	Elementary Only				
WCS	1 Year Out	2.35	1.49	1.58	0.12
	2 Years Out	2.94	1.52	1.93	0.05
	Elementary and Middle				
	1 Year Out	1.93	1.25	1.54	0.13
	2 Years Out	2.82	1.43	1.97	0.05
	High School				
	1 Year Out	2.56	1.58	1.62	0.11
	2 Years Out	2.16	1.67	1.29	0.20

 Table 6. Change in School Performance Composite Score, 1 and 2 Years Out

To help illustrate why these differences in changes are for the most part not statistically significant, we also share graphically the one- and two-year raw differences in Performance Composite scores between the ATR and matched schools. As demonstrated in Figures 2 and 3 (following pages), the proportion of schools in each growth range (from positive changes of 20 or more points to negative changes of 20 or more points) typically is more favorable for ATR schools, but not always so—particularly once we examine two-year changes. Of note, however, the results are more favorable for the subset of ATR schools with similar programs (Figure 3).

In other words, proficiency does tend to increase more for ATR schools than for matched schools, on average, but not universally so, and the effect appears to tail off somewhat after the first year. Without at least a third year of data, however, we are not able to conclude whether this tailing off is a sustained trend; we urge the State to continue to monitor the outcomes for ATR schools once additional data become available.¹⁸

We believe it is important for all readers to take note that, on all of our measures of interest, being an ATR school does not always equate with a score increase. As we have cautioned in previous reports, and as is true of any education initiative, the presence or absence of ATR alone does not guarantee certain outcomes. Some of the findings in our **Analysis of Year 3 Qualitative Data** section above help to explain why.

¹⁸ Readers are reminded that, because of the coronavirus outbreak in spring 2020, no 2020 end-of-year testing was completed, so for most of the original ATR pilot schools, there will be no Year Three data. Analyses of a three-measurement trend, with caveats, should be possible after the 2020-21 school year, assuming testing resumes.

Figure 2. 1- and 2-Year Changes in Performance Composite Scores (All ATR Schools)



1-Year Change in Performance Composite Scores (All Schools)

ATR Schools
Matched Schools





Note: Figures exclude five ATR schools that were unable to be matched and were removed from the analyses.

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Figure 3. 1- and 2-Year Changes in Performance Composite Scores (Excluding CHCCS and WCS)





ATR Schools Matched Schools





Note: Figures exclude five ATR schools that were unable to be matched and were removed from the analyses.

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Do Advanced Teaching Roles Improve the Quality of Classroom Instruction?

So, if overall proficiency rates are only slightly better for ATR schools, what accounts for the statistically significant improvements (at least, for one-year-out changes) demonstrated in Table 5 above? As indicated in the Theory of Change model (**Appendix G**), the evaluation team has theorized from the start of the initiative that, before we might see any strong evidence of changes in student academic achievement across all of the ATR schools as a whole, we first would expect to see changes in some of the outcomes that eventually could contribute to student academic success, such as improvement in teacher quality.

One way to begin to tease out possible impacts of ATR on teacher quality is to look at the other component of the overall School Performance Grade—the **School Accountability Growth** score, which estimates the degree to which educators helped students meet or exceed their anticipated achievement levels, as predicted by achievement from prior years. Readers are reminded that the *growth* measure helps us see how much ground students cover in an academic year—not whether or not that growth was strong enough to lead to proficiency.

For this measure, the differences in the positive changes are large and statistically significant in several one-year-out scenarios (Table 7); however, the difference in the magnitude of change between ATR schools and matched schools is much less prominent for Year Two outcomes and is no longer statistically significant.¹⁹

	Coefficient	Std. Error	t-Statistic	p-Value
Elementary Only				
1 Year Out	4.85	1.33	3.64	0.00
2 Years Out	0.94	1.75	0.54	0.59
Elementary and Middle				
1 Year Out	4.95	1.40	3.54	0.00
2 Years Out	0.37	1.63	0.23	0.82
High School				
1 Year Out	1.87	1.95	0.95	0.34
2 Years Out	3.04	3.28	0.93	0.36
Elementary Only				
1 Year Out	5.56	1.71	3.25	0.00
2 Years Out	1.83	2.16	0.85	0.40
Elementary and Middle				
1 Year Out	5.89	1.93	3.05	0.00
2 Years Out	1.13	1.97	0.58	0.56
High School				
1 Year Out	3.59	2.58	1.39	0.17
2 Years Out	1.79	4.40	0.41	0.68
	Elementary Only 1 Year Out 2 Years Out Elementary and Middle 1 Year Out 2 Years Out High School 1 Year Out 2 Years Out Elementary Only 1 Year Out 2 Years Out Elementary and Middle 1 Year Out 2 Years Out High School 1 Year Out 2 Years Out High School 1 Year Out 2 Years Out	Coefficient Elementary Only 1 Year Out 4.85 2 Years Out 0.94 Elementary and Middle 4.95 2 Years Out 0.37 High School 1 1 Year Out 1.87 2 Years Out 3.04 Elementary Only 1.87 2 Years Out 3.04 Elementary Only 5.56 2 Years Out 1.83 Elementary and Middle 5.89 2 Years Out 1.13 High School 1.13 High School 1.13 High School 1.79	Coefficient Std. Error Elementary Only 1Year Out 4.85 1.33 2 Years Out 0.94 1.75 Elementary and Middle 1Year Out 4.95 1.40 2 Years Out 0.37 1.63 High School 0.37 1.63 High School 1.95 2 Years Out 2 Years Out 1.87 1.95 2 Years Out 3.04 3.28 Elementary Only 1.83 2.16 Elementary and Middle 1.93 2.16 I Year Out 5.89 1.93 2 Years Out 1.13 1.97 High School 1.13 1.97 High School 1.19 2.58	CoefficientStd. Errort-StatisticElementary Only1 Year Out4.851.333.642 Years Out0.941.750.54Elementary and Middle1 Year Out4.951.403.542 Years Out0.371.630.23High School11.871.950.952 Years Out3.043.280.93Elementary Only3.043.280.93Elementary Only11.871.950.952 Years Out3.043.280.93Elementary Only1.832.160.85Elementary Only1.832.160.85Elementary Only1.832.160.85Elementary Only1.832.160.85Elementary Only1.832.160.85Elementary Only1.832.160.85Elementary and Middle5.891.933.052 Years Out1.131.970.58High School1.131.970.58High School1.794.400.41

Table 7. Change in School Accountability Growth Score, 1 and 2 Years Out

¹⁹ Here and in earlier tables, the lack of statistical significance with respect to the one- and two-year-out high school results may have less to do with differences in the impact of the initiative on higher grades than it does with the relatively smaller number of ATR high schools and the typically smaller footprint most ATR programs have in high school settings, relative to smaller school settings. While true for all school levels, more comprehensive, student- and teacher-level analyses would be particularly beneficial for future efforts to estimate ATR impact in high schools.

Not unexpectedly, then, the raw differences between changes in growth scores for ATR schools and changes in growth scores for matched schools are more pronounced than they were for changes in proficiency. Even though not statistically significantly so and often less prominently so, these differences tended to hold up in Year Two, unlike differences in two-years-out changes in proficiency scores (Figures 4 and 5, following pages).

What School-Level Measures Do and Do Not Tell Us about the Impact of Advanced Roles

The statistically significant Year One overall positive changes noted in Table 5 (and in our previous report) may be attributable primarily to differences in student *growth* (one measure of teacher quality) between ATR and matched schools in the first year ATR is introduced in a school. The reduction in the size and significance in those differences in the second year appears to be a result of less-pronounced differences in both proficiency *and* growth gains. Again, it is important to emphasize that, without three or more years of data, and without more fine-grained (that is, student- and teacher-level) analyses, we can only provide broad quantitative estimations of the reasons behind these outcomes, and we cannot determine whether the patterns we see are trends (for instance, whether the dip in differences in Year Two is part of a larger pattern) or just single-year anomalies.

These longer-term and finer-grained analyses²⁰ are more challenging to complete than are the top-level analyses that make up most of the quantitative work in the present report, and simply were not feasible to include in an expansive, mixed-methods evaluation with a limited budget. Even so, with the support of NCDPI and most of the pilot LEAs, we were able to collect some preliminary data at the teacher role level (advanced roles teachers, teacher colleagues, and other teachers in participating schools). When we looked at changes in quality (as measured by EVAAS) over time for lead teachers for whom EVAAS estimates were available both *before* and after the start of ATR pilots in their schools, preliminary results indicated that, while still higher on average than the EVAAS ratings of their same-school colleagues, the EVAAS ratings for the 2017-18 advanced roles cohort fell from their 2016-17 levels (the year before they became advanced roles teachers; 1.18 versus 1.83). On the other hand, EVAAS ratings for the 2018-19 cohort remained about the same as they were the year before (1.21 versus 1.27). These inconsistent changes over time in EVAAS ratings—albeit for only a limited number of teachers in one of the two cohorts²¹—suggest that there may be value in determining whether being an advanced roles teacher takes a toll on one's own instruction, and, if so, whether that toll is worth the benefits gained by others (both teachers and students) in the same schools. It is possible to estimate similar changes for teacher colleagues, but without knowing each LEA's motivations for pairing teacher colleagues with advanced roles teachers, and without statistically matching those teachers to other teachers not associated with an ATR initiative (both of which a more rigorous evaluation would attempt to do), we cannot yet draw any defensible quantitative conclusions about the specific impact of the program on the instructional quality of that subset of teachers. Future, more rigorous evaluations of the impact of ATR initiatives should include such estimations and analyses.

²⁰ Similar to what Backes and Hansen (2018) attempted to do in their estimations of the impact of one Advanced Teaching Roles model in three different LEAs.

²¹ For the 2017-18 cohort, only 48 teachers had EVAAS estimates for both the year prior to becoming an advanced roles teacher and the first year in that role; several more teachers (92) met those conditions in the 2018-19 cohort.

Figure 4. 1- and 2-Year Changes in School Growth Score (All Schools)



1-Year Change in School Growth Scores (All Schools)

- 0
- ATR Schools Matched Schools





Note: Figures exclude five ATR schools that were unable to be matched and were removed from the analyses.

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Figure 5. 1- and 2-Year Changes in School Growth Score (Excluding CHCCS and WCS)





ATR Schools Matched Schools



2-Year Change in School Growth Scores (without CHCCS & WCS)

Note: Figures exclude five ATR schools that were unable to be matched and were removed from the analyses.

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Even given these ambiguous preliminary estimates of the impact of participation on the instruction of the advanced roles teachers, the fact that the more rigorously estimated one-year-out school-level outcomes included in this report largely mirror the outcomes shared in our previous report, coupled with the supportive qualitative data in all of our reports, does suggest that the presence of an ATR program has the potential to contribute to positive changes in overall school performance and classroom instruction, if implemented well and with fidelity. However, the fact that the two-years-out outcomes appear to be more muted, and that advanced roles teacher EVAAS scores may dip during initial implementation, coupled with the much greater impacts other factors (such as teacher experience and differences in student populations) have on school outcomes (see the tables in **Appendix F**), reminds us that no single initiative on its own can lead to the ultimate desired result of significant and *sustained* changes in student outcomes.

Do Advanced Teaching Roles Increase Attractiveness of the Teaching Profession?

As we noted in our previous report, there are at least three ways to approach quantitatively the question of the impact of ATR on the attractiveness of the profession: 1) changes in the number of applicants for lead teacher roles; 2) changes in lead teacher retention; and 3) perceptions among licensure candidates of the attractiveness of the programs.

For the first three, each LEA provided the evaluation team with related, top-level data for the entire span of their pilot programs (Table 8).

Table 8. Advanced Roles Teacher Retention and Applications, 2016-17 through 2018-19

Year	Teacher Turnover Rate: Adv Roles Tchrs	Leader Change: % Tchrs Who Leave Adv. Roles (incl pvs.)	<pre># Applicants for Lead Roles (for following year)</pre>	# Advanced Roles Available (for following year)	% Advanced Role Vacancies (by end of cycle)
2016-17			96	89	26%
2017-18	1%	4%	173	100	14%
2018-19	3%	7%	42	41	29%

Notes:

CHCCS is not represented in the table; because of the nature of its program, the table categories do not apply to participating CHCCS teachers.

CMS is not represented in the table due to inconsistencies in data-reporting across years. WCS is not represented in the applicant portion of the table due to inconsistences in data-reporting in that category across years.

Changes in Number of Applicants for Lead Roles

Though we only have complete data for this measure from three of the pilot LEAs, as a result both of expansion (three of the six LEAs added a total of 26 new ATR schools between the 2017-18 and 2018-19 school years) and of growing support for the idea of advanced roles (as detailed in the **Analysis of Qualitative Data** sections of this report and our previous report), applications for lead roles rose sharply for the 2018-19 school year (173 applicants, up from 96), even though the total number of positions grew only marginally (100, up from 89). The drop in applications for 2019-20 positions is explainable both by the drop in the number of new schools added and the relative stability of the teachers in the lead roles; even so, there were still more applicants than available roles for 2019-20.

Changes in Advanced Role Teacher Retention

Again limited to data from only some of the LEAs (four), lead teacher turnover (lead teachers who leave teaching altogether) is very low (about 1% after the 2017-18 school year, and about 3% after the 2018-19 school year), relative to the typical annual state rate (between about 7.5% and 9% over the same period). An additional 3% (2017-18) and 4% (2018-19) of lead teachers stayed in teaching but left their leadership roles. With only two years of data from four of six LEAs, these patterns are not trends; the evaluation team recommends that the State continue to track these values over time, and also ask some of the teachers who do leave the roles to share why they did so.

Perceptions of Candidates for Licensure

In spring 2020, we were able to begin to assess the third measure—perceptions of licensure candidates—for the first time via a survey of every program completer in a traditional educator preparation program (public and private) in the state. The majority of survey respondents (74%) said that an advanced teaching roles program makes working in an LEA "somewhat more appealing" or "much more appealing" than working in an LEA without such a program. When asked to rank the components of an advanced roles program by the amount of influence each would have on a decision to stay in the teaching profession, the opportunity to receive supplemental pay was the most popular first choice (42% of respondents); the second-most popular first choice, the opportunity to receive coaching and other support from experienced teachers, was chosen by only 22% of respondents (**Appendix D**).

Do the Pilot Programs Provide Recognition to High-Quality Classroom Teachers?

One quantitative approach to measuring the degree to which the pilot programs recognize high-quality teachers is to compare characteristics of unsuccessful applicants with those of successful applicants. In other words, are the programs selecting teachers for leadership roles who have stronger indicators of their teaching ability? Each pilot LEA uses a different set of criteria for selecting its lead teachers (Table 9, following page), but three measures available for most applicants across all LEAs that we believe are worth tracking as we attempt to address this question are 1) the ratio of vacancies to applicants at the end of each hiring cycle (Table 8, above); 2) ratings on Standard 1 of the North Carolina Educator Effectiveness tool (Leadership), and 3) quantitative measures of educator effectiveness as estimated by EVAAS (Table 10).

Table 9. Selected Criteria for Advanced Roles Teachers in Each Pilot LEA

	Quality Measures									
LEA	Experience	Effectiveness	Education	Licensure	Training	Leadership	Other			
CHCCS					High- level training	Coach/ mentor/PLC lead exp.				
CMS	Years of Experience		Grad. Degree	NBCT						
ECPS	Years of Experience	EVAAS								
PCS		EVAAS	Masters+	NBCT	TLI					
VCS						Leadership essay	Behavior Event interview; Per- formance Task			
WCS	Years of Experience						LEA rubric score			

Table 10. Changes in NCEES Standard 1 and EVAAS Ratings, ATR Applicant Pools, 2016-17 to 2018-19

	Unsucc	essful Applicants	Successful Applicants			
	11.8%	Distinguished	21.2%	Distinguished		
17*	54.9%	Accomplished	55.8%	Accomplished		
-91	23.5%	Proficient	7.1%	Proficient		
201						
	-0.19	Avg EVAAS	2.41	Avg EVAAS		
	<i>n</i> =51		<i>n</i> =113			
	20.7%	Distinguished	19.0%	Distinguished		
*	62.1%	Accomplished	59.3%	Accomplished		
81-	13.8%	Proficient	11.3%	Proficient		
017						
0	1.26	Avg EVAAS	2.38	Avg EVAAS		
	<i>n</i> =58		<i>n</i> =221			
	10.3%	Distinguished	16.6%	Distinguished		
61	53.8%	Accomplished	63.8%	Accomplished		
18-	30.8%	Proficient	15.6%	Proficient		
20						
	0.71	Avg EVAAS	1.14	Avg EVAAS		
	n=39		<i>n</i> =199	-		

Notes:

* Values updated from values included in Year 2 report

LEAs: CMS, ECPS, PCS, VCS; no applicant status data available for PCS, so *Unsuccessful Applicant* columns do not include PCS teachers

Includes values for CMS teachers in leadership roles in schools not tracked by this evaluation; all CMS applicants for any lead role in the LEA apply to a common pool

As indicated in Table 8, as a group, the pilot LEAs that provided data about applicants have been somewhat selective, with more applicants in the pool each year than lead teacher vacancies, but with some of those vacancies remaining open at the end of the hiring cycle—even though there were enough willing teachers to fill them. For the three LEAs that reported numbers for this category, two consistently left positions unfilled for the following year when the candidate pool did not yield enough teachers that met their requirements.

With the caution that Table 10 includes data from only four of the six LEAs, successful ATR applicants appeared to be somewhat stronger than unsuccessful applicants in terms of the Leadership ratings they receive from their administrators in the year of their application (though there was no real difference between the two groups in 2017-18). Successful applicants also had higher EVAAS scores for all three years. Though based on only three years of data, it is worth noting that the EVAAS score gap closed each year (from 2.60 points in 2016-17 to only 0.43 points in 2018-19)—possibly (as we noted in a previous report) as a result of a strengthening applicant pool over time, but also apparently as a result of a downward trend in successful applicant ratings. This decline may not be entirely surprising, however, if we assume that most of the participating LEAs already had selected their strongest teachers in Years 1 and 2.

Do the Pilot Programs Support Retention of High-Quality Classroom Teachers?



As discussed above (Table 8), retention across LEAs was good, both in terms of overall retention and leadership role retention.

On a related note, on the survey of educator preparation program students, a large majority (76%) of the respondents who had prior instructional experience indicated that having a career advancement program in their LEA would have had "some influence" or a "large influence" on their decision to continue teaching. More respondents with four or more years of experience (43%) found it to be a "large influence" than did respondents with three or fewer years of experience (16%), suggesting that the impact of a program like ATR on teacher retention may be different for teachers at different stages in their careers.

Do the Pilot Programs Provide Assistance to and Support Retention of Beginning Classroom Teachers?

• Once again, the bulk of the information we collected with respect to lead teacher support for beginning teachers was qualitative (and is summarized in the Analysis of Year 3 Qualitative Data section, above). We include here the lone, indirectly-related quantitative data point associated with this question—evaluation ratings for lead teachers on Standard 1 of the North Carolina Educator Effectiveness System (the Leadership standard). Most ATR lead teachers tend to rate highly on Standard 1 (Table 11, following page).

Standard 1 Rating	2017-18*	2018-19
Distinguished	31.6%	36.7%
Accomplished	54.0%	47.1%
Proficient	6.6%	9.6%
Developing	1.3%	0.0%
Not Demonstrated	0.0%	0.0%
(Unrated)	6.5%	6.6%

Table 11. Advanced Roles Teacher NCEES Standard 1 (Leadership) Rating, 2017-18 and 2018-19

Notes:

* Values updated from values included in Year 2 report *n*=76 (2017-18)/136 (2018-19) LEAs: CMS, ECPS, PCS, VCS

Another potentially good quantitative measure for future investigation may be beginning teacher turnover rates in ATR schools and in the matched comparison schools; however, as was true for the previous report, disaggregations of school turnover rate data are not reported publicly for teachers with different years of experience.

Limitations to and Considerations for Quantitative Outcome Estimations

As we have indicated in every report, there are at least four factors (some of which already have been touched on above but are repeated here for emphasis) that have the potential to limit the robustness of our quantitative findings: 1) The small number of teachers and students directly impacted, relative to the number of teachers and students included in the analyses; 2) important structural differences across the six pilots; 3) the lack of randomization in teacher and student participation; and 4) the pilot (and evaluation) timeline.

1. Size of Impacted Teacher and Student Populations

The approaches used to arrive at most of the results reported above estimate *school-level* changes in student outcomes, teacher behavior (e.g., attrition rates), and teacher quality (e.g., via formal teacher evaluations), but, because many participating schools host only a small number of directly impacted teachers, school-level results may mask effects (both positive and negative) on those specific teachers and their students. The analyses we conduct "estimate[] the difference in school performance under treatment and comparison conditions ... over time," but they do not "provide an estimate of what would have happened to individual students [or teachers] or groups of students [or teachers] under the two treatment conditions" (Hallberg 2018, p. 297). In other words, because school populations change over time (students and teachers move away, students and teachers join a school), our analyses estimate "the effect of the combination of two forces: the change in the composition of students [and teachers] in the school [over time] as well as the change in the [aggregated] performance of the students [and teachers] in the school [over time]" (Hallberg 2018, p. 297). To compensate, when the data allow and when we are able to gather enough information from participating LEAs, we calculated some of the results for sub-groups of teachers (i.e., lead teachers only), but time and budget constraints did not allow us to conduct similar subanalyses for directly-impacted students (i.e., students of those lead teachers and teacher colleagues).

2. Structural Differences across LEA Pilot Programs

As indicated by each pilot program's logic model (**Appendix C**) and the table of common program features across LEAs (Table C1), each pilot program is different from the others in certain ways, and many are very different—enough so that, while we have combined data from multiple pilots (allowing for stronger analyses of impacts on larger groups of participants and impacted students), we have done so cautiously and have framed all results as tentative. This concern is our primary reason for reporting two sets of results in some cases: those for all six pilot programs, but also those for the four LEAs with the most similarities across their programs.

3. Randomization and Non-Causality

The pilots depend upon either teacher participant volunteers or teacher assignment to program participation based on one or more preconditions, or both. In addition, in most cases, students are not randomly assigned to the teachers who participate. None of these factors prevents us from determining statistically significant *correlations* between program initiative components and certain outcomes, but all of them do prevent us from determining *causation*.

4. Lifespan of the Pilots and other Time-related Limitations

At its heart, a differentiated pay/advanced roles plan, no matter how it is implemented, is about changing school culture for the long term. The evaluation team knows from studies of the impact of changing even just one school culture variable (for example, changing principal leadership) that schools often experience a regression in outcomes for at least a year before even highly successful program begin to show positive results. The evaluation of North Carolina's statewide and local Race to the Top experiments with strategic staffing (2010-2014) also suggested that fully-realized impacts of an advanced teacher roles plan often will not materialize for several school years, after preliminary impacts on school culture and teacher turnover have paved the way for later impacts on student performance (an update of the top-level Theory of Change produced as part of that work, modified to reflect new learnings from the present evaluation, is included in **Appendix G**). At the end of a short, three-year evaluation window, we continue to note that detecting the potential full effects of any of these pilots will require additional years of data collection and analysis.

Comparative Analyses and Recommendations

New for this final report are the team's initial efforts to address the last three evaluation questions listed in Table 2:

- 9. As measured by the quantitative and qualitative outcomes of interest, which pilot program or programs appear to be the *most successful*?
- 10. Which pilot programs appear to be *most scalable*? What resources would the State need to commit in order to successfully scale them? Should the State consider scaling one or more of the pilot programs?
- 11. What are the *costs and benefits* associated with establishing advanced teaching roles? To what extent does the return on investment in establishing new compensation models that correspond with these roles (as measured by the outcomes of interest described above) justify the investment?

As we have detailed throughout the three-year evaluation process, the number of differences across pilots in terms of components, settings, resources, and previous experiences with similar programs, coupled with an evaluation that was broad in scope but narrow in size and duration, limits our ability to provide definitive answers to these questions. Each pilot was designed for a unique LEA setting, and each had its own set of unique successes and struggles; as a result, it is difficult to gauge whether similar approaches in other LEAs would result in similar successes and struggles. Similarly, a determination of scalability also is somewhat subjective. In addition, as we have repeated often across all of our evaluation reports, it has been very challenging to establish reliable estimates of the academic impacts of each pilot. Finally, to be addressed fully, the question about costs, benefits, and returns on investment relies not only on answers to the success and scalability questions but also on economic analyses beyond what was possible for an evaluation of this scope.

The mathematical and subjective challenges of declaring definitive "winners" and "losers" in each category does not, however, prevent us from bringing together what we have learned over the course of the evaluation to provide initial reflections and assessments, along with recommendations related to these assessments. To do so, the evaluation team reviewed the features of each program (**Appendix C**), data collected related to those features, and the degree to which the *design* of each pilot program appeared to address the State Board of Education's and the North Carolina General Assembly's primary outcomes of interest (Figure 1, above).

Which Cohort 1 Pilot Program(s) Appear to be the Most Successful?

Supporting Evidence from the Three-Year Evaluation

The full array of data collected over the past three years, plus our experiences evaluating previous advanced roles initiatives across the state, suggest that, while each pilot includes components that address at least one of the criteria better than do components in other pilots, the pilots with the most comprehensive set of components (as identified in Table C1 [CMS, ECPS, PCS, and VCS]) collectively most closely approach the criteria set by the State in Figure 1. While each of these pilots is different, their common elements—teacher teams with vetted

teacher leaders who serve as co-teachers or team leads, coupled with building-level flexibilities that allow for optimization of available resources—appear to offer the best opportunities for success in five of the seven criterion categories.

Improvement of Classroom Instruction: Though they do so in very different ways, all six pilots prioritize improvement of classroom instruction. Because they include LEA-level commitments to teacher training and support above and beyond what is provided directly by their ATR programs, the **ECPS** and **PCS** pilots may be the best examples in this category.

Increase in Schoolwide Student Growth: While most of the pilots provide at least some support for increasing student growth, very few do so in ways that directly attempt to improve growth on a schoolwide basis. For the most part, the main limitation is funding for enough lead teacher positions to provide whole-school coverage. The pilots that appear to provide the most support for schoolwide student growth, with features such as large teacher leadership presences in each school, coordinated planning times, and teacher teams specifically designed to address the lowest-performing classrooms are **CMS**, **PCS**, and **VCS**.

Recognition of High-Quality Teachers: Many educators noted across the three-year evaluation that this criterion can be particularly challenging, because being a high-quality teacher is not the same as being a high-quality *leader* of teachers. Nevertheless, preliminary quantitative evidence and qualitative estimations on the part of administrators, teacher colleagues, and the lead teachers themselves suggest that most of the pilots do, indeed, recognize higher-quality teachers. LEAs whose pilots appeared to best meet this criterion via their comprehensive screening processes are CMS,²² ECPS, PCS, and VCS.

Support for Retention of High-Quality Teachers: Retention is not just a matter of additional pay; it also includes significant opportunities for advancement even once a teacher is given a leadership role, as well as provision of non-financial supports. The strongest such opportunities appear to be in the CMS, ECPS, and VCS pilots.

Support for Beginning Teachers: While most of the programs provided support for beginning teachers, in many cases, this support was incidental (most [though not all] teacher colleagues were early-career teachers) and not necessarily explicitly intentional. One LEA—CHCCS—has included the potential for a 1:1 mentor:beginning teacher role as part of its program, and another LEA—PCS—explicitly links its ATR pilot with its LEA-wide beginning teacher support program.

Increase in the Attractiveness of the Teaching Profession: Supporting Evidence from the Educator Preparation Program Survey

Many educators across the six LEAs indicated that, in the abstract, the presence of an Advanced Teaching Roles program might have made teaching in certain LEAs more appealing to them when they first began their job searches. More concrete, however, were the examples of educators who left administrative positions to re-enter the classroom, which happened in at least two of the six pilots. In addition, responses to our survey of Education

²² In CMS ATR schools in particular, agreement with the Teacher Working Conditions survey statement, "The faculty are recognized for their accomplishments," increased nearly 20 percentage points between 2015-16 and 2017-18.

Preparation Program candidates suggested that the models with the most comprehensive set of features might be more appealing to beginning teachers. The survey asked candidates to read short summaries of different Advanced Teaching Roles programs (with LEA names excluded; see **Appendix B**). When asked to rank the appeal of the different models presented, the majority of respondents (80%) ranked the most comprehensive model as either the most or second-most appealing—even though that model included the possibility of variable (and possibly large) class sizes in addition to the more supportive features (such as integrated professional development, teacher teams, and lead teachers in coach, co-teacher, and team leader roles). The typical reason given was simple: Having the most features made it the most appealing:

[Comprehensive] is the most appealing because of all the offered support. With such support, it shows that the district is willing to make a positive impact and invest in their teachers. (EPP Survey Respondent)

[Comprehensive] was my top ranked because it has multiple supports for beginner teachers and because I am a beginner teacher and[,] looking for a district that you would want to begin and finish your career with, you need to have support for each stage of your career. Once I become more experienced with teaching[,] that district would still support my needs by helping giv[e] me the opportunity to advance my career in one of the leadership roles. (EPP Survey Respondent)

While "curbside appeal" alone should not dictate the structure of an LEA's ATR program, its effectiveness as a recruitment tool does address two of the criteria in Figure 1 (Effort to Make the Teaching Profession More Attractive; Focus on Supporting Beginning Teachers).

Which Pilot Program(s) Appear to be most Scalable?

One key consideration for scalability is the degree to which an LEA appears to be able to sustain its program (entirely or in part) without external financial support. Without completion of a thorough fiscal analysis, it is difficult to assess which of the current models will best meet this criterion in the long run. Anecdotally, however, we know that, without State support, each of the six pilots would have struggled to sustain financially, and, even *with* State support, some still required outside financial support (for example, from additional grants). Pilots designed to repurpose existing funds (one of the strategies allowable under the flexibilities granted to participating LEAs) do so knowingly at a cost to their ability to support other potential areas of need (for example, class size reduction²³ and teacher assistants).

Another key scalability consideration is simplicity of design—namely, can an LEA's plan easily be not only adopted by another LEA but also successfully managed? With this consideration in mind, and their strengths in many of the other criterion categories notwithstanding, the comprehensive pilot models likely will be the *hardest* to scale successfully, mostly as a *result* of their comprehensiveness. The **WCS** pilot's primary virtue is that its streamlined features likely would be the easiest for other LEAs to adopt.

²³ Of note, agreement with the Teacher Working Conditions survey statement, "Class sizes are reasonable such that teachers have the time available to meet the needs of all students," dropped between 2015-16 and 2017-18 in ATR schools in four of the six pilot LEAs—in some cases, by 20 or more percentage points.

We believe there is value in attempting to streamline the comprehensive models in ways that may make successful adoption and implementation not only more likely but also more sustainable in the widest number of LEAs.

Success, Scalability, and Moving Forward: Recommendations

In this section, we offer recommendations for addressing two related questions:

- How can the State increase the likelihood of successful implementation? and
- What resources would the State need to commit in order to successfully scale the initiative?

We have emphasized in this final section that there really is no one-size-fits-all solution to Advanced Teaching Roles initiatives that will work in all LEAs. Similarly, there also is no guarantee that even a well-developed plan will work as intended. Each LEA will experience a number of challenges as it works to establish a program that is effective in its unique context. We recommend two State actions for maximizing each LEA's chances for successful implementation.

- 1. *Require LEA proposals to clearly reflect both identified local needs and statewide lessons learned.* What matters more than identifying a single, State-sanctioned model is for the State to support LEA development of localized Advanced Teaching Roles solutions, within a set of guiding parameters. Namely, these solutions should:
 - a. Identify LEA-specific needs that fall under one or more of the first six criterion categories in Figure 1 (all but scalability)
 - b. Incorporate elements in their program design that best meet those needs while also acknowledging relevant lessons learned during the pilot period—including elements that contribute to a clear and credible plan for sustainability; and
 - c. Include a plan for regularly reviewing the effectiveness of the program and adjusting as needed. This plan should include a commitment to collecting the data necessary for supporting a rigorous formative and summative evaluation.²⁴
- 2. *Provide recurring supplemental implementation funding.* The most important resource commitment is, not surprisingly, stable and recurring funding. While several of the pilots have taken advantage of special flexibilities to repurpose some of their regular school funding and reduce the net costs of implementing their pilots, doing so came at a sometimes-steep cost in other areas of the school:

I know that [some ATR] schools . . . are struggling. . . . [I]f you're going to use an advanced role, you have to take one of your teacher positions[;] does the State allot you people for those roles[? The funding] has to come from somewhere, or

²⁴ For example, in addition to data already collected by the State, each of the six original pilot LEAs was required to provide information annually about teachers (unsuccessful and successful applicants for lead roles, teachers in lead roles, and teachers directly impacted by those roles) and participating schools (number and type of lead positions, school-level turnover in lead roles, subject area[s] impacted, etc.). As noted in the **Two-Year Quantitative Estimates of Pilot Program Impact** section, all future ATR LEAs also should be required to provide this information.

somebody has to be stretched so thin, and then it starts to affect the impact. (Advanced Roles Teacher)

[W]e can't continue this [program] because . . . we're right on the borderline now [in terms of] sustainability. (Administrator)

Resolution to the scaling challenge depends in part on factors outside of the State's direct control—as one administrator put it, "It is [scalable and transferrable] if you've got the right people"—but there are at least four resource commitments the State could make to help scale Advanced Teaching Roles pilots statewide.

- 3. *Provide start-up funding for planning and early one-time costs*. Each of the pilot LEAs benefitted from at least some degree of State support in addition to their regular funding (Table 1, above). At the least, LEAs approved to start programs of their own also should have access to some degree of start-up financial support.
- 4. Create opportunities to share lessons learned across LEAs and
- 5. *Identify and provide options for LEAs to receive third-party or State technical support.* In addition to noting how much they benefited from access to outside design help (or, for those that did not have such assistance, believed they would have benefitted),²⁵ several participants also said they would be willing to provide support to new ATR LEAs during their own design phases, or even to partner across LEA lines to share costs for ATR resources such as targeted professional development.

[T]ake some trips to a school or some places [that have] had it implemented and get into that so you can . . . have a better background. . . . [P]artner with somebody who's been in it so you can bounce ideas off [of them]. (Administrator)

[I]t's the connections. We met early on with [another ATR LEA]. We went there, and the whole [training program we saw there] is stuff we've implemented.... That's partly why we need other counties It makes more economic sense that way, if we can work together. (Administrator)

6. *Allow LEAs adequate time for both planning and program maturation*. Most pilot LEAs recommended providing new ATR LEAs with at least a full year of planning and preparation time. In addition, our qualitative evidence suggests that most LEAs will need at least two full years of implementation to identify and address program challenges.

In summary, we believe the optimal role for the State going forward is to provide interested LEAs with the **time**, **financial support**, **expertise** (whether from experienced LEAs, third-party partners, or State experts), and **guidance** (primarily based on, but not limited to, the pilot LEAs' experiences) needed to **develop**, **test**, **modify**, **grow**, and **evaluate** their programs. In the next section, we begin the process of providing some of that guidance.

²⁵Some of the pilot LEAs were able to work with outside groups like Public Impact (<u>https://publicimpact.com/</u>) to design their programs.

What are the Benefits, Costs, and Lessons Learned associated with Establishing Advanced Teaching Roles?

In this section, in an effort to address the final evaluation question, we provide a top-level outline of some of the benefits (strengths), costs (fiscal and structural challenges), and lessons learned by the pilot LEAs that might help to improve the chances that future Advanced Teaching Roles programs will produce the best results for North Carolina's public school teachers and students.

In many of our final focus groups, we were able to ask lead teachers, teacher colleagues, and administrators what they believed were the most important lessons they learned during the pilot period. In addition, as an extension of our formal, three-year evaluation, and with the support of the Belk Foundation,²⁶ the evaluation team also completed "deep dive" closer-look investigations of three of the six pilot programs. While the formal evaluation helped us to answer several "whether" questions (for example, whether the pilot programs helped improve student outcomes), those deep dives helped us to better answer "how" and "why" questions about recruitment and retention, school culture, and student outcomes that were touched on only briefly in our formal evaluation reports.

Providing further support for the validity of the conclusions we drew in our closer-look report, in almost every case, final focus group practitioner reflections on the strengths and challenges of their ATR programs, as well as their observations about the lessons they learned over the three years, match almost exactly with the strengths, challenges, and lessons learned that we identified independently as part of our closer-look work.

We share a summary of these observations and reflections here and, for some of them, include a few illustrative quotes from those final focus groups across the six LEAs. For a deeper and more complete investigation of each of these topics, we encourage readers to review the more detailed closer-look document.²⁷

Benefits (Strengths) Common across Most ATR Pilot Programs

- Earning leadership status can be a rigorous and rewarding process for teachers
- Program structure can lead to enhanced vertical alignment of curricula

I mostly work with the other second grade teachers, but in my [ATR Community of Practice], I get to work with a third grade teacher, I get to work with an AIG teacher. We get to pick each other's brains about things that I wouldn't have otherwise had the opportunity to talk to them about. (Teacher Colleague)

• Interactions among teachers often are more frequent and stronger than they were before ATR

I think there's a lot of value in being with like-minded teachers, and I feel like when we go to staff development, it's time well spent because we have the opportunity to communicate and collaborate with people that we would normally not. . . . [I]t's nice to

²⁶ <u>http://www.belkfoundation.org/</u>

²⁷ Teaching for the Long Haul: Professionalizing Career Pathways for North Carolina Teachers (https://www.fi.ncsu.edu/resources/teaching-for-the-long-haul-professionalizing-career-pathways-for-north-carolinateachers/)

have like-minded people that have the same goals and they're invested in . . . the same way. . . . [Another lead teacher] and I talk all the time [now]. (Advanced Roles Teacher)

- Lead teachers have the potential to fill gaps even in experienced colleagues' training and support
- Early academic outcomes are promising
- Teachers appear to value having leadership roles that allow them to stay in the classroom

Costs (Challenges) Common across Most ATR Pilot Programs

• Application *rigor* is not the same as application *appropriateness*

[Teacher selection sometimes is] very much based on one data point: EVAAS. And, you know, EVAAS is certainly an important indicator of student achievement and of teacher talent and teacher ability, student ability, but I think that it's also [only] one data point. (Administrator)

[I]t's great if you can work with kids, but can you work with adults? (Administrator)

• Initiative success often is personnel-dependent

I think you've got to find the right person for your school. (Administrator)

I think that there needs to be a mindfulness about the type of person that's chosen as [a lead teacher].... I think that the characteristics of being a strong [Lead] is someone who first looks for a teacher's strengths and then figures out what is the area that this teacher needs most help with. That's the most urgent. And how can I work with this teacher to provide that support, rather than [doing] the complete opposite[, by saying things like] "This is the way it has to be done and this is the way I always did it because my test scores were the best and you need to listen to me." (Teacher Colleague)

- Clear communication about the ATR program is important
- Implementation success takes time

[I]f you start [an ATR program] and the first year is rough, don't give up, because I would hate to have seen what would have happened [in our LEA] if after that first year we were like, "Nope, done. Bye bye." (Teacher Colleague)

- Program expansion may extend cross-LEA fiscal inequities with respect to teacher pay
- Successful lead teacher support for beginning teachers is not automatic
- Programs introduce new time management challenges

I wish [interactions] were easier to do since we're oftentimes on different campuses.... [W]orking that schedule out to be able to see them in their element is [important]. (Teacher Colleague)

Lessons Learned Related to Initiative Planning

Several of these lessons learned have been integrated into our recommendations in earlier sections.

• LEAs—and to some degree, schools—need state-level flexibility coupled with within-LEA consistency²⁸

[E]very district, every school is actually different. . . . I think that it's really important to allow the flexibility for schools to be strategic . . . based on what they actually need. (Advanced Roles Teacher)

[Y]our brand new teachers that are just starting out, they need a lot of work and learning the content and all, but . . . teachers that have great scores and classroom management and everything [need different support]. . . . If you're working with six teachers [in] the same subject . . . it's not as difficult as if [some teach] reading and [some teach] math—that's hard. (Administrator)

• Initiatives must include a plan for sustainable funding

[O]ne of the things we're working . . . right now on is, how do we sustain [our program]? Especially in the Northeast, where it's small and rural, without the grant money, how can we create the critical mass to continue? (Administrator)

• LEAs benefit from external design and implementation support

[I]f we just had video clips of how this should look or how it's been implemented well in other schools then we would know exactly how to fine-tune what we should do. (Teacher Colleague)

• Initiatives should be integrated into an LEA's larger set of plans

Lessons Learned Related to People

- Successful school-level implementation requires collaboration and trust
- Leadership stability is essential

[T]he thing, really, for us [is that] it was more than recruiting teachers to buildings.... [We have] really been successful at *keeping* great teachers at buildings that need to keep great teachers....[I]t's more [about having] a sticky culture and keeping the folks there ... than [it is about] a recruitment process (Administrator)

• School-level administrators need training and support

I would have loved to have [had] somebody talk with me about it because I didn't have anybody. I kind of felt alone, and thank goodness I had an assistant principal. There were so many unknowns and you felt alone and you didn't know what you were doing. (Administrator)

• Teachers need training and support, too

I don't think we need to forget that these people are in a new role, just like any teacher is. . . . (Teacher Colleague)

You always need to train the trainer. (Advanced Roles Teacher)

• Lead teachers are not (and should not be asked to substitute for) administrators

²⁸ Among Pitt County Schools ATR personnel, this is sometimes referred to as "defined autonomy."

Closing Thoughts

To end this series of evaluation reports, we turn to the last part of the final evaluation question: *Does the return on investment in establishing advanced teaching roles justify the investment?* As we have demonstrated throughout this series of reports, the investment necessary for establishing these programs—both direct and indirect, fiscal and human capital—is not insignificant. In addition to the direct costs associated with setting up the program and sustainably funding the various salary supplements, there are less obvious but equally as important cost considerations, such as an inevitable increase in time management challenges, the training each participant needs, the cross-LEA inequities that can result if some programs are better-sourced than others, and other trade-offs required to make the program work well:

[B]ecause we are a[n ATR] school . . . the stipend comes out of this budget, which could be a teacher salary, which in turn means we . . . lose classroom positions for teachers. So the classrooms we do have, class sizes are larger. (Advanced Roles Teacher)

[W]e're finding that if you start putting too many teachers under [one] coach, you're not effective. (Administrator)

And as our initial quantitative impact estimations suggest, the measurable returns, while generally positive, are neither large, universal, nor guaranteed—at least in the short term.

But, by the end of our evaluation, and despite misgivings about specific aspects of certain implementations, the majority of the educators with whom we talked—including some who in the earlier years of the pilots expressed concerns—not only supported the presence of the programs but also wanted to see them grow and expand to other LEAs. One lead teacher summarized the less tangible value of advanced teaching roles programs in this way:

[T]here's value in trusting educators to investigate and make decisions about what's best for their students and use things that they've learned from other successful groups to influence what they do with their students. (Advanced Roles Teacher)

After considering all of the data before us—both objective and subjective, definitive and speculative—we agree: Leaning heavily on guidance from and lessons learned by the pilot LEAs, we believe the State *should* move forward—cautiously and with deliberation—with finding more ways to support the development and growth of these programs.

Our series of evaluation reports includes many different reasons for reaching this conclusion, but we believe that an advanced roles teacher in one of the pilot LEAs (originally quoted in the Year 2 report) made the simplest, most comprehensive, and most eloquent case for expansion:

When I was a classroom teacher, I only saw my classroom and the way I did things. And I just thought everyone did that the way that I did it. And [now,] seeing nine different classrooms, I saw a lot of things . . . not to do, and things to do. And [now I'm] able to share that with other classrooms, like, "This was really great, let's check that out." So, it's been really eye-opening for me. . . . I think also seeing the big picture more has let me understand how the things that I do in my classroom can impact the school as a whole.

So, just for example, you would go to PD and hear things about vertical alignment, and everyone rolls their eyes, right? But then, once I... was responsible for all grade levels—like this year [I am] responsible for 3 through 5—there were things we strategically implemented in third grade and I was able to say, "I can see exactly how this is going to impact them in fourth grade, and if we do this, it will pay off." And teachers, hearing that and seeing that, are like, "Okay, then I'm on board and I'll do it."

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Appendix A. Evaluation Questions

In addition to the evaluation questions specifically outlined in the enacting legislation, the table below also includes evaluation questions posed in the NCDPI Request for Information that do not correspond directly with questions in the enacting legislation (though most are derived from the legislation, either in part or in whole). In addition, during the early stages of the evaluation, some of the questions were modified slightly to better reflect an overall logic model of the initiative (developed by the Friday Institute, in partnership with representatives at NCDPI) that represents NCDPI's understanding of how the pilot program as a whole ideally contributes to all intended outcomes (**Appendix C**). Finally, some questions in the table were modified slightly to reflect the evaluation team's proposed approach to completing a comprehensive evaluation within the available budget.

Acc	idemic and Instructional Impact
1.	Do advanced teaching roles improve the quality of classroom instruction?
2.	Do advanced teaching roles increase school-wide student growth?
Imp	pact on the Teaching Profession
3.	Do advanced teaching roles and/or related local-level salary supplements, either collectively or individually, increase attractiveness of the teaching profession?
4.	Do the pilot programs provide recognition to high-quality classroom teachers?
5.	Do the pilot programs support retention of high-quality classroom teachers?
6.	Do the pilot programs provide assistance to and support retention of beginning classroom teachers?
7.	In what other ways do these pilot programs impact high-quality experienced classroom teachers?
Сот	mparative Analysis of Pilot Programs
8.	What do the pilot programs have in common? What are each pilot program's unique components?
9.	As measured by the quantitative and qualitative outcomes of interest described above, which pilot program or programs appear to be the most successful? ²⁹
Fin	vancial and Policy Considerations
10.	Which pilot programs appear to be most scalable? What resources would the State need to commit in order to successfully scale them?a. Should the State consider scaling one or more of the pilot programs?
11.	. What are the costs and benefits associated with establishing advanced teaching roles? To what extent does the return on investment in establishing new compensation models that correspond with these roles (as measured by the outcomes of interest described above) justify the investment?

²⁹ Original evaluation question: How do other strategic compensation models such as Project L.I.F.T. in Charlotte-Mecklenburg Schools and Project ADVANCE in Chapel Hill-Carrboro City Schools compare to the pilot program? Since both LEAs' submitted requests for pilot funding were granted, both programs are included in the overall evaluation; therefore, comparisons across all pilots will by default include comparisons with these programs.

Appendix B. Data Collection Tools

Teacher and Administrator Surveys

Demographic Items for Teacher and Administrator Surveys

- 1. Please select your school district. [dropdown: 6 pilot LEAs]
- 2. Are you aware of the following advanced teaching role opportunities related to your district's [insert LEA program name]: [list roles based on response to #1] [Y/N]
- 3. What is your current role at your school? [dropdown: list all roles aligned with response to #2, including administrative; add other, open-end]
- 4. [*Display only for respondents who select a teacher role for #3*] How many years have you been a classroom teacher? [0-3, 4-6, 7-9, 10+]

Advanced Role Teacher Items

You will notice that your specific lead teacher role is displayed in many of the items below. Please note that on occasion we use the generic term "advanced teacher" or "lead teacher" to reference all of the possible teaching positions or roles related to your district's Advanced Teaching Roles Program: [piped text, program name based on response to item #1].

- 1. Since I began my role as a [insert piped text from item #3], I believe that the quality of my classroom instruction has improved. [Agreement Scale; I'm not sure]
- 2. Since I began my role as a [insert piped text], I believe that my ability to lead other teachers has improved. [Agreement Scale; I'm not sure]
- 3. I believe that the quality of classroom instruction has improved among the teachers I support in my role as a [insert piped text from item #3]. [Agreement Scale; I'm not sure]
- 4. The aspect of my new role that most makes working at my school more appealing to me is: [*randomize order*]
 - Providing professional development
 - Receiving supplemental pay
 - Providing support for classroom teachers
 - Mentoring early-career teachers
 - Assuming more leadership responsibilities
- 5. I am more likely to recommend teaching as a profession, as a result of my experience in my advanced teaching role. [Agreement Scale]
- 6. All of the teachers in leadership roles like mine at my school are high-quality classroom teachers. [Agreement Scale; No other teachers are in my role at my school]
- 7. I believe that the supplemental pay provided for my advanced teaching role is adequate. [Agreement Scale]

- 8. I feel valued in my advanced teaching role. [Agreement Scale]
- 9. I believe that the responsibilities of my advanced position recognize the quality of my teaching. [Agreement Scale]
- 10. Working in an advanced teaching position with supplemental pay has increased the likelihood that I'll remain teaching in the classroom. [Agreement Scale]
- 11. I believe the [insert piped text, name of program] program provides adequate support to beginning teachers (teachers with 0-3 years of experience). [Agreement Scale]
- 12. As a [Insert piped text from item #3 response], I have been able to increase the amount of support provided to beginning classroom teachers (i.e., 0-3 years of experience) at my school. [Agreement Scale]
- 13. Rank these aspects of the [piped text, program name] program from most valuable to least valuable to your professional practice: [*rank order, click and drag*]
 - Professional development
 - Supplemental pay
 - Opportunity to provide support for classroom teachers
 - Opportunity to mentor early-career teachers
 - Leadership responsibilities

Non-Advanced Role Teacher Items

Please note that on occasion we use the generic term "advanced teacher" or "lead teacher" to reference all of the possible teaching positions or roles related to your district's Advanced Teaching Roles Program: [piped text, program name based on response to item #1].

- 1. How often do you work with a [lead teacher: piped text, list lead roles]? [Never, Once or Twice, Quarterly, Monthly, Weekly, Daily, I don't know]
- 2. Since I began working with a lead teacher in my school, the quality of my classroom instruction has improved. [Agreement Scale]
- 3. I believe my [lead teacher]'s leadership has been helpful to me. [Agreement Scale; N/A]
- 4. The aspect of the [lead teacher] roles at my school that most appeals to me is: [*randomize order*]
 - Providing professional development
 - Receiving supplemental pay
 - Providing support for classroom teachers
 - Mentoring early-career teachers
 - Assuming more leadership responsibilities
- 5. The opportunity to become a [lead teacher title] at my school influences my decision to continue teaching. [Agreement Scale]

- 6. The opportunity to receive supplemental pay as a [lead teacher role] at my school influences my decision to continue teaching. [Agreement Scale]
- 7. The opportunity to collaborate with [lead teacher role] teachers at my school influences my decision to continue teaching. [Agreement Scale]
- 8. All of the teachers in leadership roles at my school are high-quality classroom teachers. [Agreement Scale]
- 9. I value the professional expertise of the lead teachers in my school [Agreement Scale]
- 10. I believe the [insert piped text, name of program] program provides adequate support for beginning classroom teachers (i.e., 0-3 years of experience). [Agreement Scale]
- 11. The most valuable aspect of the [piped text, program name] program to my teaching is: [rank order, click and drag]
 - The professional development
 - The support provided for my classroom instruction
 - The mentoring provided to early-career teachers
 - The additional leadership responsibilities taken on by the [lead teacher role] in my school

Administrator Items

Please note that on occasion we use the generic term "advanced teacher" or "lead teacher" to reference all of the possible teaching positions or roles related to your district's Advanced Teaching Roles Program: [piped text, program name based on response to item #1].

- 1. Since the implementation of [piped text, program name], the quality of the leadership provided by our school's lead teachers has improved. [Agreement Scale]
- 2. Since the implementation of [piped text, program name] lead teachers have assumed more leadership roles or responsibilities. [Agreement Scale]
- 3. Since the implementation of [piped text, program name] the quality of non-lead teachers' instruction in our school has improved. [Agreement Scale]
- 4. The [piped text, program name] program allows me to identify high-quality classroom teacher leaders. [Agreement Scale; N/A]
- 5. I believe the [piped text, program name] is having a positive impact on the overall retention of teachers at my school. [Agreement Scale]
- 6. I believe the [insert piped text, name of program] program provides adequate support for beginning classroom teachers (i.e., 0-3 years of experience). [Agreement Scale]
- 7. What supports provided through the [piped text, program name] program do you think are most helpful to beginning teachers? [open-ended]
- 8. What additional supports could the [program] provide to better assist beginning teachers? [open-ended]

- 9. The most valuable aspect of the [piped text, program name] program for my teachers is: [rank order, click and drag]
 - a. The professional development
 - b. The support provided for classroom instruction
 - c. The supplemental pay for lead teachers
 - d. The mentoring provided to early-career teachers
 - e. The additional leadership responsibilities taken on by the [lead teacher role] in my school

Educator Preparation Program Student Survey

Demographic Items

- 1. What school are you <u>currently</u> enrolled in? *If you are enrolled in classes at more than one school, select the <u>primary</u> school for your educator preparation program.* [dropdown: options for each of the 47 North Carolina public and private college and universities and "None of the Above"]
- 2. Are you <u>currently</u> enrolled in an educator preparation program, either part-time or fulltime?
 - Yes, I am enrolled in an undergraduate/bachelor's degree-granting educator preparation program.
 - Yes, I am enrolled in a graduate/master's degree-granting educator preparation program.
 - Yes, I am enrolled in a certificate educator preparation program.
 - Yes, I am enrolled in another type of educator preparation program. (Please describe.) [Free response]
 - No, I am not enrolled in an educator preparation program.
- 3. What term are you completing or graduating from your program? [Winter or Spring 2020, Summer 2020, Fall 2020, Winter or Spring 2021 or After]
- 4. What is the primary setting for which your <u>current program</u> prepares you? [Elementary School (grades K-5), Middle or High School (grades 6-12, any subject), All grades (grades K-12), Administration]
- 5. What are your employment plans after you complete your program? *Note that for the answer choices below, charter school employment is listed separately from traditional public school employment. Not all post-program plans may be covered here; please choose the option that is closest to your actual plans.*
 - I plan to apply for a position as a classroom teacher or as other instructional staff in a traditional North Carolina public school district.
 - I have already accepted an offer for a classroom teacher or other instructional position in a traditional North Carolina public school district.
 - I am continuing in a position that I have had since before I started my current educator preparation program as a classroom teacher or other instructional staff in a traditional North Carolina public school district.
 - I plan to apply for or return to an administration position in a traditional North Carolina public school district.
 - I plan to apply for or return to a position (teaching or administration) at a North Carolina charter school.

- I plan to apply for or return to a position (teaching or administration) at a North Carolina private/independent school.
- I plan to apply for or return to a position (teaching or administration) in another state.
- I do not plan to pursue an education position.
- 6. Have you ever worked as a classroom teacher or in another instructional position before beginning your <u>current</u> educator preparation program? [Yes, No]
- 7. [Show only if response is "Yes" to Q6] How long in total did you work as a classroom teacher and/or in other instructional positions before beginning your <u>current</u> educator preparation program? [1-3 years, 4-6 years, 7-9 years, 10 or more years]
- 8. I identify as: [Female, Male, Other, I decline to answer]
- 9. I identify as:
 - **Two or more races/ethnicities** A person who identifies with two or more of the below.
 - American Indian or Alaska Native (Not Hispanic or Latino) A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.
 - Asian (Not Hispanic or Latino) A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent, including for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, or Vietnam.
 - **Black or African American** (Not Hispanic or Latino) A person having origins in any of the Black racial groups of Africa.
 - **Hispanic or Latino** A person having ethnic origins in Latin America and the Iberian Peninsula, including the Caribbean.
 - Native Hawaiian or Other Pacific Islander (Not Hispanic or Latino) A person having origins in any of the peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
 - White (Not Hispanic or Latino) A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.
 - I decline to answer

Advanced Teaching Roles-Related Items

The rest of the survey is based on a detailed description of teacher career advancement programs in North Carolina. **Please take your time and read the description carefully.** For your reference, the description is repeated at the beginning of every page.

[Program description:] Some districts in North Carolina now offer teachers opportunities for career advancement that do not require them to leave the classroom. Teachers have to apply to these programs and are selected based on their effectiveness as an instructor and as a leader.

Programs differ across districts, but all of the districts place experienced teachers in a lead role, such as a coach, mentor, co-teacher, team leader, or professional development facilitator.

Most districts' programs also have one or more of the following components:

- additional professional development for lead teachers,
- teacher teams with a designated lead teacher, and
- variable class sizes (i.e., class sizes that are smaller than normal for some teachers and larger than normal for others) and greater use of teacher assistants to allow lead teachers to reach more students.

For example, in **Acorn School District**, all lead teachers coach other teachers, and some lead teachers receive release time to co-teach with those teachers. In **Birch School District**, lead teachers do not have their own classrooms; instead, they coach, co-teach with, and lead Communities of Practice for other teachers.

Lead teachers generally receive professional development for the position and support from their district office, as well as supplemental pay (with larger supplements for roles with greater leadership responsibilities). Each year, teachers not in a leadership role have the opportunity to apply to become lead teachers, and lead teachers have the opportunity to move into different roles with more leadership responsibilities.

Teachers who are not in lead roles benefit from working with a lead teacher through the coaching and other support they receive.

- 10. Do teacher career advancement programs, like the ones described above, make working in those districts more appealing to you than working in a district without this type of career advancement program? [Not at all more appealing, Somewhat more appealing, Much more appealing, I don't know / I'm not sure]
 - a. Why is this type of program appealing or not appealing to you? [Free response]
- 11. If you had a job in a district without career advancement opportunities, and you learned that another district, **Cardinal School District**, had a teacher career advancement program, like the ones described above, would you consider leaving your district and taking a position in Cardinal School District?
 - I definitely would not consider leaving my district and taking a position in Cardinal School District
 - I might consider leaving my district and taking a position in Cardinal School District
 - I definitely would consider leaving my district and taking a position in Cardinal School District
 - o I don't know / I'm not sure
- 12. Would you consider leaving your district if you had to move to take the position in **Cardinal School District**?

- I definitely would not consider moving to take a position in Cardinal School District
- o I might consider moving to take a position in Cardinal School District
- o I definitely would consider moving to take a position in Cardinal School District
- o I don't know / I'm not sure

[Repeat program description]

- 13. Imagine that **Cardinal School District** has a teacher career advancement program, like the ones described above, and you knew that if you applied to the program, you would be accepted and be placed in a lead teacher role. How much supplemental pay would the program have to offer for you to accept the position in Cardinal School District, if it <u>did not</u> require you to move? Select the lowest amount that would be sufficient. [no more than \$1,500/year, \$1,501-\$4,500/year, \$4,501-\$7,500/year, \$7,501-\$10,500/year, \$10,501-\$13,500/year, \$13,501-\$16,500/year, \$16,501 or more/year, I don't know / I'm not sure]
- 14. How much supplemental pay would the program have to offer for you to accept the position in Cardinal School District, if it <u>did</u> require you to move? Select the lowest amount that would be sufficient. [no more than \$1,500/year, \$1,501-\$4,500/year, \$4,501-\$7,500/year, \$7,501-\$10,500/year, \$10,501-\$13,500/year, \$13,501-\$16,500/year, \$16,501 or more/year, I don't know / I'm not sure]

[Repeat program description]

- 15. [Show only if response is "Yes" to Q6] Recall the last district that you worked in or the district you currently work in. Imagine that the district has a teacher career advancement program, like the ones described above. There are several lead teachers in your school, and you would be able to apply to the program in the future. To what extent does having a career advancement program in the district influence your decision to continue teaching there? [It has no influence on my decision, It has some influence on my decision, It has a large influence on my decision, I don't know / I'm not sure]
- 16. [Show only if response is "No" to Q6] Imagine you are a first-year teacher in a district with a teacher career advancement program, like the ones described above. There are several lead teachers in your school, and you would be able to apply to the program in the future. To what extent does having the career advancement program in the district influence your decision to continue in the teaching profession? [It has no influence on my decision, It has some influence on my decision, It has a large influence on my decision, I don't know / I'm not sure]
- 17. What components of a teacher career advancement program, like the ones described above, would most influence your decision to stay in the teaching profession? *Drag-and-drop the components below to rank them from most influential at the top* (1) to least *influential at the bottom* (6).
 - The opportunity to receive professional development that you wouldn't otherwise get
 - The opportunity to receive supplemental pay

- o The opportunity to coach and provide support for classroom teachers
- The opportunity to mentor early-career teachers
- The opportunity to assume leadership responsibilities without leaving the classroom
- The opportunity to receive coaching and other support from experienced teachers
- 18. Imagine you are a first-year teacher in a district with a teacher career advancement program, like the ones described above. You are interested in applying to the program once you have a few more years of teaching experience and are a more effective teacher. How long would you be willing to wait before having the opportunity to participate in the program? [2 years, 3-4 years, 5-6 years, 7-8 years, 9 or more years, I don't know / I'm not sure]

[Repeat program description]

19. Districts in North Carolina with teacher career advancement programs often have several different program components. In the table below, a check mark indicates that a district has that component in their career advancement program. Look at the combination of components for each district.

	Program Components			Lead Teacher Roles					
	Related Professional Development	Variable Class Size	Teacher Teams	PD Facilitator	Coach	Co- Teacher	Mentor	Team Leader	
Dogwood School District	1			~			~		
Elm School District	~	1	1		√	1		~	
Fox School District	1	1	1	~	1	1		~	
Grouse School District	1			~	1				

Which program is most appealing to you (e.g. would most make you want to continue teaching in the district and/or apply to the program)? *Drag and drop the districts below to rank their programs from most appealing at the top* (1) *to least appealing at the bottom* (4).

- Dogwood School District
- Elm School District
- Fox School District
- Grouse School District
 - a. Why is your top-ranked district's program the most appealing to you? [Free response]

Relevant North Carolina Teacher Working Conditions Survey Items

	Applicable Evaluation
2018 Survey Items	Question(s)
Q2.1 Please rate how strongly you agree or disagree with the following statements about the use of time in your school	
a. Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	1, 2
b. Teachers have time available to collaborate with colleagues.	3, 5, 6
f. Teachers have sufficient instructional time to meet the needs of all students.	1, 2
Q3.1 Please rate how strongly you agree or disagree with the following statements about your school facilities and resources.	12356
O6 1 Please rate how strongly you agree or disagree with the following statements	1, 2, 3, 5, 0
about teacher leadership in your school.	
a. Teachers are recognized as educational experts.	3, 4, 5
d. Teachers are encouraged to participate in school leadership roles.	3, 4, 5
g. Teachers are effective leaders in this school.	3, 4, 5
Q6.5 Teachers have an appropriate level of influence on decision making in this school.	5,7
Q7.1 Please rate how strongly you agree or disagree with statements about leadership	
in your school.	
d. Teachers are held to high professional standards for delivering instruction.	1
g. Teachers receive feedback that can help them improve teaching.	1
k. The faculty are recognized for accomplishments.	3, 4, 5
Q7.3 The school leadership makes a sustained effort to address teacher concerns about:	
e. Teacher leadership	3, 4, 5
Q8.1 Please rate how strongly you agree or disagree with statements about professional development in your school.	
e. Professional development is differentiated to meet the individual needs of teachers.	1, 3, 5
j. Professional development provides ongoing opportunities for teachers to work with colleagues to refine teaching practices.	1, 3, 5
Q9.1 Please rate how strongly you agree or disagree with the following statements	
about instructional practices and support in your school.	
c. Teachers work in professional learning communities to develop and align instructional practices	1, 3, 5
 d.* Provided supports (i.e. instructional coaching, professional learning communities, etc.) translate to improvements in instructional practices by teachers. 	1
g.* Teachers are assigned classes that maximize their likelihood of success with students.	3, 5
1. [^] Teachers collaborate to achieve consistency on how student work is assessed.	1, 3, 5
Q10.6 Overall, my school is a good place to work and learn.	3, 4, 5, 6

Notes:

* Item appears only in the 2018 survey; used in this report for descriptive data only. ^ Item letter is different in the 2016 survey (9.1.g).

Focus Group Protocols

Introduction:

First, I would like to thank all of you for taking the time to be here today. My name is [name], and I work for the Friday Institute for Educational Innovation at North Carolina State University.

Our purpose today is to discuss your perceptions of and experiences with the Advanced Teaching Roles Pilot program being implemented at your school. The results of our discussion will be used to investigate the impact of teacher staffing programs that provide opportunities for professional advancement and extra pay with the ability to remain teaching in the classroom.

I would like to begin by briefly discussing some basic features of the focus group, and some ground rules.

Disclosures

- Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate, or to stop participating at any time.
- The session will be recorded in order to have a complete record of our discussion. The discussion will be kept completely confidential. We will use code numbers in the management and analysis of the focus group data and your name will not be associated with any discussion results. Recordings will be erased at the completion of the study.
- I will begin the discussion by asking the group a question. Anyone may respond to the question. We would like to hear from everyone. You may ask clarifying questions any time.
- We expect our discussion to last approximately 30-45 minutes.

Again, thank you so much for your time today. Your responses will provide an invaluable service to assist the research team. Does anyone have any questions before we begin?

Advanced Role Teacher Group

The state of NC created advanced role pilot programs to serve the following purposes [summarize 4 main points below].

- 1. Allow highly effective classroom teachers to reach an increased number of students by assuming accountability for additional students, by becoming a lead classroom teacher accountable for the student performance of all of the students taught by teachers on that lead classroom teacher's team, or by leading a larger effort in the school to implement new instructional models to improve school-wide performance;
- 2. Enable local school administrative units to provide salary supplements to classroom teachers in advanced teaching roles. Selection of an advanced teaching role classroom teacher and award of related salary supplements shall be made on the basis of demonstrated effectiveness and additional responsibilities;
- 3. Enable local school administrative units to create innovative compensation models that focus on classroom teacher professional growth and student outcomes; and

4. Utilize local plans to establish organizational changes related to compensation in order to sustain evidence-based teaching practices that have the capacity to be replicated throughout the State.

I am here to understand your experiences with the version pilot program implemented here at your school. Please reflect on your entire experience as an advanced role teacher from the beginning of the program until now.

- 1. When did you become a part of the program? What roles have you taken on over that time?
- 2. Tell me about personal or professional successes you attribute to your participation in the program and/or your position.
 - a. Probes:
 - i. Do you think your position has helped you to support the professional growth of other teachers in your school? If so, how? If not, why not?
 - ii. Did your school make any program adjustments throughout the process that allowed you to better support the professional growth of other teachers in your school?
 - iii. How has your role impacted your professional growth?
 - iv. Did your school make any program adjustments throughout the process to better support your professional growth?
- 3. Tell me about any other challenges you have faced during your time in the program/your position.
 - a. Probes:
 - i. What roadblocks did you encounter?
 - ii. How were those roadblocks alleviated (if at all)?
- 4. In your opinion, what are the key factors necessary to make an effort like this successful in school?
 - a. Probes:
 - i. What did you need to be successful?
 - ii. What support do you wish you received?
 - iii. What is missing from this program?
- 5. The state already has passed legislation that would allow more districts to take part in this program. Based on your experience in this role, what advice or recommendations would you share with policy makers? With districts that are thinking about starting an ATR program?
- 6. Is there anything you would like to share about your experience that we did not cover?

Non-Advanced Role Teacher Group

The state of NC created advanced role pilot programs to serve the following purposes [summarize 4 main points below].

- 1. Allow highly effective classroom teachers to reach an increased number of students by assuming accountability for additional students, by becoming a lead classroom teacher accountable for the student performance of all of the students taught by teachers on that lead classroom teacher's team, or by leading a larger effort in the school to implement new instructional models to improve school-wide performance;
- 2. Enable local school administrative units to provide salary supplements to classroom teachers in advanced teaching roles. Selection of an advanced teaching role classroom teacher and award of related salary supplements shall be made on the basis of demonstrated effectiveness and additional responsibilities;
- 3. Enable local school administrative units to create innovative compensation models that focus on classroom teacher professional growth and student outcomes; and
- 4. Utilize local plans to establish organizational changes related to compensation in order to sustain evidence-based teaching practices that have the capacity to be replicated throughout the State.

I am here to understand your experiences with the version pilot program implemented here at your school. Please reflect on your entire experience as an advanced role teacher from the beginning of the program until now.

- 1. When did you become a part of the program?
- 2. Tell me about the personal or professional successes you attribute to your participation in the program and/or your position.
 - a. Probes:
 - i. Do you think your participation in the program has supported your professional growth? If so, how? If not, why not?
 - ii. Did your school make any program adjustments throughout the process to better support your professional growth?
- 3. Tell me about the challenges of the program and/or lead teachers at your school.
 - a. Probes:
 - i. What roadblocks did you encounter?
 - ii. How were those roadblocks alleviated (if at all)?
- 4. In your opinion, what are the key factors necessary to make an effort like this successful in school?
 - a. Probes:
 - i. What did you need to be successful?
 - ii. What support do you wish you received?
 - iii. What is missing from this program?
- 5. The state already has passed legislation that would allow more districts to take part in this program. Based on your experience in this role, what advice or recommendations would you share with policy makers? With districts that are thinking about starting an ATR program?
- 6. Is there anything you would like to share about your experience that we did not cover?

Administrator Group

The state of NC created advanced role pilot programs to serve the following purposes [summarize 4 main points below].

- 1. Allow highly effective classroom teachers to reach an increased number of students by assuming accountability for additional students, by becoming a lead classroom teacher accountable for the student performance of all of the students taught by teachers on that lead classroom teacher's team, or by leading a larger effort in the school to implement new instructional models to improve school-wide performance;
- 2. Enable local school administrative units to provide salary supplements to classroom teachers in advanced teaching roles. Selection of an advanced teaching role classroom teacher and award of related salary supplements shall be made on the basis of demonstrated effectiveness and additional responsibilities;
- 3. Enable local school administrative units to create innovative compensation models that focus on classroom teacher professional growth and student outcomes; and
- 4. Utilize local plans to establish organizational changes related to compensation in order to sustain evidence-based teaching practices that have the capacity to be replicated throughout the State.

I am here to understand your experiences with the version pilot program implemented here at your school. Please reflect on your entire experience as an advanced role teacher from the beginning of the program until now.

- 1. Were you a part of the initial leadership team that brought this program to the school?
- 2. Tell me about personal or professional successes you attribute to your participation in the program and/or your position.
 - a. Probes:
 - i. Do you think this program helped support the professional growth of teachers in your school? If so, how? If not, why not?
 - ii. Did your school make any program adjustments throughout the process to better support the professional growth of teachers in your school?
 - iii. In what ways has the program impacted your lead teachers' classroom instruction and other professional practices?
 - iv. In what ways has the program impacted your other teachers' classroom instruction and other professional practices?
 - v. In what ways has the program impacted your beginning teachers' classroom instruction and other professional practices?
- 3. Tell me about any other challenges you have faced during your time in the program/your position.
 - a. Probes:
 - i. What roadblocks did you encounter?
 - ii. How were those roadblocks alleviated (if at all)?
- 4. In your opinion, what are the key factors necessary to make an effort like this successful in school?
 - a. Probes:
 - i. What did you need to be successful?

- ii. What support do you wish you received?
- iii. What is missing from this program?
- 5. The state already has passed legislation that would allow more districts to take part in this program. Based on your experience in this role, what advice or recommendations would you share with policy makers? With districts that are thinking about starting an ATR program?
- 6. Is there anything you would like to share about your experience that we did not cover?

Appendix C. Pilot Program Narratives and Logic Models

What Do the Pilot Programs Have in Common? What are Each Pilot Program's Unique Components?

For the first two reports, the evaluation team worked with each participating LEA to construct LEA-level logic models that reflect the planned actions and intents of each pilot, and these are once again included in this report, in this Appendix. These logic models aided in the development of the evaluation—including development of the quantitative models used to estimate numerically measurable impacts of the pilots (detailed in the **Initial Quantitative Estimations of Pilot Program Impacts** section in the main text). They also informed the development of a matrix that summarizes the major points of comparison across programs (Table C1).

	CHCCS	CMS	Edge- combe	Pitt	Vance	Washing- ton
Components						•
Professional devel.	~	~	~	~	~	~
Variable class sizes		~	v	~	~	
Teacher teams		~	~	~	V	
Teacher-Leader Roles	30				•	•
PD facilitator ³¹	~			~		~
Coach ³²		~	v	~	~	~
Co-teacher ³³		~	v	~	~	
Mentor ³⁴	~					
Team leader ³⁵		~	~	~	V	

Table C1. Common Pilot Program Features

³² CMS=Multi-Classroom Teacher; ECPS=Expanded Impact Teacher, Multi-Classroom Teacher; Pitt=Facilitating, Multi-Classroom Teacher; VCS=Multi-Classroom Teacher; WCS=Master Teacher

³⁰ *Roles* are not the same as *position titles*; the roles in this table are those identified by the evaluation team as being covered by one or more positions across LEAs plans—regardless of an LEA's title for the person who takes on a given role. Corresponding positions in each LEA are identified in footnotes.

³¹ CHCCS=PD Facilitator; Pitt=Facilitating, Multi-Classroom Teacher; WCS=Master Teacher

³³ ECPS=Expanded Impact Teacher, Multi-Classroom Teacher, Reach Associate; CMS=Multi-Classroom Teacher, Reach Teachers; Pitt=Facilitating, Multi-Classroom Teacher; VCS=Expanded Impact Teacher, Multi-Classroom Teacher, Reach Associate

³⁴ CHCCS=Mentor Teacher

³⁵ CMS, ECPS, Pitt, VCS=Multi-Classroom Teachers

As indicated by the table and the logic models, there are differences in each LEA's implementation; however, several of the pilots share at least a few components and roles in common—in part because three LEAs either currently are working with or recently have worked with a common third-party support provider.³⁶ These commonalities are important to keep in mind when reviewing the initial results of the quantitative component of the evaluation.

In acknowledgment of the iterative nature of each program's changing implementation, at the end of Year 3, the evaluation team once again asked each LEA to review and revise its logic model and program narrative to reflect adjustments and changes to their programs. Every LEA responded to this request, but only three (CHCCS, PCS, and WCS) made minor adjustments to their narratives to more fully and accurately describe the current state of their programs; no logic models were updated.

³⁶ Public Impact (<u>http://publicimpact.com/</u>), which promotes an advanced teaching roles model called Opportunity Culture, is working with Edgecombe and Vance on their pilots, and they formerly worked with Charlotte-Mecklenburg on an earlier iteration of their model. Each LEA is working with at least one additional support provider, but only Public Impact has worked across multiple LEAs.

Chapel Hill-Carrboro

Updated Logic Model



Narrative

Overview. Chapel-Hill Carrboro City Schools' (CHCCS) Project ADVANCE is an educator career advancement model designed to support instructional excellence and professional growth. Most certified staff in the school system are expected to participate in Project ADVANCE. Initiative components include new professional development and support for research-based instructional practices. Staff include a Director of Professional Learning and Project ADVANCE, a Professional Learning Specialist, and 18 Project ADVANCE implementation team members comprised of teachers, administrators, counselors, and other support personnel.
Advanced Roles and Other Program Features

The Project ADVANCE model includes four levels of career advancement for teachers: *Learn*, *Grow*, *Impact*, and *Inspire*:

- *Learn*: The Learn level of Project ADVANCE is the first level in our professional learning based teacher career ladder. Content at the Learn level covers the knowledge, skills, and practices that we believe staff members need to know and implement to be successful in their first three to five years in our district. Teachers and staff who are new to our district begin their work through Project ADVANCE and the associated professional learning at the Learn level. Upon completion of the Learn level, teachers and staff receive an annual salary increase of \$1,500. The Learn level is designed to take teachers and staff between three and five years to complete.
- *Grow*: For teachers with five to eight years of experience. Advancement beyond this level requires completion of professional development course sequences ("playlists") of a teacher's choosing, based on professional needs and interests. Each playlist equates to a minimum of 10 hours. All teachers are required to complete 4 to 6 required courses at this level. Teachers and staff who wish to deepen their professional learning can choose to engage in the playlists of learning. Those that complete the required courses and the required hours of playlists will advance to the next level and receive an additional \$1,500 salary increase for a total of \$3,000. The Grow level is designed to take between five and eight years to complete.
- *Impact*: Teachers and staff that reach the Impact level are primed to assume leadership roles while also remaining in the classroom. This level is optional and not all teachers are required to complete it.
- *Inspire*: For teachers who wish to continue in their advanced Impact roles.

The Impact and Inspire levels have not yet been developed; through the 2019-20 school year, only Learn and Grown levels were attainable by CHCCS teachers.

The advanced roles that are currently available for teachers and staff include *mentor teachers*, *professional course developers*, and *professional development course facilitators*:

- *Mentor teachers* are assigned to individual beginning teachers. Mentor teachers complete mentor training aligned to Project ADVANCE courses. Mentors receive \$1,000 per year and also may serve as course developers or course facilitators.
- *Course developers* are LEA-level teacher content experts. Course developers write new courses or revise existing courses (\$500 per course). Course facilitators are chosen via an application process. Teachers apply through the ADVANCE website or are referred by principals based on the teacher's specific content knowledge.
- *Course facilitators* teach or lead professional development courses. Facilitators must be at least one level above the level at which they facilitate courses. Courses can be face-to-face or virtual (with both synchronous and asynchronous interaction). Facilitators receive \$500 per course. For the 2017-18 school year, 12 facilitators with year-long contracts and 20

facilitators total were responsible for developing and maintaining all district-level professional development.

ADVANCE professional development courses cover four core competency areas: *data literacy*, *instruction*, *content knowledge*, and *diverse populations*. Teachers are recruited to the courses via monthly emailed newsletters and a Project ADVANCE website.

The implementation team monitors teacher progress via a digital badging and microcredentialing system that tracks professional development participation rates, course completions, and level advancements. Successful completion of a course or sequence is determined by competency-based assessments: Teachers build core professional competencies and demonstrate mastery of new skills as measured by artifact submission and a grading rubric built into the courses. In addition, the initiative incorporates classroom-level measures of student academic growth (increased achievement and decreased achievement gaps).

Design Process. CHCCS consulted with Battelle for Kids³⁷ to assist with program planning and design. A design team consisting of 30 education, government, and community members met to structure the program and identify the four core competencies. A communication team disseminated newsletters via email to all principals and teachers with links to a revised website.

The financial sustainability of the model relies on a blend of new and pre-existing supplemental pay structures approved by the CHCCS board.

Expected Outcomes. By engaging in ADVANCE, teachers will progress through career levels and have the capacity to engage in leadership roles. CHCCS expected 95% of eligible staff to complete at least one Learn level course in Year 1 (2017-18). By the end of Year 2, 75% of eligible staff are expected to have completed at least three Advance courses, one of which is an Instructional Planning course. Student achievement is expected to increase and student discipline incidences are expected to decrease. Finally, CHCCS has a longer-term target of decreasing by 50% student subgroup non-proficiency ratings on achievement tests.

	Salary
Position Title	Differential
PD Course Creator	\$500 / course
PD Course Facilitator	\$500 / course
Mentor Teacher	\$1,000
Learn Level	\$0
Grow Level	\$1,500
Impact Level	\$3,000
Inspire Level	\$5,000

 Table C1. CHCCS Supplemental Pay Table

³⁷ <u>https://www.battelleforkids.org/</u>

Qualitative Data Notes Specific to Project ADVANCE

Note: This text has been carried over from the Year 2 report and does not contain new information for Year 3.

As discussed in the **Data and Methods** section in the main text, CHCCS's advanced teaching roles pilot is unlike the other five pilots; as one CHCCS administrator succinctly put it, "[O]ur model is significantly different." Among other things, Project ADVANCE does not directly address the first of the four intents of the pilots as outlined in the enacting legislation (allowing highly-effective classroom teachers to reach an increased number of students), focusing instead on providing the tiered levels of professional development opportunities described above.³⁸

For many of the topics discussed in the **Analysis of Year 3 Qualitative Data** section above, input from CHCCS administrators and teachers easily integrated into the larger set of data collected across all six LEAs. However, because of the notable differences between the CHCCS program and the other five pilots, some of the observations and perceptions were not as relevant to discussions of the Advanced Teaching Roles pilots as a whole. In this section, we highlight two areas of difference in CHCCS educators' perceptions of their Advanced Teaching Roles pilot relative to their colleagues' perceptions of the pilots in the other five LEAs.

Improvement in Classroom Instruction

Overall, like their colleagues in other LEAs, CHCCS administrators believe that Project ADVANCE has had a positive impact on instruction, and they hope to continue to refine the program so that it better meets staff needs. Teachers who had made the most progress along the Project ADVANCE pathways also noted that the initiative supported vertical alignment and general teacher professionalization. Some teachers expressed concerns, however—particularly about the initiative's integration of past professional development work, as well as about the potential longevity of the initiative:

I resent that I have to do graduate-level work in Equity 101.... I've been in the district for 23 years and have done numerous equity trainings, [but] none of that counts.

When I hear the words [Project ADVANCE], it just makes me cringe. It doesn't have the most positive [association], and with the change in leadership, over the past couple of years under new administration, I mean, being here for as many years as I have been, I do expect it to go away, I don't think it's going to last. And that is a little bit sad to me because it had some great potential.

In addition, several teachers shared that the supplemental salary was the primary motivation for their participation in Project ADVANCE, and that they moved through the first level of professional development as quickly as they could to become eligible for the supplement. One teacher theorized that, with "limited bandwidth," many teachers are only motivated to take professional development courses if they count toward their Project ADVANCE status (and thus toward their compensation).

³⁸ These differences also are relevant to (and are addressed in) the quantitative analyses included in the main text.

Retention of High-Quality Teachers

In addition, CHCCS administrators were less certain about Project ADVANCE's influence on teachers' decisions to stay in the classroom than were their peers in other LEAs:

People have positive things to say about Project ADVANCE in isolation but I don't think that necessarily has any impact on people deciding to stay or leave the profession.... That is a hard jump to make because there are so many things that go into someone's decision to go in to the teaching profession or remain in the teaching profession, and many of those are outside of our district's control.... (Administrator)

Charlotte-Mecklenburg

Logic Model



Narrative

Overview. In July 2019, Charlotte-Mecklenburg Schools' (CMS) Success by Design (SbD) advanced teaching roles program was re-imagined as the Teacher Leader Pathways (TLP) advanced teaching roles program, the foundational component of CMS's new Department of Teacher Leadership. The program has three goals: to improve recruitment and retention of effective teachers; to bolster student achievement; and to elevate the overall culture of participating schools. The original program, SbD, was established as part of Project LIFT, which

incorporated Public Impact's Opportunity Culture³⁹ model for supporting advanced teaching roles (for example, TLP's compensation scale and teacher-leader job descriptions are based on the Opportunity Culture framework). TLP's structure also is informed by a recent district professional development needs assessment.

The first schools in TLP's predecessor, the SbD program, started their "Design Year" (planning year) during the 2013-14 school year, and the number of participating schools has increased each year. At the start of the 2019-20 school year, 56 schools and over 300 teachers were participating in the TLP program.

Though they share a history with previous CMS advanced teaching roles efforts, SbD and TLP introduced several modified or new elements, including their own teacher recruitment and talent pool screening process, communication strategy, process for re-qualifying teacher leaders, differentiated professional development activities (along with a dedicated Program Specialist), financial sustainability plan, and program evaluation process.

Advanced Roles and Other Program Features. The heart of the TLP program is the wide array of advanced teaching roles nested within two broad categories:

- *Multi-Classroom Leaders* are initially responsible for coaching two to three teachers, with an expanded responsibility of up to seven teachers as they advance in that role.
- *Expanded Impact Teachers*⁴⁰ are full-time classroom teachers who take on increasingly challenging school leadership responsibilities as they advance through three levels of service. Each participating school sets the specific roles it needs its Expanded Impact Teachers to play, and roles can change from year to year.

Teachers selected for advanced roles follow a Professional Development Pathway differentiated professional development activities provided by a newly-hired professional development specialist and other TLP and CMS staff—that includes courses and workshops designed to build skills specific to leading other adults. Additional support for TLP schools is provided by *Instructional Associates*⁴¹ who can pull small groups of students, support swaps for time and technology, and assist in classrooms with larger student numbers. Currently, teacherleaders must re-qualify for the program every two years through a shortened application progress and rubric-based assessment; however, DTL is modifying this process due to recent changes to State testing requirements, feedback from various stakeholders, and data collected from previous years.

Design Process. Most schools are recruited to TLP through internal newsletters, webinars, and word of mouth. After successful completion of a readiness application and a review of the TLP school-specific design process with district staff, the school shares program details with school personnel.⁴² Next, the TLP Program Manager meets with school staff and conducts three sessions on the program. At this point, teacher recruitment begins and the participating school

³⁹ <u>http://opportunityculture.org/opportunity-culture/</u>

⁴⁰ Originally referred to as *Reach Teachers* under SbD

⁴¹ Instructional Associate positions are paraprofessional positions.

⁴² In some cases, TLP-trained principals who move to non-TLP schools or who are opening new schools can convert those schools to TLP without going through the entire application process.

identifies staff members who are interested in applying for the advanced teaching positions. Interested teachers go through a district-wide talent pool assessment process, during which teachers' applications are assessed using a district-designed rubric.

Expected Outcomes. Short-term expected outcomes for the grant include improvements in school culture as measured by the *The New Teacher Project Insight* survey, which measures school culture, and by student surveys of their perceptions and experiences. In addition, program developers expect to see professional growth (as measured by EVAAS and teacher evaluations) at the school level, as well as growth in the number of teachers who take on advanced roles. Longer-term expected outcomes include student growth (as measured by EVAAS) and specific evidence of growth among teachers supported by the advanced teachers (as measured by EVAAS and teacher evaluations). Ultimately, CMS hopes to see TLP schools outperform LEA and state-level results on student achievement, school culture, and teacher retention and effectiveness.

Position Title	Salary Differential ⁴³
Multi-Classroom Leader 2	\$13,750-\$18,250
Multi-Classroom Leader 1	\$11,250-\$16,000
Expanded Impact Teacher 3	\$6,750-\$9,000
Expanded Impact Teacher 2	\$4,500
Expanded Impact Teacher 1	\$2,250
Instructional Associate	*44

Table C2. CMS Supplemental Pay Table

⁴³ Supplements are tiered and have a range based on the participating school's Title I status.

⁴⁴ The Instructional Associate position is a 10-month paraprofessional position and is compensated based on a standard CMS Pay Grade 02 scale.

Edgecombe

Logic Model



Narrative

Overview. The purpose of Edgecombe County Public Schools' (ECPS) advanced teaching roles program—Innovation Grounded in Research, Results, and ECPS Strategic Priorities—is to extend the reach of excellent teachers beyond their own classrooms. Leadership roles allow core subject teachers to impact instruction across multiple classrooms in their schools, with a goal of improving schoolwide student academic growth. In partnership with Public Impact, ECPS is

implementing an Opportunity Culture⁴⁵ framework to help teacher leaders reach more students while also providing additional time for planning, collaboration, and professional development.

Advanced Roles and Other Program Features. In keeping with the Opportunity Culture model, ECPS created two advanced teaching roles and one supporting role:

- *Expanded Impact Teacher* (EIT): There are two types of EITs. The first type takes on larger class sizes, which, in addition to freeing up time for teachers in other advanced roles, also helps address challenges related to teacher recruitment in rural districts. The second type takes on significant additional leadership responsibilities, such as planning and leading all interventions and Professional Learning Communities.
- *Multi-Classroom Leader* (MCL): MCLs engage in teacher capacity development, provide direct instruction to other teachers, and participate in team management.
- *Reach Associate* (RA): RAs provide supplemental instruction in EIT classrooms in a teaching assistant role, which helps ensure that more students are taught by effective teachers.

Teacher training is provided by ECPS in conjunction with several third-party partners:

- ECPS provides education leadership training developed by New Leaders for New Schools⁴⁶ to all MCLs
- Public Impact provides professional development modules on various topics
- The Hill Center⁴⁷ provides training and certification in literacy interventions for teachers interested in becoming literacy MCLs
- The Buck Institute⁴⁸ provides training in problem-based learning
- The Racial Equity Institute⁴⁹ (REI) provides training on racial equity
- CT3⁵⁰ provides No-Nonsense Nurturer training in support of developing a stronger student culture

Design Process. During the planning phase for their advanced teaching roles program, ECPS defined selection criteria for the new teaching roles, established district and school design teams, developed a community outreach plan, and outlined a multi-year roll-out plan. The roll-out plan is based on high school feeder patterns, with all schools along a feeder pattern brought in at the same time. ECPS has three high schools; the third feeder pattern was brought in to the program after the 2018-19 school year.

Next, teachers were selected for the new roles based on a variety of teacher quality indicators, including student growth, demonstrated teaching mastery, and teacher evaluations at or above the

⁴⁵ <u>http://opportunityculture.org/opportunity-culture/</u>

⁴⁶ <u>http://newleaders.org/</u>

⁴⁷ <u>https://www.hillcenter.org/</u>

⁴⁸ <u>https://www.bie.org/</u>

⁴⁹ <u>https://www.racialequityinstitute.com/</u>

⁵⁰ <u>http://www.ct3education.com/</u>

Accomplished level. These teachers also completed behavioral interviews and provided evidence of meeting critical competencies for each advanced role. In partnership with Public Impact, the design team also constructed an evaluation and program refinement plan.

Finally, the district design teams and district innovation lead designed a financial model that would allow the district to sustain the advanced teacher supplements and class restructuring beyond the pilot timeline by expanding the ways in which the district uses its Title I funds. In addition, because the first three schools implementing Opportunity Culture have been designated as "restart" schools⁵¹, the district has even more financial flexibility.

Expected Outcomes. District leaders have identified an increase in the pool of advanced teachers, expansion of the proportion of students who are taught by excellent (EIT and MCL) teachers, improvements in student expected growth, and an increase in teacher retention rates as desired outcomes of the program. The district anticipates that, once the program is fully established, there could be up to three times as many advanced teacher applicants as positions. Currently, the program has filled 11 positions in three schools, and district leaders are targeting 45 to 50 positions available across 13 schools some time over the next three years.

Position Title	Salary Differential
Multi-Classroom Leader I	10-15% of salary
Multi-Classroom Leader II	20-30% of salary
Expanded Impact Teacher I	10-15% of salary
Expanded Impact Teacher II	20-30% of salary

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Table C3. ECPS Supplemental Pay Table

⁵¹ Restart schools are part of a school improvement model in which persistently low-performing schools apply for charter school-like flexibility that allows them to enact a localized plan to increase student achievement. Examples of these flexibilities: length of the school day, use of State funds, and teacher licensure. Restart schools remain under the supervision of the local school board.

Pitt

Logic Model

Resources	Activities	Outputs	Outcomes short term * long term	Goals/Impact
Pitt County internal resources committed to the pilot: • Teachers & building-level admins • Central service Admin • Financial resources • Support staff (trainers/coaches) • Students • Related teacher programs Federal TIF grant support ZSR, Wells-Fargo, PCS Education Foundation, Eddie & Jo Smith Family Foundation financial support	[Pre-training] Teacher Leadership Institute TLI Trains 25 teachers per year - this contributes to the candidate pool for the program School leadership teams identify problems of practice (e.g., 3rd grade reading) to be addressed by the new roles Collaborative Action Research topic identified Teacher teams conduct research on ident prob of practice Principals identify Career Pathway teachers (PCS has LEA-developed criteria; there is an application proces - helps pull in outside teachers too) PCS DEEL designs Core Professional Learning & provides ongoing coaching for Career Pathway teachers Adaptive School Training: 4-days; for FTs Adaptive School Training: 4-days; for FTs District Admin Data Driven Dialogue Training: 4-days; for FTs	Collaborative action research approach implemented (classroom level) Career Pathway teachers are in roles Definitions: Facilitating Teacher- 1 class; trains # other teachers. Multi-Classroom teacher - pairs with 2-3 other teachers (low green-red) 100% Pathway teachers are trained and supported (trained-specifics per role; supported-every FT has a coach [district level staff) Co-teaching classrooms established Differentiated pay system for Career Pathway teachers begins	short termlong termIncreased leadership skills and capacities of Career Pathways TeacherDecreases i teacher turnoIncrease in sense of professional rapport and community in the schoolsIncreases in candidate po for Career Pathway positionsInitial student achievement gains (=within Facilitating Teacher classrooms) in identified problems of practiceIncrease in % highly-effecti teachers (15 2014-15 to 13 2019-20) an access to the (=increase in % thighly-effective teachersIncreased retention of highly-effective teachersLonger-terr sudent achievement gains (=acro school) in identified problems of practiceClassroom-level action research vetted and information sharedLonger-terr sudent achievement gains (=acro school) in identified problems of practice	ner Number of high-performing schools increases District-wide student achievement increases Long-term retention of highly effective teachers and teachers and teachers and teacher leaders increases Recruitment (both within Pitt Co and outside ['outside" includes ECU): better quality measured by ; already proven; already proven;

Updated Narrative

Overview. The goal of Pitt County Schools' (PCS) Recruit-Retain-Reward (R3) Framework is to increase the number of high-performing schools across the district by improving the recruitment of high-quality teachers and the long-term retention of highly-effective teachers and teacher leaders. The primary method for accomplishing this goal is the introduction of several Career Pathways for classroom teachers. PCS has committed multiple internal resources to the pilot, including central service administrators (the R3 Leadership Team), 12 district-level trainers/coaches from PCS's Division of Educator Effectiveness and Leadership⁵² (DEEL), and 39 school instructional coaches. In addition, the program is supported by related initiatives, such as the district's Teacher Leadership Institute and Key Beginning Teacher Program (sponsored by the Pitt County Educational Foundation).

Advanced Roles and Other Program Features. A Career Pathway teacher fills one of two roles in a school:

- *Facilitating Teachers (FTs)* teach their own classes while facilitating the involvement of other collaborative teachers (CTs) in a Collaborative Inquiry Project. The initiative's goal is to have three CTs for every FT. This team of four identifies and works on resolving a problem of practice (detailed below).
- *Multi-Classroom Teachers (MCTs)* co-teach with two or three other teachers who are either under-performing or inexperienced. This co-teaching includes classroom instruction, co-planning, and collaborative student assessment. MCTs also address specific personnel needs.⁵³

Principals hire eligible Career Pathway candidates based on a districtwide application process. Career Pathways teachers can be identified within the district or as part of the hiring process for teachers new to the district.

Each participating school localizes its implementation of the program to meet its needs. First, the school leadership team identifies a problem of practice to be addressed by its FTs. Once a Collaborative Inquiry topic is identified, FTs research the topic, implement appropriate interventions in their classrooms, share their results, and make instructional adjustments based on those results.

Career Pathways teachers are provided ongoing coaching by DEEL coaches and are trained in DEEL-identified Core Professional Learning areas. Topics include data-driven dialogue training, co-teaching and co-planning training (in partnership with East Carolina University), Cognitive Coaching^{SM54}, and Adaptive School Training.⁵⁵ In addition, PCS provides pre-training for up to 25 future Career Pathway teachers annually through the Teacher Leadership Institute.

R3 includes support for performance-based incentives based on individual EVAAS ratings,

⁵² https://successforeverychild.com/

⁵³ In 2017-18, PCS identified 54 FTs (target: 66 FTs) and 177 CTs (target: 198); for 2018-19, the goal is to identify 96 FTs, 288 CTs, and 18 MCTs.

⁵⁴ <u>http://www.thinkingcollaborative.com/seminars/cognitive-coaching-seminars/</u>

⁵⁵ http://www.thinkingcollaborative.com/seminars/adaptive-schools-seminars/

North Carolina Educator Evaluation System (NCEES) ratings, and other criteria. All full-time classroom teachers are eligible to apply for an advanced role position. In addition, some teachers are eligible to receive an annual, one-time bonus based in part on student performance scores as measured by EVAAS. Teachers who meet all criteria, including either: being rated in the top 25% of the state or district on a standardized test in mathematics or reading; or who receive a "blue" EVAAS rating in other subjects, will receive a one-time bonus from either the State or district, with the State given first priority. These teachers also are eligible to apply for the Growth Teacher (GT) role. GTs mentor other teachers who did not receive the bonus with the aim of helping them improve their practice so that they can receive the bonus and meet other criteria for being identified as "highly effective."

In addition, administrators are eligible to receive *either* a State or local bonus for serving at Blue Schools, as decided by the Principal Advisory Council, with the State bonus given first priority.

Design Process. In order to support the program's size, PCS secured funding from several sources in addition to the State-provided pilot funding. Key financial support is provided by a federal TIF grant, and PCS also partners with multiple non-public partners, including the Wells-Fargo Foundation, The Eddie and Jo Allison Smith Family Foundation, the Pitt County Education Foundation, and the Z. Smith Reynolds Foundation.

Expected Outcomes. A key anticipated early outcome is that Career Pathways teachers will show increased leadership skills and capacity as measured by annual growth on the NCEES and on a district-developed teacher leadership rubric. PCS also expects to see evidence of an increased sense of professional rapport and community in schools, along with higher retention rates of highly-effective teachers and increases in the number of those teachers who work in the district's highest-need schools; as a result, overall teacher turnover should decrease. Finally, PCS hopes to see an increase in the size of the candidate pool for the Career Pathways program. As the number of Career Pathways teachers grows and as Career Pathways teachers identify, research, and address problems of practice, the district expects to make progress toward the ultimate longer-term goal of increasing gains in student achievement.

Position Title	Salary Differential
Facilitating Teachers*	15% of salary
Multi-Classroom Teachers	30% of salary
Other Supplements	Salary Differential
Collaborating Teacher**	\$2,000
Tchr. Ldrshp. Inst. Completion	\$4,800 (paid over 2 yrs)
Blue Teachers (+2 EVAAS)	\$2,500
Growth Teachers	\$500/teacher (max \$1,000)
Principals at Blue Schools***	\$5,000
Asst. Princs. at Blue Schools	\$3,500

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 Table C4. PCS Supplemental Pay Table

* After the pilot grant ends, PCS plans to change the FT supplement to a fixed amount (amount to be determined). ** Pay increased in October 2018 to match the expectations of the Collaborating Teacher role

*** Principals who receive State bonus pay for school performance are not eligible to receive local bonus pay.

Vance

Logic Model



Narrative

Overview. Vance County Schools (VCS) is working in partnership with Public Impact and New Leaders for New Schools to "Extend the Reach of Great Vance Teachers" by implementing Public Impact's Opportunity Culture⁵⁶ approach to providing advanced roles for classroom

⁵⁶ <u>http://opportunityculture.org/opportunity-culture/</u>

teachers. The goals are to improve instruction within schools and improve student academic growth in core subject areas.

Advanced Roles and Other Program Features. The VCS version of Opportunity Culture includes three advanced teaching roles:

- *Expanded Impact Teacher* (EIT): EITs have larger class sizes, which helps ameliorate some of the challenges associated with teacher recruitment in rural districts by creating smaller-class settings for new teachers. EITs use technology-delivered content coupled with assistance from teaching assistants and Reach Associates to provide instruction to students.
- *Multi-Classroom Leader* (MCL):⁵⁷ The MCL is the lead classroom teacher for a team of teachers and is responsible along with the teacher of record for the performance of all students taught by the teacher team. MCLs act as instructional coaches, teach classes, and provide support to other classrooms by facilitating planning for instructional delivery and identifying and troubleshooting student learning difficulties. MCLs are invested in their team's student outcomes and take responsibility for providing coaching to improve those outcomes.
- *Reach Associate* (RA). RAs are teaching assistants who supplement non-instructional and instructional duties, including classroom management in EIT and other classrooms. Their presence increases student exposure to effective teachers.

Teachers are selected for EIT and MCL teaching roles based on a variety of teacher quality indicators, including student growth, demonstrated teaching mastery, and teacher evaluations at or above the State-defined Accomplished level. In addition, the district-level design team identifies the critical competencies that it believes will best indicate a teacher's ability to succeed in an advanced teaching role in a VCS school. Candidates also take part in behavioral interviews and provide evidence of meeting critical competencies for each advanced role. Finally, principals of participating schools conduct interviews with candidates identified by the district-level team.

VCS anticipates identifying two cohorts of teachers over the three-year pilot period, with each cohort comprised of 12 teachers⁵⁸ across three schools. The Assistant Superintendent of Student Services and Strategic Planning provides oversight for the pilot, and each partner organization provides specific supports. Public Impact is the primary provider of professional learning for district- and school-level teams (as part of the Opportunity Culture design process), New Leaders for New Schools provides monthly coaching training, and TIP provides administrator-level training.

Design Process. VCS's district-level design team is composed of three principals (from participating schools) and VCS administration. This team sets the vision and parameters for Opportunity Culture, identifies participant schools, establishes the advanced teaching roles selection criteria, leads recruitment and hiring efforts (including interviewing candidates), implements systemic changes that support the new teaching roles, and oversees the evaluation of the program.

⁵⁷ There are also two tiers (levels) within both the EIT and MCL categories.

⁵⁸ 4 EITs, 4 MCLs, and 4 RAs

School-level design teams tailor the overall district model to fit the specific needs of each school and also provide input on teacher selection. Each school's design is unique, but each must align to 10 shared design principles.⁵⁹ Public Impact facilitates four sessions that support each school-level design team's efforts. Once teacher leaders are hired and placed, the design teams provide leadership on any needed design model adjustments.

Expected Outcomes. In the near term, VCS expects new teacher leader candidates to be qualitatively stronger, as measured by past EVAAS and student growth data. VCS expects its most effective teachers to be able to reach more students while also increasing the time available to them to provide leadership for, plan, and collaborate with colleagues. Over time, VCS expects to reduce its number of vacant teaching positions by 10 percentage points. Currently, teacher turnover in VCS is 22%.

Table C5. V	VCS Supple	emental Pay	Table
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Position Title	Salary Differential
Multi-Classroom Leader I	\$7,000 salary differential
Multi-Classroom Leader II	\$10,000 salary differential
Expanded Impact Teacher I	\$5,000 salary differential (33% more students)
Expanded Impact Teacher II	\$7,000 salary differential (50% more students)

⁵⁹ <u>http://opportunityculture.org/the-opportunity-culture-principles/</u>

Washington

Logic Model



Updated Narrative

Overview. The goal of Washington County Schools' (WCS) Lead Teacher Initiative is to improve teacher quality through specialized training, advanced certification and degrees, better recruitment and retention of quality teachers, and decreased attrition. In 2019-20, there were six teachers participating across three schools,⁶⁰ each with two lead teachers on staff.

Advanced Roles and Other Program Features. The key lead teacher role is the **Master Teacher** (MT). The primary role of the MT is to provide professional development to other teachers. MTs

⁶⁰ Creswell Elementary School and Washington County Middle School did not have lead teachers in 2019-20.

develop and deliver a minimum of four participant-evaluated professional development products per year that align not only to district-identified needs but also to individual MT strengths and interests.

MTs received professional development support, including training on the Larry Bell strategy⁶¹ during Year One. Additional training in Digital Learning Competencies, SIBME, STEM, Coaching Adult Learners, and other topics was planned for subsequent years but was not delivered.

Another MT responsibility is to provide 1:1 coaching support for their colleagues, with a focus on integrating best practices into their classroom routines. MTs provide this support through their school Professional Learning Communities and during half-day professional development days. For the 2019-20 school year, WCS had planned to give MTs access to SIBME (Seeing Is Believing), an online video coaching and collaboration platform,⁶² to provide individual support for their colleagues, as well as training on peer coaching professional development, but MTs did not receive either. Because all of these duties and responsibilities are in addition to their work as teachers, MTs continue to teach the same number of students and classes.

*Design Process.*⁶³ Existing WCS staff (the superintendent, assistant superintendent, Chief Personnel Officer) and a Regional Education Facilitator and consultant from NCDPI developed each of the five main components of the initiative: 1) New roles and responsibilities for lead teachers; 2) A teacher application and review process; 3) A school and community outreach plan; 4) The various training programs; and 5) An evaluation team. The Chief Personnel Officer and Regional Education Facilitator reviewed teacher applications and conducted interviews. As part of the outreach plan, a promotional video featuring the district superintendent was filmed, posted on the district website, and emailed to all district personnel at the end of the 2016-17 school year to recruit teachers.

Expected Outcomes. The evaluation team identified key data points for measuring the success of the program, including student growth data, evaluation forms and self-reflection forms completed by MTs each semester, and post-professional development evaluation surveys completed by professional development participants. Specific anticipated short-term outcomes for teachers include:

- 10% increase in classroom MTs who receive additional compensation, training, certifications, and/or advanced degrees
- 5% increase in teachers receiving advanced degrees or National Board certification
- 5% reduction in annual teacher turnover, and a 0% attrition rate for MTs during the 3-year grant (not including retirements)

⁶¹ The Larry Bell Strategy (<u>https://www.larry-bell.com/</u>) provides instructional strategies to promote high expectations for struggling learners.

⁶² <u>https://sibme.com/</u>

⁶³ WCS originally intended to support the initiative with both State and federal Title II funds, but Title II funding was cut prior to implementation.

Even though there are only a small number of MTs at every school, WCS anticipates measurable impact on all students' growth, since all teachers have access to the coaching and professional development provided by the MTs. The initiative's key measurable longer-term student outcome target is a 10% decrease over the three-year period across all grade levels in the proportion of students who score at Level I on the EOG/EOC in reading and math. As noted above, while WCS anticipates seeing these improvements district-wide, the district expects initial impacts in MT classrooms during Years One and Two, with measurable impacts for all students by Year Three.

Table C6. WCS Supplemental Pay Table

Position Title	Salary Differential
Master Teachers	\$2,000

State-Level





Appendix D. Raw Survey Results

Survey Response Key:

- SD: Strongly Disagree
- D: Disagree
- N: Neither Agree nor Disagree
- A: Agree
- SA: Strongly Agree

Note: To protect privacy, data are not reported for respondent groups with five or fewer respondents (marked "---" in data columns and "*" in the count [n] column). Data for respondent groups with five or fewer respondents are included in multi-LEA summary rows.

Questions Common to All Survey-Takers, Year 3 vs Year 1

Notable changes in agreement or disagreement between Year 1 and Year 3 results are marked in *bold italics*.

Since the implementation of the program the quality of non-lead teachers' instruction in our school has improved. / Since I began work with a lead teacher in my school, the quality of my classroom instruction has improved. / I believe the quality of classroom instruction has improved among the teachers I support in my role. Q1 Year 3 Results SD DΝ Α SA SD + DΝ A + SAп 0% 42.4% 40.9% 10.6% 83.3% 66 Administrators 6.1% 10.6% 6.1% Other Teachers 2.7% 2.4% 11.1% 38.6% 45.2% 5.1% 11.1% 83.8% 332 Lead Teachers 0.4% 1.6% 6.6% 42.4% 49% 2% 6.6% 91.4% 243 Pct. Point SDDΝ Α SA SD + DΝ A + SAChange fm Y1 Administrators 0 -2.9 -16.4 +1.4+17.9 -2.9 -16.4 +19.3 Other Teachers -0.3 -7.6 -10.9 -6.4 -7.9 -10.9 +19.8 +26.2 Lead Teachers -0.6 +0.6-4.4 -15.6 +20 0 -4.4 +4.4

The William and Ida Friday Institute for Educational Innovation

Q2	high-quality	classroom tead	chers. / All of	the teachers in	n leadership r	oles like mine at n	ny school are hig	h-quality	classroom te	eachers.
Year 3 Results	SD	D	N	A	SA	No others in roles like mine	SD + D	Ν	A + SA	п
Administrators	1.5%	4.5%	7.6%	36.4%	50%	0%	6%	7.6%	86.4%	66
Other Teachers	1.5%	4.1%	6.2%	37%	51.2%	0%	5.6%	6.2%	88.2%	338
Lead Teachers	1.2%	1.2%	4.5%	24.7%	61.3%	7%	2.4%	4.5%	86%	243
Pct. Point					6 4					
Change fm Yl	SD	D	N	A	SA		SD + D	N	A + SA	
Administrators	+1.5	+4.5	-4.4	-2.6	+2.0	0	+6.0	-4.4	-0.6	
Other Teachers	-0.5	+0.1	-7.8	-4.0	+11.2	0	+0.6	-7.8	+7.2	
Lead Teachers	+0.2	+0.2	+2.5	-0.3	-2.7	0	+0.4	+2.5	-3.0	

The program allows me to identify high-quality classroom teacher leaders. / All of the teachers in leadership roles at my school are

I believe the program provides adequate support for beginning classroom teachers. / I believe the program provides adequate support to beginning teachers

23	support to be	eginning teache	ers.				-	
ear 3 Results	SD	D	N	Α	SA	SD + D	N	
ner Teachers	2.7%	3.9%	10.5%	40.7%	42.2%	6.6%	10.5%	
ad Teachers	1.7%	3.3%	14.5%	36.8%	37.6%	5%	14.5%	
ct. Point	مع م	ת	N	٨	S A	SD + D	N	
r Taaahara	0.2		10.5	A 2.2	5A	$\frac{3D+D}{11.4}$	10.5	-
	-0.3	-11.1	-10.5	-2.3	+24.2	-11.4	-10.5	
Teachers	-1./	-3.7	-8.5	-21.2	+23.0	-2.0	-8.5	

Q4

The aspect of the lead teacher roles at my school that most appeal to me is... / The aspect of my new role that most makes working at my school more appealing to me is...

	Providing	Receiving supplemental	Providing support for classroom	Mentoring early- career	Assuming more leadership responsibi-	
Year 3 Results	PD	pay	teachers	teachers	lities	n
Other Teachers	4.4%	19.5%	47.9%	15.7%	12.4%	338
Lead Teachers	4.5%	25.5%	36.6%	10.7%	22.6%	243

		Receiving	Providing support for	Mentoring early-	Assuming more leadership
Pct. Point Change fm Y1	Providing PD	supplemental pay	classroom teachers	career teachers	responsibi- lities
Other Teachers	-2.6	-3.5	+4.9	+1.7	-0.6
Lead Teachers	-3.5	-3.5	+4.6	+4.7	-2.9

Advanced Roles Teachers

Q1	I believe the q	uality of classro	om instruction h	nas improved an	ong the teachers	I support in m	y new role.			
	SD	D	Ν	Α	SA		SD + D	N	A + SA	п
All	0.4%	1.6%	6.6%	42.4%	49%		2%	6.6%	91.4%	243
CHCCS	0%	0%	8%	56%	36%		0%	8%	92%	25
CMS	1%	4%	7%	41%	47%		5%	7%	88%	100
ECPS	0%	0%	15%	45%	40%		0%	15%	85%	20
PCS	0%	0%	4.5%	42%	53.4%		0%	4.5%	95.4%	88
VCS	0%	0%	0%	0%	100%		0%	0%	100%	6
WCS										*

Thalia ality of alay groom instruction has improved among the teachers I support in . .1. w role

All of the teachers in leadership roles like mine at my school are high-quality classroom teachers. Q2

	SD	D	Ν	A	SA	No others in roles like mine	SD + D	Ν	A + SA	п
All	1.2%	1.2%	4.5%	24.7%	61.3%	7%	2.4%	4.5%	86%	243
CHCCS	0%	0%	12.5%	33.3%	50%	4.2%	0%	12.5%	83.3%	24
CMS	2%	2%	6.9%	24.8%	61.4%	3%	4%	6.9%	86.2%	101
ECPS	5%	0%	0%	15%	60%	4%	5%	0%	75%	20
PCS	0%	1.1%	1.1%	23.9%	63.6%	10.2%	1.1%	1.1%	87.5%	88
VCS	0%	0%	0%	16.7%	83.3%	0%	0%	0%	100%	6
WCS										*

Q3	I believe the p	rogram provides	s adequate suppo	ort to beginning	teachers.
	SD	D	Ν	Α	SA
All	1.7%	3.3%	14.5%	36.8%	37.6%
CHCCS	8.7%	8.7%	26.1%	30.4%	21.7%
CMS	1%	5%	15.8%	40.6%	34.7%
ECPS	5%	5%	0%	45%	35%
PCS	0%	0%	13.6%	35.2%	40.9%
VCS	0%	0%	0%	0%	100%
WCS					

 SD + D	N	A + SA	n
5%	14.5%	74.4%	242
17.4%	26.1%	52.1%	23
6%	15.8%	75.3%	101
10%	0%	80%	20
6%	25%	76.1%	88
0%	0%	100%	6
 			*

	Providing PD	Receiving supplemental pay	Providing support for classroom teachers	Mentoring early-career teachers	Assuming more leadership responsibi- ities	n
All	4.5%	25.5%	36.6%	10.7%	22.6%	243
CHCCS	16.7%	4.2%	62.5%	8.3%	8.3%	24
CMS	3%	20.8%	31.7%	15.8%	28.7%	101
ECPS	0%	5%	45%	10%	40%	20
PCS	3.4%	44.3%	27.3%	6.8%	18.2%	88
VCS	0%	0%	100%	0%	0%	6
WCS						*

Q4 The aspect of my new role that most makes working at my school more appealing to me is...

Q5 Since I began my role as a lead, I believe the quality of my classroom instruction has improved.

	SD	D	N	Α	SA	-	SD + D	N	A + SA	n
All	0.4%	0.8%	5.4%	40.5%	52.9%	-	1.2%	3.3%	93.4%	242
CHCCS	0%	0%	4.2%	50%	45.8%		0%	4.2%	95.8%	24
CMS	2%	1%	8%	40%	49%		3%	8%	89%	100
ECPS	0%	0%	0%	45%	55%		0%	0%	100%	20
PCS	0%	0%	4.5%	39.8%	55.7%		0%	4.5%	95.5%	88
VCS	0%	0%	0%	0%	100%		0%	0%	100%	6
WCS										*

Q6 Since I began my role as a lead, I believe that my ability to lead other teachers has improved.

	SD	D	Ν	Α	SA
All	0.4%	0.8%	3.3%	26.6%	68.9%
CHCCS	0%	0%	0%	52%	48%
CMS	1%	1%	5.9%	27.7%	64.4%
ECPS	0%	5%	5%	20%	70%
PCS	0%	0%	1.1%	21.6%	77.3%
VCS	0%	0%	0%	0%	100%
WCS					

SD + D	N	A + SA	n
1.2%	3.3%	95.5%	244
0%	0%	100%	25
2%	5.9%	92.1%	101
5%	5%	90%	20
0%	1.1%	98.9%	88
0%	0%	100%	6
			*

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-		•				 		•	
	SD	D	Ν	Α	SA	SD + D	N	A + SA	п
All	2.5%	4.1%	14.8%	36.1%	42.6%	 6.6%	14.8%	78.7%	244
CHCCS	0%	4%	20%	48%	28%	 4%	20%	76%	25
CMS	4%	5.9%	9.9%	37.6%	42.6%	 9.9%	9.9%	80.2%	101
ECPS	10%	0%	10%	25%	55%	10%	10%	80%	20
PCS	0%	3.4%	21.6%	36.4%	38.6%	3.4%	21.6%	75%	88
VCS	0%	0%	0%	0%	100%	 0%	0%	100%	6
WCS									*

Q7 Since I began my role as a lead, I have been able to increase the amount of support provided to beginning classroom teachers at my school.

Q8 I am more likely to recommend teaching as a profession, as a result of my experience in my advanced teaching role.

	SD	D	Ν	Α	SA	 SD + D	Ν	A + SA	n
All	1.6%	4.1%	20.2%	44.9%	29.2%	 5.7%	20.2%	74.1%	243
CHCCS	4.2%	20.8%	37.5%	25%	12.5%	 25%	37.5%	37.5%	24
CMS	0%	1%	21.8%	50.5%	26.7%	1%	21.8%	77.2%	101
ECPS	10%	0%	5%	35%	50%	10%	5%	85%	20
PCS	1.1%	4.5%	17%	44.3%	33%	5.6%	17%	77.3%	88
VCS	0%	0%	0%	66.7%	33.3%	0%	0%	100%	6
WCS						 			*

Q9 I believe that the supplemental pay provided for my advanced teaching role is adequate.

	SD	D	Ν	Α	SA	_	SD + L
All	3.7%	8.6%	8.6%	42.8%	36.2%	_	12.3%
CHCCS	33.3%	16.7%	33.3%	4.2%	12.5%		50%
CMS	1%	15.8%	10.9%	51.5%	20.8%		16.8%
ECPS	0%	5%	5%	50%	40%		5%
PCS	0%	0%	0%	39.8%	60.2%		0%
VCS	0%	0%	0%	50%	50%		0%
WCS							

п

243

24

101

20

88

6 *

A + SA

79%

16.7%

72.3%

90%

100%

100%

Ν

8.6%

33.3%

10.9%

5% 0%

0%

Q10 I feel valued in my advanced teaching role.

	SD	D	Ν	Α	SA	 SD + D	Ν	A + SA	n
All	0.4%	3.3%	10.3%	38.7%	47.3%	 3.7%	10.3%	86%	243
CHCCS	0%	4.2%	29.2%	45.8%	20.8%	 4.2%	29.2%	66.6%	24
CMS	1%	5%	11.9%	39.6%	42.6%	 6%	11.9%	82.2%	101
ECPS	0%	5%	0%	40%	55%	 5%	0%	95%	20
PCS	0%	1.1%	5.7%	34.1%	59.1%	 1.1%	5.7%	93.2%	88
VCS	0%	0%	0%	50%	50%	 0%	0%	100%	6
WCS									*

Q11 I believe that the responsibilities of my advanced position recognize the quality of my teaching.

	SD	D	Ν	Α	SA	_	SD + D	N	A + SA	n
All	0%	0.8%	7%	45.9%	46.3%		0.8%	7%	92.2%	242
CHCCS	0%	0%	13%	43.5%	43.5%		0%	13%	87%	23
CMS	0%	2%	6.9%	51.5%	39.6%		2%	6.9%	91.1%	101
ECPS	0%	0%	5%	45%	50%		0%	5%	95%	20
PCS	0%	0%	5.7%	39.8%	54.5%		0%	5.7%	94.3%	88
VCS	0%	0%	0%	50%	50%		0%	0%	100%	6
WCS										*

Q12 Working in an advanced teaching position with supplemental pay has increased the likelihood that I'll remain teaching in the classroom.

	SD	D	Ν	Α	SA	_	SD + D	Ν	A + SA	n
All	1.7%	4.2%	11.3%	35.4%	47.5%		5.9%	11.3%	82.9%	240
CHCCS	13.6%	9.1%	45.5%	18.2%	13.6%		22.7%	45.5%	31.8%	22
CMS	0%	3%	13%	38%	46%		3%	13%	84%	100
ECPS	0%	0%	5%	50%	45%		0%	5%	95%	20
PCS	1.1%	5.7%	2.3%	30.7%	60.2%		6.8%	2.3%	90.9%	88
VCS	0%	0%	0%	66.7%	33.3%		0%	0%	100%	6
WCS										*

Q13

			Opp. to	Opp. to	Landouchim	
Dank		Supplemental	classroom	menior	responsibi	
All	PD	nav	teachers	teachers	lities	n
First	12.7%	29.5%	29.1%	5 5%	23.2%	237
Second	17.3%	21.9%	29.170	16.9%	19.4%	237
Third	18.1%	15.6%	24.570	23.6%	17.7%	237
Fourth	10.170	11.8%	19.8%	23.070	21.5%	237
Fifth	32.9%	21.1%	17.870	27.0%	18.1%	237
1 mui	52.970	21.170	1.770	20.270	10.170	237
CHCCS						
First	13%	21.7%	47.8%	8.7%	8.7%	23
Second	30.4%	8.7%	34.8%	13%	13%	23
Third	39.1%	4.3%	13%	21.7%	21.7%	23
Fourth	8.7%	13%	4.3%	30.4%	43.5%	23
Fifth	8.7%	52.2%	0%	26.1%	13%	23
CMS						
First	7%	28%	26%	6%	33%	100
Second	10%	23%	26%	24%	17%	100
Third	13%	20%	31%	24%	12%	100
Fourth	21%	11%	14%	34%	20%	100
Fifth	49%	18%	3%	12%	18%	100
	.,,,,	10/0	0,0	12,0	10,0	100
ECPS						
First	11.1%	16.7%	33.3%	11.1%	27.8%	18
Second	11.1%	27.8%	22.2%	22.2%	16.7%	18
Third	11.1%	16.7%	22.2%	16.7%	33.3%	18
Fourth	16.7%	16.7%	22.2%	27.8%	16.7%	18
Fifth	50%	22.2%		22.2%	5.6%	18
PCS						
First	19.8%	38.4%	23.3%	3.5%	15.1%	86
Second	22.1%	23.3%	19.8%	8.1%	26.7%	86
Third	22.1%	12.8%	24.4%	22.1%	18.6%	86
Fourth	19.8%	8.1%	31.4%	20.9%	19.8%	86
Fifth	16.3%	17.4%	1.2%	45.3%	19.8%	86

Rank these aspects of the program from most valuable to least valuable to your professional practice.

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Rank VCS	PD	Supplemental pay	Opp. to support classroom teachers	<i>Opp. to</i> <i>mentor</i> <i>early-career</i> <i>teachers</i>	Leadership responsibi- lities	n
First	0%	16.7%	83.3%	0%	0%	6
Second	33.3%	33.3%	16.7%	16.7%	0%	6
Third	0%	16.7%	0%	66.7%	16.7%	6
Fourth	33.3%	33.3%	0%	16.7%	16.7%	6
Fifth	33.3%	0%	0%	0%	66.7%	6
WCS						
First						*
Second						*
Third						*
Fourth						*
Fifth						*

Note: 5 or fewer respondents in WCS

Teacher Colleagues and Other Teachers

SD D N A SA All 2.7% 2.4% 11.1% 38.6% 45.2% CHCCS 10.5% 5.3% 21.1% 39.5% 23.7% CMS 1.8% 1.8% 7.2% 34.2% 55% ECPS 10% 10% 15% 20% 45%		1	1	1
All2.7%2.4%11.1%38.6%45.2%CHCCS10.5%5.3%21.1%39.5%23.7%CMS1.8%1.8%7.2%34.2%55%ECPS10%10%15%20%45%	_	SD + D	SD + D N	SD + D N $A + SA$
CHCCS10.5%5.3%21.1%39.5%23.7%CMS1.8%1.8%7.2%34.2%55%ECPS10%10%15%20%45%		5.1%	5.1% 11.1%	5.1% 11.1% 83.8%
CMS 1.8% 7.2% 34.2% 55% ECPS 10% 10% 15% 20% 45%		15.8%	15.8% 21.1%	15.8% 21.1% 63.2%
ECPS 10% 10% 15% 20% 45%		3.6%	3.6% 7.2%	3.6% 7.2% 89.2%
		20%	20% 15%	20% 15% 65%
PCS 0.6% 0.6% 11% 44.2% 43.5%		1.2%	1.2% 11%	1.2% 11% 87.7%
VCS 0% 11.1% 11.1% 33.3% 44.4%		11.1%	11.1% 11.1%	11.1% 11.1% 77.7%
WCS				

Q1 Since I began work with a lead teacher in my school, the quality of my classroom instruction has improved.

Q2 The aspect of the lead teacher roles at my school that most appeal to me is...

	Providing PD	Receiving supplemental pay	Providing support for classroom teachers	Mentoring early-career teachers	Assuming more leadership responsibi- lities	п
All	4.4%	19.5%	47.9%	15.7%	12.4%	338
CHCCS	16.7%	28.6%	42.9%	9.5%	2.4%	42
CMS	2.7%	18.9%	45.9%	23.4%	9%	111
ECPS	0%	5%	65%	15%	15%	20
PCS	3.2%	19.9%	46.8%	12.2%	17.9%	156
VCS	0%	11.1%	77.8%	11.1%	0%	9
WCS						*

Q3 All of the teachers in leadership roles at my school are high-quality classroom teachers.

	SD	D	N	A	SA
All	1.5%	4.1%	6.2%	37%	51.2%
CHCCS	2.4%	19.5%	7.3%	46.3%	24.4%
CMS	0.9%	2.7%	8.8%	33.6%	54%
ECPS	5%	5%	15%	30%	45%
PCS	1.3%	1.3%	3.2%	39.4%	54.8%
VCS	0%	0%	0%	11.1%	88.9%
WCS					

SD + D	N	A + SA	п	
5.6%	6.2%	88.2%	338	
 21.9%	7.3%	70.7%	41	
3.6%	8.8%	87.6%	113	
 10%	15%	75%	20	
 2.6%	3.2%	94.2%	155	
 0%	0%	100%	9	
 			*	

	SD	D	N	Α	SA
All	2.7%	3.9%	10.5%	40.7%	42.2%
CHCCS	5.1%	12.8%	20.5%	46.2%	15.4%
CMS	3.5%	0%	7.1%	38.1%	51.3%
ECPS	5%	25%	10%	30%	30%
PCS	1.3%	2%	9.8%	43.8%	43.1%
VCS	0%	0%	22.2%	22.2%	55.6%
WCS					

SD + D	Ν	A + SA	n
6.6%	10.5%	82.9%	334
17.9%	20.5%	61.6%	39
3.5%	7.1%	89.4%	113
30%	10%	60%	20
3.3%	9.8%	86.9%	153
0%	22.2%	77.8%	9
			*

Q4 I believe the program provides adequate support for beginning classroom teachers.

Q5 I believe my lead teacher's leadership has been helpful to me.

	SD	D	Ν	Α	SA
All	2.7%	2.1%	4.2%	37.2%	53.8%
CHCCS	10%	5%	10%	55%	20%
CMS	2.7%	0.9%	2.7%	29.1%	64.5%
ECPS	5%	5%	0%	30%	60%
PCS	0.6%	1.9%	3.9%	40.3%	53.2%
VCS	0%	0%	11.1%	22.2%	66.7%
WCS					

SD + DA + SANп 4.8% 4.2% 91% 333 10% 75% 40 15% 110 3.6% 2.7% 93.6% 20 10% 0% 90% 2.5% 3.9% 93.5% 154 11.1% 88.9% 9 0% * ----------

Q6 I value the professional expertise of the lead teachers in my school.

	SD	D	Ν	A	SA
All	1.5%	0.6%	5.3%	38.6%	54%
CHCCS	2.4%	0%	17.1%	46.3%	34.1%
CMS	0.9%	0%	4.4%	39.8%	54.9%
ECPS	5%	5%	10%	30%	50%
PCS	1.3%	0.6%	1.9%	37.8%	58.3%
VCS	0%	0%	11.1%	22.2%	66.7%
WCS					

SD + D	Ν	A + SA	n
2.1%	5.3%	92.6%	339
2.4%	17.1%	80.4%	41
0.9%	4.4%	94.7%	113
10%	10%	80%	20
1.9%	1.9%	96.1%	156
0%	11.1%	88.9%	9
			*

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•	orr	,	···· ·································		,
	SD	D	Ν	Α	SA
All	5.2%	12.8%	29.1%	33%	19.9%
CHCCS	12.5%	20%	35%	25%	7.5%
CMS	3.8%	9.4%	30.2%	29.2%	27.4%
ECPS	0%	20%	35%	25%	20%
PCS	3.3%	12.5%	25%	40.1%	19.1%
VCS	33.3%	11.1%	44.4%	11.1%	0%
WCS					

Q7 The opportunity to become a lead teacher at my school influences my decision to continue teaching.

Q8 The opportunity to receive supplemental pay as a lead at my school influences my decision to continue teaching.

	SD	D	N	Α	SA	_	SD + D	Ν	A + SA	п
All	4%	10.4%	21.4%	33%	31.2%		14.4%	21.4%	64.2%	327
CHCCS	7.3%	14.6%	17.1%	39%	22%		21.9%	17.1%	61%	41
CMS	2.8%	7.5%	25.2%	29%	35.5%		10.3%	25.2%	64.5%	107
ECPS	0%	5.6%	33.3%	33.3%	27.8%	-	5.6%	33.3%	61.1%	18
PCS	3.3%	11.2%	17.8%	34.9%	32.9%		14.5%	17.8%	67.8%	152
VCS	22.2%	22.2%	33.3%	22.2%	0%		44.4%	33.3%	22.2%	9
WCS						-				*

Q9 The opportunity to collaborate with lead teachers at my school influences my decision to continue teaching.

	SD	D	N	Α	SA	_	SD + D	Ν	A + SA	n
All	2.4%	7.6%	15.5%	40%	34.5%	-	10%	15.5%	74.5%	330
CHCCS	9.8%	14.6%	19.5%	43.9%	12.2%	-	24.4%	19.5%	56.1%	41
CMS	1.9%	4.6%	16.7%	34.3%	42.6%		6.5%	16.7%	76.9%	108
ECPS	0%	20%	10%	45%	25%		20%	10%	70%	20
PCS	1.3%	5.9%	13.8%	42.8%	36.2%		7.2%	13.8%	79%	152
VCS	0%	11.1%	22.2%	33.3%	33.3%		11.1%	22.2%	66.6%	9
WCS										*

	Never	Once/Twice	Quarterly	Monthly	Weekly	Daily	n
All	1.5%	2.1%	1.5%	16.3%	36.1%	42.6%	338
CHCCS	7%	7%	7%	27.9%	32.6%	18.6%	43
CMS	0%	2.7%	0.9%	1.8%	31.5%	63.1%	111
ECPS	0%	0%	5.3%	5.3%	47.4%	42.1%	19
PCS	1.3%	0.6%	0%	25.6%	37.2%	35.3%	156
VCS	0%	0%	0%	0%	66.7%	33.3%	9
WCS							*

Q10 How often do you work with a lead teacher?

Q11 Rank these aspects of your district's advanced teaching roles program from most to least valuable to your professional practice.

		Support	Mentoring	Additional responsibility	
Rank		classroom	early-career	taken on hv	
All	PD	instruction	teachers	lead teacher	n
First	14.6%	54.8%	19.9%	10.6%	301
Second	23.3%	23.9%	35.2%	17.6%	301
Third	36.9%	14.6%	21.3%	27.2%	301
Fourth	25.2%	6.6%	23.6%	44.5%	301
CHCCS					
First	29%	38.7%	29%	3.2%	31
Second	25.8%	22.6%	32.3%	19.4%	31
Third	22.6%	29%	25.8%	22.6%	31
Fourth	22.6%	9.7%	12.9%	54.8%	31
CMS					
First	7.9%	63.4%	19.8%	8.9%	101
Second	15.8%	26.7%	44.6%	12.9%	101
Third	37.6%	7.9%	22.8%	31.7%	101
Fourth	38.6%	2%	12.9%	46.5%	101

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		Support provided for my	Mentoring	Additional responsibility	
Rank		classroom	early-career	taken on by	
ECPS	PD	instruction	teachers	lead teacher	n
First	5%	60%	15%	20%	20
Second	20%	30%	40%	10%	20
Third	50%	5%	15%	30%	20
Fourth	25%	5%	30%	40%	20
PCS					
First	18.4%	51.1%	18.4%	12.1%	141
Second	26.2%	22%	29.1%	22.7%	141
Third	38.3%	17.7%	20.6%	23.4%	141
Fourth	17%	9.2%	31.9%	41.8%	141
VCS					
First	0%	62.5%	25%	12.5%	8
Second	62.5%	12.5%	25%	0%	8
Third	25%	12.5%	12.5%	50%	8
Fourth	12.5%	12.5%	37.5%	37.5%	8

Administrators

Q3

	SD	D	Ν	Α	SA	SD + D	Ν	A + SA	n
All	0%	6.1%	10.6%	42.4%	40.9%	6.1%	10.6%	83.3%	66
CHCCS	0%	18.2%	36.4%	27.3%	18.2%	18.2%	36.4%	45.5%	11
CMS	0%	0%	6.3%	56.3%	37.5%	0%	6.3%	93.8%	16
ECPS	0%	0%	0%	42.9%	57.1%	0%	0%	100%	14
PCS	0%	11.1%	5.6%	38.9%	44.4%	11.1%	5.6%	83.3%	18
VCS									*
WCS									*
/	The prograu	m allows me to i	dentify high-qual	ity classroom tea	cher leaders				
Q2	The program SD	m allows me to i D	dentify high-qual N	ity classroom tead	cher leaders. SA	SD + D	Ν	A + SA	п
Q2 All	The program SD 1.5%	m allows me to i $\frac{D}{4.5\%}$	dentify high-qual <u>N</u> 7.6%	ity classroom tead	cher leaders. SA 50%	$\frac{SD+D}{6\%}$	<u>N</u> 7.6%	A + SA 86.4%	n 66
All CHCCS	The program <u>SD</u> 1.5% 8.3%	m allows me to i D 4.5% 16.7%	dentify high-qual <u>N</u> <u>7.6%</u> 33.3%	ity classroom tead <u>A</u> <u>36.4%</u> 41.7%	cher leaders. <u>SA</u> 50% 0%	<u>SD + D</u> 6% 25%	N 7.6% 33.3%	A + SA 86.4% 41.7%	n 66 12
All CHCCS CMS	The program <i>SD</i> 1.5% 8.3% 0%	m allows me to i <u>D</u> 4.5% 16.7% 0%	dentify high-qual <u>N</u> 7.6% <u>33.3%</u> 0%	ity classroom tead <u>A</u> <u>36.4%</u> <u>41.7%</u> <u>26.7%</u>	cher leaders. <u>SA</u> <u>50%</u> <u>0%</u> 73.3%	<u>SD + D</u> 6% 25% 0%	N 7.6% 33.3% 0%	A + SA 86.4% 41.7% 100%	n 66 12 15
All CHCCS CMS ECPS	The program <i>SD</i> 1.5% 8.3% 0% 0%	m allows me to i D 4.5% 16.7% 0% 0%	dentify high-qual <u>N</u> 7.6% 33.3% 0% 0%	ity classroom tead A 36.4% 41.7% 26.7% 42.9%	cher leaders. <u>SA</u> 50% 0% 73.3% 57.1%	SD + D 6% 25% 0% 0%	N 7.6% 33.3% 0% 0%	A + SA 86.4% 41.7% 100%	n 66 12 15 14
All CHCCS CMS ECPS PCS	The program <i>SD</i> 1.5% 8.3% 0% 0% 0%	m allows me to i D 4.5% 16.7% 0% 0% 5.6%	dentify high-qual <u>N</u> 7.6% 33.3% 0% 0% 5.6%	ity classroom tead <u>A</u> <u>36.4%</u> <u>41.7%</u> <u>26.7%</u> <u>42.9%</u> <u>22.2%</u>	cher leaders. <u>SA</u> 50% 0% 73.3% 57.1% 66.7%	SD + D 6% 25% 0% 0% 5.6%	N 7.6% 33.3% 0% 0% 5.6%	A + SA 86.4% 41.7% 100% 100% 88.9%	n 66 12 15 14 18
All CHCCS CMS ECPS PCS VCS	The program <i>SD</i> 1.5% 8.3% 0% 0% 0% 	m allows me to i D 4.5% 16.7% 0% 0% 5.6% 	dentify high-qual N 7.6% 33.3% 0% 0% 0% 5.6% 	ity classroom tead A 36.4% 41.7% 26.7% 42.9% 22.2% 	cher leaders. <u>SA</u> <u>50%</u> 0% 73.3% 57.1% 66.7% 	SD + D 6% 25% 0% 0% 5.6%	N 7.6% 33.3% 0% 0% 5.6%	A + SA 86.4% 41.7% 100% 100% 88.9%	n 66 12 15 14 18 *

Q1 Since the implementation of the program the quality of non-lead teachers' instruction in our school has improved.

I believe the Advanced Teaching Roles program is having a positive impact on the overall retention of teachers at my school or district.

	SD	D	Ν	Α	SA	SD + I	D N	A + SA	n
All	1.5%	4.6%	10.8%	32.3%	50.8%	6.1%	10.8%	83.1%	65
CHCCS	8.3%	8.3%	33.3%	50%	0%	16.6%	33.3%	50%	12
CMS	0%	6.7%	0%	20%	73.3%	6.7%	0%	93.3%	15
ECPS	0%	7.1%	14.3%	28.6%	50%	7.1%	14.3%	78.6%	14
PCS	0%	0%	5.9%	23.5%	70.6%	0%	5.9%	94.1%	17
VCS									*
WCS									*

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-		-						=	
	SD	D	N	Α	SA	SD + D	Ν	A + SA	п
All	0%	4.5%	11.9%	32.8%	50.7%	4.5%	11.9%	83.5%	67
CHCCS	0%	25%	58.3%	16.7%	0%	25%	58.3%	16.7%	12
CMS	0%	0%	0%	56.3%	43.8%	0%	0%	100%	16
ECPS	0%	0%	0%	28.6%	71.4%	0%	0%	100%	14
PCS	0%	0%	5.6%	27.8%	66.7%	0%	5.6%	94.5%	18
VCS									*
WCS									*

Q4 Since the implementation of the program, the quality of the leadership provided by our school's lead teachers has improved.

Q5 Since the implementation of the program, lead teachers have assumed more leadership roles or responsibilities.

	SD	D	Ν	Α	SA	SD	+ D	Ν	A + SA	n
All	0%	3%	11.9%	22.4%	62.7%	3	%	11.9%	62.7%	67
CHCCS	0%	16.7%	58.3%	25%	0%	16	.7%	58.3%	25%	12
CMS	0%	0%	0%	43.8%	56.3%	C	%	0%	100%	16
ECPS	0%	0%	0%	7.1%	92.9%	C	%	0%	100%	14
PCS	0%	0%	5.6%	16.7%	77.8%	C	%	0%	94.5%	18
VCS						-				*
WCS						-				*

Q6 The most valuable aspect of the program for my teachers is...

		Support provided for classroom	<i>Mentoring</i> provided to early-career	Additional responsibility taken on by lead	The supplemental pay for lead	
Rank	PD	instruction	teachers	teacher	teachers	N
First	17%	36.2%	12.8%	8.5%	25.5%	47
Second	23.4%	31.9%	27.7%	10.6%	6.4%	47
Third	27.7%	19.1%	23.4%	21.3%	8.5%	47
Fourth	14.9%	6.4%	19.1%	42.6%	17%	47
Fifth	17%	6.4%	17%	17%	42.6%	47
Educator Preparation Program Students

Note: The number of respondents varies by question due to the survey logic and partial responses. Based on respondents' answers to Questions 1-7, different respondents received different questions, and some received more questions than others; these variations in questions presented are noted throughout the survey report. Many respondents did not complete the survey, but partial responses that include answers to demographic questions 1 through 9 are reported.

Q1 What school are you currently enrolled in?

Appalachian State University	3%	Ne
Barton College		Wi
Broward Collago	<u> </u>	the
Campball University	<u> </u>	10
Champbell University	4%	
	<1%	
East Carolina University	10%	
Fayetteville State University	1%	
Gardner-webb University	<1%	
Greensboro College	1%	
Guilford College	1%	
High Point University	12%	
Lenoir-Rhyne University	1%	
Methodist University	1%	
Mid-Atlantic Christian University	1%	
Montreat College	<1%	
North Carolina A&T State University	1%	
North Carolina Central University	8%	
North Carolina State University	14%	
North Carolina Wesleyan College	<1%	
Salem College	7%	
UNC at Asheville	2%	
UNC at Charlotte	8%	
UNC at Greensboro	10%	
UNC at Wilmington	1%	
University of Mount Olive	1%	
Wake Forest University	1%	
Western Carolina University	8%	
Wingate University	1%	Total n=338

Note: All North Carolina public and private colleges and universities with educator preparation programs were invited to send the survey to their graduating education students. Valid responses were not received from students from the following institutions: Belmont Abbey College Bennett College Catawba College Duke University Elizabeth City State University Elon University Lees-McRae College Livingstone College Mars Hill University Meredith College Pfeiffer University Queens University of Charlotte Saint Andrews University Saint Augustine's University Shaw University UNC at Chapel Hill UNC at Pembroke William Peace University Winston-Salem State University

Q2 What type of educator preparation program are you currently enrolled in, either part-time or full-time?

Bachelor's	63%
Master's	26%
Other	7%
Not enrolled in an educator preparation program	5%
	n = 338

Q3 What term are you completing or graduating from your program?

Winter or Spring 2020	80%
Summer 2020	5%
Fall 2020	4%
Winter or Spring 2021 or After	12%
	<i>n</i> = 322

Q4 What is the primary setting for which your current program prepares you?

Elementary school (grades K-5)	35%
Middle or high school (grades 6-12, any subject)	25%
All grades (grades K-12)	24%
Administration	17%
	n = 322

Q5 What are your employment plans after you complete your program?

Teacher in traditional NC school district	65%
Administrator in traditional NC school district	16%
Teacher or administrator in NC charter school	2%
Teacher or administrator in NC independent school	2%
Teacher or administrator in another state	10%
Non-education position	6%
	n = 322

Note: Two response options, "Certificate" and "Other," were combined as "Other" for reporting.

Note: For respondents who selected "Not enrolled in an educator preparation program," this was the final survey question.

Note: 60% of the respondents who selected "Administration" were enrolled at North Carolina State University.

Note: Three response options, "I plan to apply for a position as a classroom teacher or as other instructional staff in a traditional North Carolina public school district," "I have already accepted an offer for a classroom teacher or other instructional position in a traditional North Carolina public school district," and "I am continuing in a position that I have had since before I started my current educator preparation program as a classroom teacher or other instructional staff in a traditional North Carolina public school district," were combined as "Teacher in traditional NC school district" for reporting. *Note:* For respondents who selected "Non-education position," this was the final survey question.

- Q6 Have you ever worked as a classroom teacher or in another instructional position before beginning your current educator preparation program?
- Q7 (*If "yes" to Q6:*) How long in total did you work as a classroom teacher and/or in other instructional positions before beginning your current educator preparation program?

No (0 years)	58%
Yes: 1-3 years	18%
Yes: 4-9 years	12%
Yes: 10 or more years	12%
	n = 304

Q8 I identify as [gender]:

Female	85%
Male	13%
Other	<1%
Decline to answer	1%
	n = 304

Q9 I identify as [race/ethnicity]:

American Indian or Alaska Native	1%
Asian	2%
Black or African American	19%
Hispanic or Latino	3%
Native Hawaiian or Other Pacific Islander	<1%
White (Not Hispanic or Latino)	69%
Two or more races/ethnicities	3%
Decline to answer	2%
	n = 304

Note: Two response options, "4-6 years" and "7-9 years," were combined as "4-9 years" for reporting.

Q10 Do teacher career advancement programs, like the ones described [*see survey text* (**Appendix B**) *for descriptions*], make working in those districts more appealing to you than working in a district without this type of career advancement program?

		Not at all more appealing	Somewhat more appealing	Much more appealing	I don't know / I'm not sure	<u> </u>
	All	12%	46%	28%	14%	304
Tumo of	Bachelor's	12%	46%	23%	18%	196
I ype of	Master's	11%	44%	39%	7%	85
Program	Other	13%	48%	26%	13%	23
Setting Preparing	Elementary	11%	43%	27%	19%	107
	Middle/High	16%	47%	23%	14%	74
	All Grades	17%	46%	23%	14%	70
101	Admi.	0%	49%	43%	8%	53
Years of	0 Years	14%	46%	26%	14%	177
Instruc-	1-3 Years	14%	43%	20%	23%	56
tional	4-9 Years	3%	60%	31%	6%	35
Experience	10+ Years	6%	36%	47%	11%	36

Q11 If you had a job in a district without career advancement opportunities, and you learned that another district, Cardinal School Dist., had a teacher career advancement program, like ones described [Appendix B], would you consider leaving your district?

		I definitely		I definitely	I don't know	
		would not	I might	would	/I'm not sure	n
	All	13%	50%	16%	21%	304
Tune of	Bachelor's	14%	50%	12%	23%	196
Type of Drogram	Master's	13%	47%	26%	14%	85
Flogram	Other	9%	57%	13%	22%	23
Setting Preparing	Elementary	18%	49%	15%	19%	107
	Middle/High	9%	50%	14%	27%	74
	All Grades	11%	47%	14%	27%	70
101	Admin.	13%	55%	25%	8%	53
Years of	0 Years	13%	52%	14%	21%	177
Instruc-	1-3 Years	16%	43%	13%	29%	56
tional	4-9 Years	11%	43%	31%	14%	35
Experience	10+ Years	14%	56%	19%	11%	36

		I definitely		I definitely	I don't know	
		would not	I might	would	/ I'm not sure	n
	All	25%	41%	7%	27%	304
Tune of	Bachelor's	20%	44%	6%	30%	196
Type of Program	Master's	36%	36%	11%	16%	85
Flogram	Other	22%	39%	4%	35%	23
Setting Preparing for	Elementary	21%	50%	5%	24%	107
	Middle/High	16%	39%	7%	38%	74
	All Grades	31%	36%	7%	26%	70
	Admin.	36%	36%	11%	17%	53
Years of	0 Years	20%	45%	6%	29%	177
Instruc-	1-3 Years	27%	36%	7%	30%	56
tional	4-9 Years	23%	37%	14%	26%	35
Experience	10+ Years	50%	36%	3%	11%	36

Q12 Would you consider leaving your district if you had to move to take the position in Cardinal School District?

Note: For respondents who indicated in Question 4 that they were preparing for administration, this was the final survey question.

Q13 Imagine that Cardinal School District has a teacher career advancement program, like the ones described [Appendix B], and you knew that if you applied to the program, you would be accepted and be placed in a lead teacher role. How much supplemental pay would the program have to offer for you to accept the position in Cardinal School District, if it did not require you to move? Select the lowest amount that would be sufficient.

		Up to \$1,500/year	\$1,501- \$4,500/year	\$4,501- \$7,500/year	\$7,501- \$10,500/year	\$10,501- \$13,500/year	\$13,501- \$16,500/year	\$16,501 or more/year	Don't know / Not sure	n
	All	1%	20%	32%	15%	9%	5%	7%	11%	238
Tuna of	Bachelor's	1%	19%	33%	16%	5%	4%	8%	14%	184
I ype of	Master's	0%	23%	34%	11%	20%	6%	6%	0%	35
Flogram	Other	0%	21%	26%	11%	21%	16%	0%	5%	19
Setting	Elementary	0%	19%	37%	16%	5%	4%	8%	12%	101
Preparing	Middle/High	0%	24%	34%	16%	9%	4%	4%	9%	70
for	All Grades	3%	16%	24%	12%	15%	9%	7%	13%	67
Veens of	0 Years	1%	20%	32%	15%	7%	5%	6%	14%	165
Years of	1-3 Years	0%	16%	34%	16%	12%	10%	6%	6%	50
Experience	4-10+ Years	0%	26%	35%	9%	13%	0%	13%	4%	23

		Up to \$1,500/year	\$1,501- \$4,500/year	\$4,501- \$7,500/year	\$7,501- \$10,500/year	\$10,501- \$13,500/year	\$13,501- \$16,500/year	\$16,501 or more/year	Don't know / Not sure	n
	All	0%	3%	14%	18%	19%	12%	21%	11%	238
Tune of	Bachelor's	0%	2%	15%	21%	20%	10%	19%	13%	184
Type of Brogram	Master's	3%	11%	11%	9%	17%	20%	26%	3%	35
Flogram	Other	0%	0%	11%	11%	16%	16%	37%	11%	19
Setting	Elementary	0%	3%	14%	18%	19%	12%	23%	12%	101
Preparing	Middle/High	1%	0%	19%	23%	20%	13%	17%	7%	70
for	All Grades	0%	6%	10%	15%	19%	10%	24%	15%	67
Veens of	0 Years	0%	2%	15%	20%	22%	12%	16%	13%	165
Function of	1-3 Years	2%	4%	8%	18%	16%	12%	32%	8%	50
Experience	4-10+ Years	0%	9%	22%	9%	9%	13%	35%	4%	23

Q14 How much supplemental pay would the program have to offer for you to accept the position in Cardinal School District, if it did require you to move? Select the lowest amount that would be sufficient.

Q15 Recall the last district that you worked in or the district you currently work in. Imagine that the district has a teacher career advancement program, like the ones described [Appendix B]. There are several lead teachers in your school, and you would be able to apply to the program in the future. To what extent does having a career advancement program in the district influence your decision to continue teaching there?

		No influence	Some	Large	I don't know	10
	All	17%	52%	24%	7%	71
Tomas	Bachelor's	14%	49%	28%	9%	43
Type of	Master's	29%	47%	18%	6%	17
Program	Other	9%	73%	18%	0%	11
Setting	Elementary	11%	54%	26%	9%	35
Preparing	Middle/High	13%	67%	13%	7%	15
for	All Grades	29%	38%	29%	5%	21
Years of	1-3 Years	14%	62%	16%	8%	50
Experience	4-10+ Years	24%	29%	43%	5%	21

Note: This question was only presented to respondents who indicated in Question 6 that they had prior instructional experience.

Q16 Imagine you are a first-year teacher in a district with a teacher career advancement program, like the ones described [**Appendix B**]. There are several lead teachers in your school, and you would be able to apply to the program in the future. To what extent does having the career advancement program in the district influence your decision to continue in the teaching profession?

			Some	Large	I don't know	
		No influence	influence	influence	/I'm not sure	n
	All	24%	48%	20%	8%	158
Tumo of	Bachelor's	24%	49%	19%	8%	136
I ype of	Master's	27%	47%	27%	0%	15
Flogram	Other	29%	29%	14%	29%	7
Setting	Elementary	22%	48%	23%	6%	64
Preparing	Middle/High	30%	42%	20%	8%	50
for	All Grades	20%	55%	14%	11%	44

Note: This question was only presented to respondents who indicated in Question 6 that they did not have prior instructional experience.

Q17 What components of a teacher career advancement program, like the ones described [**Appendix B**], would most influence your decision to stay in the teaching profession?

Value			Opportunity to				
Ranking			support	Opportunity to			
(All	Professional	Supplemental	classroom	mentor early-	Leadership	Opportunity to	
Responses)	development	pay	teachers	career teachers	responsibilities	receive support	n
First	16%	42%	6%	4%	10%	22%	230
Second	31%	18%	11%	6%	12%	22%	230
Third	19%	21%	16%	11%	16%	18%	230
Fourth	16%	10%	22%	18%	20%	15%	230
Fifth	7%	5%	30%	30%	19%	10%	230
Sixth	13%	4%	16%	31%	24%	13%	230

Value Ranking (Program:	Professional	Supplemental	Opportunity to support classroom	<i>Opportunity to mentor early-</i>	Leadership	Opportunity to	
Bachelor's)	development	pay	teachers	career teachers	responsibilities	receive support	n
First	14%	42%	6%	4%	11%	23%	180
Second	31%	18%	11%	7%	10%	23%	180
Third	19%	21%	13%	11%	16%	20%	180
Fourth	16%	10%	23%	17%	21%	13%	180
Fifth	6%	5%	29%	31%	18%	11%	180
Sixth	14%	4%	17%	30%	26%	9%	180

Value Ranking (Program: Master's)	Professional development	Supplemental pay	Opportunity to support classroom teachers	Opportunity to mentor early- career teachers	Leadership responsibilities	Opportunity to receive support	п
First	16%	47%	3%	6%	13%	16%	32
Second	38%	13%	9%	6%	22%	13%	32
Third	19%	25%	22%	9%	13%	13%	32
Fourth	13%	3%	19%	25%	22%	19%	32
Fifth	6%	6%	34%	25%	19%	9%	32
Sixth	9%	6%	13%	28%	13%	31%	32

Value Ranking (Program: Other)	Professional development	Supplemental pay	Opportunity to support classroom teachers	Opportunity to mentor early- career teachers	Leadership responsibilities	Opportunity to receive support	п
First	33%	39%	6%	0%	0%	22%	18
Second	17%	22%	17%	0%	17%	28%	18
Third	17%	17%	28%	11%	22%	6%	18
Fourth	17%	17%	11%	22%	6%	28%	18
Fifth	11%	0%	33%	28%	28%	0%	18
Sixth	6%	6%	6%	39%	28%	17%	18

Value			Opportunity to				
Ranking (Setting:	Professional	Supplemental	support classroom	Opportunity to mentor early-	Leadership	Opportunity to	
Elementary)	development	pay	teachers	career teachers	responsibilities	receive support	n
First	12%	37%	8%	5%	14%	23%	99
Second	32%	19%	9%	7%	9%	23%	99
Third	19%	23%	11%	10%	16%	20%	99
Fourth	18%	9%	28%	11%	19%	14%	99
Fifth	5%	6%	25%	36%	18%	9%	99
Sixth	13%	5%	18%	30%	23%	10%	99

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Value Ranking (Setting: Middle/High)	Professional development	Supplemental pay	Opportunity to support classroom teachers	Opportunity to mentor early- career teachers	Leadership responsibilities	Opportunity to receive support	n
First	20%	47%	6%	5%	8%	15%	66
Second	20%	12%	21%	6%	18%	23%	66
Third	18%	20%	17%	17%	12%	17%	66
Fourth	15%	12%	15%	21%	17%	20%	66
Fifth	8%	6%	33%	21%	20%	12%	66
Sixth	20%	3%	8%	30%	26%	14%	66

Value Ranking (Setting: All grades)	Professional development	Supplemental pay	Opportunity to support classroom teachers	Opportunity to mentor early- career teachers	Leadership responsibilities	Opportunity to receive support	п
First	17%	45%	2%	3%	6%	28%	65
Second	40%	22%	3%	5%	11%	20%	65
Third	18%	20%	22%	6%	18%	15%	65
Fourth	12%	8%	18%	26%	23%	12%	65
Fifth	8%	2%	35%	29%	18%	8%	65
Sixth	5%	5%	20%	31%	23%	17%	65

Value			Opportunity to				
Ranking			support	Opportunity to			
(Experience:	Professional	Supplemental	classroom	mentor early-	Leadership	Opportunity to	
0 Years)	development	pay	teachers	career teachers	responsibilities	receive support	n
First	15%	42%	4%	4%	10%	25%	159
Second	29%	19%	10%	6%	13%	24%	159
Third	20%	21%	17%	11%	14%	18%	159
Fourth	16%	9%	21%	19%	20%	14%	159
Fifth	7%	5%	32%	30%	18%	8%	159
Sixth	13%	4%	17%	30%	25%	11%	159

Value Ranking	.		Opportunity to support	Opportunity to			
(Experience:	Professional	Supplemental	classroom	mentor early-	Leadership	Opportunity to	
1-3 Years)	aevelopment	pay	teachers	career teachers	responsibilities	receive support	n
First	14%	46%	12%	4%	8%	16%	50
Second	30%	12%	14%	6%	16%	22%	50
Third	22%	22%	6%	10%	20%	20%	50
Fourth	12%	12%	20%	18%	20%	18%	50
Fifth	8%	2%	32%	30%	16%	12%	50
Sixth	14%	6%	16%	32%	20%	12%	50

Value Ranking	Ductassional	Supplamental	Opportunity to support	Opportunity to	Lagdaushin	Opportunity to	
(Experience.	d en el emment	supplemental	classroom	menior early-	Leadership		
4-10+ rears)	aevelopment	pay	teachers	career teachers	responsibilities	receive support	n
First	24%	38%	5%	5%	14%	14%	21
Second	48%	24%	14%	5%	0%	10%	21
Third	5%	24%	29%	14%	14%	14%	21
Fourth	19%	5%	33%	14%	14%	14%	21
Fifth	0%	10%	14%	29%	29%	19%	21
Sixth	5%	0%	5%	33%	29%	29%	21

Q18 Imagine you are a first-year teacher in a district with a teacher career advancement program, like the ones described.* You are interested in applying to the program once you have a few more years of teaching experience and are a more effective teacher. How long would you be willing to wait before having the opportunity to participate in the program?

		2	2.4	5.6	7.0	9+ years	I don't know / I'n	n
		2 years	3-4 years	5-6 years	7-8 years	÷	not sure	<u>n</u>
	All	23%	40%	23%	3%	0%	11%	230
Trues of	Bachelor's	24%	39%	23%	3%	0%	11%	180
I ype of	Master's	19%	44%	25%	3%	0%	9%	32
Program	Other	22%	44%	17%	0%	0%	17%	18
Setting	Elementary	28%	34%	24%	3%	0%	10%	99
Preparing	Middle/High	15%	52%	20%	5%	0%	9%	66
for	All Grades	25%	37%	25%	0%	0%	14%	65
N C	0 Years	19%	43%	26%	3%	0%	10%	159
Years of 1	1-3 Years	36%	34%	14%	2%	0%	14%	50
Experience	4-10+ Years**	29%	33%	24%	5%	0%	10%	21

Q19 Districts in North Carolina with teacher career advancement programs often have several different program components. In the table below, a check mark indicates that a district has that component in their career advancement program. Look at the

	Program	Compon	ents		Lead Teacher Roles						
	Related Professional Development	Variable Class Size	Teacher Teams	PD Facilitator	Coach	Co- Teacher	Mentor	Team Leader			
Dogwood School District	~			~			~				
Elm School District	~	~	~		1	~		~			
Fox School District	1	1	~	~	1	~		~			
Grouse School District	~			~	1						

Which program is most appealing to you (e.g., would most make you want to continue teaching in the district and/or apply to the program)?

Value Ranking

(All

Responses)	Dogwood	Elm	Fox	Grouse	п
First	18%	20%	60%	3%	223
Second	11%	59%	20%	11%	223
Third	51%	16%	12%	22%	223
Fourth	21%	6%	9%	65%	223

Value Ranking

(Program:

Bachelor's)	Dogwood	Elm	Fox	Grouse	n
First	20%	21%	57%	2%	173
Second	10%	56%	22%	12%	173
Third	50%	18%	12%	21%	173
Fourth	20%	6%	10%	65%	173

Value Ranking					
(Program:					
Master's)	Dogwood	Elm	Fox	Grouse	п
First	9%	16%	69%	6%	32
Second	9%	69%	16%	6%	32
Third	60%	9%	9%	22%	32
Fourth	22%	6%	6%	66%	32
Value Ranking					
(Prog.: Other)	Dogwood	Elm	Fox	Grouse	n
First	11%	17%	72%	0%	18
Second	17%	72%	6%	6%	18
Third	44%	6%	17%	33%	18
Fourth	28%	6%	6%	61%	18
Value Ranking					
(Setting:					
Elementary)	Dogwood	Elm	Fox	Grouse	n
First	13%	22%	65%	1%	96
Second	14%	60%	16%	10%	96
Third	52%	14%	11%	23%	96
Fourth	22%	4%	8%	66%	96
Value Ranking					
(Setting:					
Middle/High)	Dogwood	Elm	Fox	Grouse	n
First	19%	16%	59%	6%	64
Second	9%	56%	16%	19%	64
Third	47%	20%	11%	22%	64
Fourth	25%	8%	14%	53%	64
Value Ranking					
(Setting:					
All grades)	Dogwood	Elm	Fox	Grouse	п
First	25%	21%	52%	2%	63
Second	8%	59%	30%	3%	63
Third	52%	14%	13%	21%	63
Fourth	14%	6%	5%	75%	63

Value Ranking					
(Experience: 0 Years)	Dogwood	Flm	For	Grouse	п
First	23%	17%	58%	3%	154
Second	10%	57%	19%	13%	154
Third	49%	19%	12%	19%	154
Fourth	18%	6%	11%	65%	154
Value Ranking					
(Experience:					
1-3 Years)	Dogwood	Elm	Fox	Grouse	n
First	6%	33%	56%	4%	48
Second	13%	54%	27%	6%	48
Third	60%	8%	13%	19%	48
Fourth	21%	4%	4%	71%	48
Value Ranking					
(Experience:					
4-10+ Years)	Dogwood	Elm	Fox	Grouse	п
First	10%	10%	81%	0%	21
Second	10%	81%	5%	5%	21
Third	38%	5%	10%	48%	21
Fourth	43%	5%	5%	48%	21

Appendix E. Technical Appendix

Quantitative Analysis Approach

As detailed in previous reports, at the start of the evaluation, the evaluation team hosted a quantitative analysis summit with independent experts to discuss reasonable quantitative options for this evaluation, given data and implementation challenges as well as the limited evaluation budget. As a result of that consultation, we developed a revised and expanded preferred approach to the quantitative analysis component of the evaluation, described below.

A Combined-Data Approach

Summit participants recommended *cross-LEA combined-data analyses* as the primary approach to analysis. In other words, all participating schools in all six pilot LEAs are included in a single "treatment"⁶⁴ group, with outcomes reflecting changes potentially attributable to *the presence of an ATR initiative* (regardless of each pilot's specific components). This type of analysis does shift the focus away from estimating the impact of LEA-specific implementations, but grouping all participating schools together allows for more reliable *overall* impact estimates.

To partially compensate for the shift in focus away from individual pilot impacts, we also conducted the same analyses on data for a smaller "treatment" group that includes the four LEAs with the most similar programs (Charlotte-Mecklenburg, Edgecombe, Vance, and Pitt), with outcomes reflecting changes potentially attributable to *the presence of an ATR initiative with the components common to all four of these LEA pilots*. Doing so may provide additional insights about the impacts of one general approach to implementation when it is implemented in several different contexts.

Readers of previous reports may recall that we had considered conducting a third set of analyses that included only participating and matched non-participating schools in Pitt County (the only large LEA in which only some schools participate and no other schools are exposed to similar initiatives⁶⁵), with outcomes reflecting changes *more strongly attributable to the presence of a specific pilot iteration*. Because the original Pitt County cohort was large (24 schools in 2017-18), however, matching to the remaining schools would have been difficult (with only a few schools at each level [elementary, middle, high] to match, the likelihood of finding enough strong matches was very low). Also, because the Pitt initiative expanded the following year, the analyses would have been limited to one-year comparisons only.

A School-Level Lens

Summit participants also recommended focusing on *school-level rather than individual teacherand student-level outcomes*, for two reasons: 1) the wide array of teacher roles makes analyses at the teacher level less reliable; and 2) the number of teachers impacted in several of the participating LEAs (and thus the number of students) is very low. In keeping with the idea of

⁶⁴ "Treatment" as used in this evaluation means involvement in one of the pilot programs.

⁶⁵ Charlotte-Mecklenburg's long history with differentiated pay and strategic staffing models make it difficult to find appropriate comparison schools within the LEA that have not been impacted by similar models in the recent past.

whole-school cultural change as the most likely preliminary outcome of the initiative (**Appendix G**), this approach emphasizes the general impact of the presence of an LEA's program on an entire school, regardless of how and to what degree that presence is implemented, rather than the specific impact of the program on an individual teacher's or student's performance.

A Focus on Teachers and Teaching as a Career

Finally, summit participants recommended a focus on *teachers and the teaching career*, rather than on short-term student outcomes, which—as suggested by the Theory of Change model (**Appendix G**) and by the relatively short length of the pilots—are not likely to change significantly as a result of the pilots. For the most part, we have relied on initiative-neutral EVAAS value-added scores to control for some of the analytic challenges posed by each LEA's different approaches to selecting teachers for the advanced roles. We also have analyzed school-level changes in student outcomes, but we continue to caution against over-interpretation of the results: Changes to school culture that eventually contribute to changes in student achievement outcomes may not have been fully realized by the time we had to end the current evaluation.⁶⁶

Aspirational Analysis Goal: Interrupted Time Series

Randomized controlled trials—analyses in which people or schools to be impacted by a new policy are randomly chosen from the entire population of people or schools that potentially could be impacted—are the gold standard for evaluating educational interventions, but often they are not possible or practical. The LEAs implementing ATR pilots were not randomly chosen, nor were the people or schools within those LEAs that are directly impacted by the pilots. In addition, each LEA's pilot is unique (similarities in Table C1, above, notwithstanding). Both factors prevent the evaluation team from conducting *causal* analyses, so the evaluation team needed to identify a rigorous non-experimental option that could produce the best approximations of causality (Somers et al. 2013).

If implemented well, the Interrupted Time Series (ITS) approach can meet this need and can be especially useful for determining school-level impacts of an intervention when data for individuals may not be available or expedient (Linden 2015; Somers et al. 2013). In general, an ITS analysis helps identify not only immediate effects of a policy on outcomes of interest (for instance, a statistically notable change soon after the point in time when a policy goes into effect) but also effects on trends over time (for instance, a statistically notable change in the *progression* or *evolution* of an outcome of interest across three or more years, as measured at multiple points in time after the policy goes into effect).⁶⁷ In other words, it helps detect both a change in an outcome that is out of the ordinary, relative to all of the outcome measures that preceded it, as well as a change in the *growth rate* (or decline rate) of the outcome across time points as a policy matures (Linden 2015; Somers et al. 2013). Effect sizes can be calculated using the standard

⁶⁶ We continue to note, however, that the North Carolina General Assembly's extension of the pilot program from three to eight years (<u>Session Law 2018-5</u>, Section 7.9) makes such estimations not only more possible but also more valid, should an evaluation of student outcomes be conducted for years four through eight of the current pilots. ⁶⁷ Contrast this with the Difference-in-Differences model used for the previous report, which only can detect differences in single-point-in-time outcomes between the affected schools and the comparison schools. Our preferred approach also differs from the approach used in the Backes and Hansen (2018) study, as we plan to rely more heavily on identifying changes in longer-term trends for some key variables.

deviation of average school performance, but these effect sizes are not the same as student- or teacher-level effect sizes, and often are smaller. If needed, effect sizes comparable to those for individual-level models can be estimated by dividing the school-level standard deviation by the square root of the intra-class correlation (Hallberg et al. 2018).

In the abstract, ITS appeared to be a good analytic match for supporting our efforts to learn more about the effects of the introduction of ATR into school settings. ITS cannot be applied in all situations, however, so the team first vetted its suitability for the ATR evaluation against two criteria: model fit and historical context.

Model Fit

A key requirement for using ITS for evaluation of an education intervention is that there are *at least four measures* of the outcomes of interest available from the time before the introduction of the intervention (Somers et al. 2013). The four pre-intervention data points help to establish not only the natural "maturation" pattern of the outcomes of interest before the introduction of the intervention (and thus provide some insight into what future outcomes might have been, had the initiative not been introduced; Halberg et a. 2018), but also help to establish how those maturation rates compare to the same outcomes for potential comparison schools.

In the case of the ATR pilots, there are at least four measures available for even the newest of the outcome measures of interest (the school-level Performance Grade Score, first calculated for the 2013-14 school year and available every year after that). While other outcomes of interest (e.g., EoG and EoC scores, teacher attrition, etc.) are available for more than four years, the older those data are, the more likely they are to have been impacted by any of several historical statewide initiatives or events (e.g., the Great Recession and its impact on teacher pay, the statewide set of nested initiatives that made up the State's Race to the Top efforts, changes in EoG and/or EoC scales, etc.), so all analyses, regardless of the outcome being measured, will use data from the 2013-14 school year forward.

Historical Context

Another concern when considering use of an ITS approach is the possibility that unrelated historical changes (e.g., a change in curriculum) may impact outcomes for some of the schools being studied but not for other schools in the sample (Hallberg et al. 2018). While not eliminating this threat entirely, North Carolina's centralized approach to education delivery (in which all LEAs are subject to changes in education policy at the same time statewide) helps to reduce this possibility.

There is one quantitative vetting procedure typically undertaken to address the possibility that unrelated historical changes (e.g., a change in curriculum) may impact only a subset of the schools (treatment and comparison) being studied (Hallberg et al. 2018), but the team will not be able to conduct it. Normally, to test for the robustness of the analysis of post-intervention outcomes, an evaluator first analyzes data from the pre-intervention time period alone to determine whether any meaningful changes detected after the start of the intervention already were beginning to take place before the intervention began (Linden 2015). This analysis is done by comparing outcome measures for the first half of the pre-intervention data with outcome

measures for the second half of the pre-intervention data—essentially, conducting an ITS for the second half of the pre-intervention data, as if it were post-intervention data. Unfortunately, because there are only four data points available for one of the outcomes of interest (School Performance Grade Score) before the introduction of the pilots (2013-14 [the first year the Performance Grade Score was calculated)—meaning there will be at most only two or three artificial "pre-intervention" data points—it is not feasible to run a reliable test of changes over the course of the pre-intervention timeline, for the same reasons the actual ITS could not be run with fewer than four actual pre-intervention outcome data points.

ITS Modeling Options

There are four main ITS model options, each with strengths and cautions (Hallberg et al. 2018):

- 1. The simplest is the *baseline mean* model, which assumes that differences between treatment and comparison school outcomes are fixed over time (that is, that they change at the same rate). This model is only appropriate if the pre-intervention data suggest that changes in the outcomes of interest are parallel for treatment and comparison schools.
- 2. The *baseline linear trend* model does not require pre-intervention changes to be parallel, but does assume that pre-intervention changes for treatment and comparison schools alike are still linear (constant), and that pre-intervention changes within each group (treatment schools and comparison schools) are the same.
- 3. The *baseline nonlinear trend* model does not assume (per its name) that pre-intervention trends are constant, but, in our case, requires the assumption that our four pre-intervention years of data provide enough accuracy to reflect the true nonlinearity of the pre-intervention trend.
- 4. The *school and year fixed effects* model does not model the pre-intervention trend at all, instead measuring only the variations across time within each school. Like the baseline mean model, however, it assumes parallel pre-intervention changes over time between treatment and comparison schools.

Regardless of the model, Somers et al. (2013) recommend a two-level multilevel ITS model, with the first level being school year.

Pragmatic Analysis Decision: Revised and Expanded Difference-in-Differences

In the end, our modeling decision for this final report was based not on things like analyses of pre-intervention trends in our outcomes of interest, as was our original intention. Instead, it was based on the practical realities of the 2019-20 school year—the third-year-out school year (the year needed in order to compare trends) for most of the pilot schools—which saw early school closures across the state and the elimination of 2019-20 State testing in response to the coronavirus event.

As a result, while the evaluation team had enough *pre*-intervention data available for an ITS, we still did not have enough post-intervention data available (two years only for five of the six

participating LEAs, and even then for only some of the schools in those LEAs)⁶⁸ to begin to measure differences between ATR and non-ATR school outcome *trends* (not just discrete differences in each year's outcomes). We strongly recommend that any outcome analyses that follow this final report incorporate the ITS trend analysis approach described above, once enough schools have at least three years of outcome data with which to establish such trends.

Without a series of post-intervention measurements, we again relied on Difference-in-Differences models, but the availability of more data allowed us to improve on and strengthen last year's work. In contrast to those models—which analyzed changes across a single period of time (differences between the year before implementation and the year after implementation) for this report, we were able to factor in some considerations for the passage of time (multiple outcome years), even though we still had only a limited amount of data with which to work.⁶⁹

In a standard difference-in-differences analysis (like the analyses we conducted for our previous report), the effects of time on outcomes are controlled for with a single variable that indicates whether an outcome included in the analysis was measured *at any time before* the introduction of the initiative or *at any time after* the introduction of the initiative. In other words (for example), for a school that started its ATR program in the 2017-18 school year, any values for the outcomes of interest (for example, School Report Card scores) for School Year 2017-18 or 2018-19 would be considered collectively, regardless of how far after the date of initial implementation those outcomes occurred. As a result, outcomes are subject to some reduction in validity, as well as the potential for more biased impact estimates (Somers et al. 2013).

For this report's analyses, by including separate variables for each year of both the pre- and posttreatment portion of our time of interest, we were able to start to estimate year-by-year outcomes a little more accurately and begin to approach an analysis that is not entirely dissimilar to the school and year fixed effects ITS model described above.⁷⁰ Our introduction of separate variables for each year—including two outcome years—helped us generate results that are more rigorous than what we were able to calculate before and that also allowed our models to be more sensitive to changes over time.⁷¹

Even so, without a true trend analysis, differences in outcomes as measured by this adjusted Difference-in-Differences model still might be artifacts of the natural progression of those outcome measures over time regardless of the presence of the initiative. The hybrid model also still lacks a projection of trends as if no intervention had taken place (for comparison to actual trends) and a more robust process for addressing declining accuracy in longer-term educational

⁶⁸ The 2018-19 school year was the third-year-out school year for Chapel Hill-Carrboro City Schools, but, with only a handful of difficult-to-match schools and an ATR model unlike any other districts, completing a three-year trend analysis for those schools alone was not defensible.

⁶⁹ Without School Year 2019-20 results, only a small number of schools had implemented an ATR program for enough years for us to measure outcomes for two or more years.

⁷⁰ See, for instance, Somers et al. (2013) and their use of a RELYEAR variable in their CITS model.

⁷¹ In response to suggestions from practitioners in some of the ATR pilot LEAs, as well as from colleagues who have worked on similar estimations, we also included this year a covariate that indicates whether a school is a <u>North</u> <u>Carolina Restart School</u>—a turnaround initiative that grants participating schools charter school-like flexibility—for our outcome years of interest. With only seven ATR schools (only five for two years) and 17 match schools (only five for two years) identified as Restart schools, however, the impact of the covariate on initial analyses was trivial, and the covariate was dropped from the final models.

outcome projections due to the mounting plethora of background "noise" brought on by constant shifts in other parts of the education environment (Somers et al. 2013). As a result, we continue to include multiple caveats alongside the Difference-in-Differences analysis results reported in the main text of this document. Once there are more schools with ATR programs at each school level (elementary, middle, and high), and once we have more years of outcome data, we can start to look for differences in those longer-term trends.

School Matching

An important key to a strong non-experimental analysis design is identification of a comparison group of non-impacted entities (in educational research, usually schools or individuals) that most closely resembles the group of impacted entities, to reduce what is known as selection bias. Selection bias occurs when the impacted entities take part in the intervention for one or more (often unseen) shared reasons that may themselves be the cause of differences between outcomes for that group and outcomes for the comparison group—not the cause of participation in the initiative being studied. In other words, "[d]ifferences in outcomes between the treatment and comparison group may be due to pre-existing or unobserved differences between the two groups, rather than to the effect of the program being evaluated" (Somers et al. 2013, p. 1).

With only about 2,600 schools in North Carolina, and with the constant background noise of multiple, overlapping, and sometimes conflicting initiatives in operation in any of them at any given time, it can be challenging to identify a reasonable comparison group of schools to help strengthen the analyses of outcomes for the subset of schools impacted by a given policy—in this case, impacted by the introduction of the ATR pilot programs. In addition, in North Carolina there is the added challenge of identifying whether a given school—whether an ATR school or a potential comparison school—and its staff have been exposed to similar programs in the recent past. For example, during the Race to the Top period alone (2010-2014), over 70 LEAs across the state (including five of the six participating in the ATR pilot) experimented with some type of LEA-level or individual school-level strategic staffing initiative (Maser et al. 2014), meaning that in many cases, either the introduction of the ATR pilot is not a new concept or the impacts of previous initiatives in potential comparison schools, these challenges add to our ongoing need to present all conclusions from our analyses with a strong word of caution.

To compensate for some of these challenges, Linden (2015), Rubin (2001), and others recommend using a statistical process known as *propensity score matching* (PSM) for identifying members of the comparison group. Many researchers suggest that the specific PSM strategy—and there are several—matters much less than does the choice of variables on which schools are matched (see, for instance, Hallberg et al. 2018). Based on the findings of Somers et al. (2013), since we have a large candidate pool of schools relative to the treated schools, and since we have more than two years of pre-intervention test data, for this year's analyses we used a *radius matching* strategy to identify our matches. This strategy matched each treatment school to several schools within a given propensity score range. Schools that exhibited any of the other potentially confounding characteristics described above (e.g., implementation of a similar staffing program at any point over the four pre-intervention years, etc.) were eliminated from the match pool.

General Matching Considerations

ITS can be applied even if there is no comparison group, but a defensible comparison group is preferred, as it enhances internal validity by controlling for at least some otherwise-confounding omitted variables (Linden 2015; Halberg et a. 2018). Difference-in-Differences, by definition, requires matching, as it analyses the difference in the pre- and post-values for treated and comparison groups.

Glazerman, Levy, and Meyers (2003), Cook, Shadish, and Wong (2008), and Steiner, Cook, Shadish, and Clark (2010) identify several strategies for creating stronger comparison groups, including: gathering enough knowledge of potential comparison group members to identify those with motivations or circumstances similar to those of treatment group members; considering geographic proximity of comparison and treatment groups (to reduce bias from unobserved, place-based factors); and verifying the availability of pre-tests or pre-measures of the outcomes of interest for use in establishing similarities between the two groups ahead of the introduction of the intervention. In the case of the ATR pilots, the evaluation team was able to address the second and third strategies, but not the first. The best approximation for similar motivation would be to prioritize schools from the six LEAs that applied for the ATR initiative but were not chosen;⁷² however, limiting the match pool to only those six LEAs significantly reduces the pool of available schools for matching purposes.

Propensity Score Matching

In addition to including pre-intervention measures of the outcomes of interest as part of the matching process (in our case, teacher performance and turnover outcomes, as well as student testing outcomes), our procedure also included several demographic covariates that also change over time or are likely to have been impacted by historical changes outside the scope of the pilots, to reduce their influence on analyses of the outcomes of interest (Hallberg et al. 2018).

Another match consideration specific to the time-dependent nature of ITS is that matches should be based at least in part on the similarity of the pre-intervention *trend* of each outcome of interest (Somers et al. 2013), not just the similarity of the initial (i.e., 2013-14) measure. This means including either the 4-year slope of the outcome measure or each year of outcome data (not just the initial-year data point) in the matching equation. As was the case with our previous analyses, we did not include these slopes in our matching model, primarily because of the added challenge of finding matches when too many covariates are included in the model (Somers et al., 2013). We did, however, change our match *year* to better reflect our interest in changes over time: Instead of matching on data from the year before each school's involvement in ATR (typically either School Year 2015-16 or 2016-17), *we matched all schools on School Year 2013-14 data* (our first year for establishing pre-ATR trends).

Strength of Matches

We present selected cohort match statistics on the following pages.

⁷² Cabarrus, Cumberland, Durham, Franklin, Wilson, and Winston-Salem/Forsyth were the other six applicants in 2016.

Figure E1. Strength of Match, ATR Schools and Matched Comparison Schools (SY1314)

Title I Statu	IS
ATR Schools	65.5%
Matched Schools	62.4%

Restart School S	Status
ATR Schools	12.1%
Matched Schools	6.0%

Note: Tables exclude five ATR schools that were unable to be matched and were removed from the analyses.



School Performance Grade



Note: Figures exclude five ATR schools that were unable to be matched and were removed from the analyses.



Performance Composite Percent Grade Level Proficient Score



Note: Figures exclude five ATR schools that were unable to be matched and were removed from the analyses.

Appendix F. One-Year and Two-Year Quantitative Estimates of Impact (Full Results)

Results Including All ATR Schools

Elementary Only

	Elementary School Perfo	Only ormance Grad	le Score			Elementary Only School Accountability Growth					Elementary Only School Performance Comj			posite	
	Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value	
Years of ATR					Years of ATR					Years of ATR					
1 Year Out	2.67**	0.92	2.90	0.00	1 Year Out	4.85***	1.33	3.64	0.00	1 Year Out	1.97*	0.99	1.99	0.05	
2 Years Out	1.03	1.05	0.98	0.33	2 Years Out	0.94	1.75	0.54	0.59	2 Years Out	1.43	1.09	1.32	0.19	
School Size					School Size					School Size					
Average Daily Membership	-0.01	0.00	-1.93	0.06	Average Daily Membership	-0.01	0.01	-1.05	0.29	Average Daily Membership	-0.01	0.00	-1.61	0.11	
Number of Teachers	0.20*	0.08	2.49	0.01	Number of Teachers	0.15	0.11	1.37	0.17	Number of Teachers	0.19*	0.09	2.26	0.02	
Teacher Characteristics [^]					Teacher Characteristics [^]					Teacher Characteristics [^]					
% Teachers w/4-9 Yrs Experience	3.77	3.16	1.19	0.23	% Teachers w/4-9 Yrs Experience	4.44	6.86	0.65	0.52	% Teachers w/4-9 Yrs Experience	3.38	3.09	1.09	0.28	
% Teachers w/10+ Yrs Experience	7.39	4.24	1.75	0.08	% Teachers w/10+ Yrs Experience	8.33	6.36	1.31	0.19	% Teachers w/10+ Yrs Experience	7.39	4.45	1.66	0.10	
Student Population~					Student Population~					Student Population~					
% Black	-2.36	4.64	-0.51	0.61	% Black	4.49	5.29	0.85	0.40	% Black	0.73	2.78	0.26	0.79	
% Hispanic	9.95	7.83	1.27	0.21	% Hispanic	16.68	8.73	1.91	0.06	% Hispanic	9.04	8.69	1.04	0.30	
% Other	7.02	10.80	0.65	0.52	% Other	16.12	12.49	1.29	0.20	% Other	0.01	10.08	0.00	1.00	
% Exceptional Children	-7.41	9.86	-0.75	0.45	% Exceptional Children	-28.43	14.91	-1.91	0.06	% Exceptional Children	-9.79	9.39	-1.04	0.30	
Observation Years ⁺					Observation Years ⁺					Observation Years ⁺					
SY 2014-15	0.83	0.62	1.34	0.18	SY 2014-15	1.53	1.42	1.08	0.28	SY 2014-15	0.58	0.52	1.13	0.26	
SY 2015-16	3.03***	0.79	3.86	0.00	SY 2015-16	2.26	1.37	1.66	0.10	SY 2015-16	3.23***	0.76	4.23	0.00	
SY 2016-17	1.86*	0.85	2.18	0.03	SY 2016-17	0.50	1.35	0.37	0.71	SY 2016-17	2.27**	0.84	2.70	0.01	
SY 2017-18	2.50**	0.86	2.92	0.00	SY 2017-18	2.91*	1.43	2.04	0.04	SY 2017-18	2.45**	0.82	3.01	0.00	
SY 2018-19	2.29*	0.94	2.43	0.02	SY 2018-19	1.41	1.47	0.96	0.34	SY 2018-19	2.23*	0.95	2.36	0.02	
Constant	48.6312***	3.84	12.66	0.00	Constant	64.35***	5.83	11.04	0.00	Constant	43.58***	4.09	10.66	0.00	

* *p*<0.05, ** *p*<0.01, *** *p*<0.001

^ Comparison Category: % Teachers w/less than 4 Yrs Experience

~ Comparison Category: % White

Elementary and Middle Combined

	Elementary & Middle School Performance Grade Score				Elementary & Middle School Accountability Growth					Elementary & Middle School Performance Composite				
	Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value
Years of ATR					Years of ATR				_	Years of ATR				
1 Year Out	2.29**	0.80	2.86	0.00	1 Year Out	4.95***	1.40	3.54	0.00	1 Year Out	1.50	0.85	1.76	0.08
2 Years Out School Size	0.74	0.98	0.75	0.45	2 Years Out School Size	0.37	1.63	0.23	0.82	2 Years Out School Size	1.08	1.08	1.00	0.32
Average Daily Membership	-0.01*	0.00	-2.40	0.02	Average Daily Membership	-0.01*	0.00	-2.37	0.02	Average Daily Membership	-0.01	0.00	-1.72	0.09
Number of Teachers	0.19*	0.08	2.45	0.02	Number of Teachers	0.17	0.11	1.53	0.13	Number of Teachers	0.17*	0.08	2.20	0.03
Teacher Characteristics [^]					Teacher Characteristics [^]					Teacher Characteristics [^]				
% Teachers w/4-9 Yrs Experience	5.25	2.77	1.89	0.06	% Teachers w/4-9 Yrs Experience	14.74*	6.42	2.30	0.02	% Teachers w/4-9 Yrs Experience	3.18	2.90	1.09	0.27
% Teachers w/10+ Yrs Experience	7.25*	3.67	1.98	0.05	% Teachers w/10+ Yrs Experience	9.00	6.36	1.41	0.16	% Teachers w/10+ Yrs Experience	7.11	3.92	1.81	0.07
Student Population~					Student Population~					Student Population~				
% Black	-2.22	4.27	-0.52	0.60	% Black	3.00	5.52	0.54	0.59	% Black	0.73	2.69	0.27	0.79
% Hispanic	10.36	7.02	1.48	0.14	% Hispanic	12.55	8.86	1.42	0.16	% Hispanic	10.45	7.70	1.36	0.18
% Other	9.67	9.68	1.00	0.32	% Other	13.46	13.84	0.97	0.33	% Other	4.94	8.96	0.55	0.58
% Exceptional Children	-8.86	8.77	-1.01	0.31	% Exceptional Children	-21.77	13.85	-1.57	0.12	% Exceptional Children	-12.45	8.29	-1.50	0.13
Observation Years ⁺					Observation Years ⁺					Observation Years ⁺				
SY 2014-15	1.27*	0.55	2.32	0.02	SY 2014-15	2.72*	1.37	1.98	0.05	SY 2014-15	0.86*	0.43	1.99	0.05
SY 2015-16	2.59***	0.67	3.89	0.00	SY 2015-16	1.56	1.27	1.23	0.22	SY 2015-16	2.88***	0.62	4.61	0.00
SY 2016-17	1.94*	0.77	2.53	0.01	SY 2016-17	0.31	1.21	0.25	0.80	SY 2016-17	2.39**	0.76	3.16	0.00
SY 2017-18	2.12**	0.81	2.62	0.01	SY 2017-18	0.94	1.41	0.67	0.51	SY 2017-18	2.47**	0.81	3.03	0.00
SY 2018-19	3.13**	0.95	3.28	0.00	SY 2018-19	1.74	1.28	1.36	0.18	SY 2018-19	3.33**	1.04	3.21	0.00
Constant	48.17***	3.50	13.78	0.00	Constant	63.89***	5.70	11.21	0.00	Constant	42.99***	3.61	11.90	0.00

* *p*<0.05, ** *p*<0.01, *** *p*<0.001

[^] Comparison Category: % Teachers w/less than 4 Yrs Experience

~ Comparison Category: % White

High School

	High Schoo School Perf	High School School Performance Grade Score				High School School Accountability Growth					High School School Performance Comp			osite	
	Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value	
Years of ATR					Years of ATR					Years of ATR					
1 Year Out	0.49	0.89	0.55	0.58	1 Year Out	1.87	1.95	0.95	0.34	1 Year Out	1.48	1.15	1.28	0.20	
2 Years Out	0.78	1.34	0.58	0.56	2 Years Out	3.04	3.28	0.93	0.36	2 Years Out	-2.12	2.31	-0.92	0.36	
School Size					School Size					School Size					
Average Daily Membership	0.00	0.00	-0.80	0.42	Average Daily Membership	0.00	0.01	-0.72	0.47	Average Daily Membership	0.00	0.00	-0.71	0.48	
Number of Teachers	-0.07	0.10	-0.68	0.50	Number of Teachers	-0.18	0.24	-0.75	0.46	Number of Teachers	-0.08	0.08	-0.91	0.37	
Teacher Characteristics [^]					Teacher Characteristics [^]					Teacher Characteristics [^]					
% Teachers w/4-9 Yrs Experience	12.58	9.59	1.31	0.19	% Teachers w/4-9 Yrs Experience	30.56	20.18	1.51	0.13	% Teachers w/4-9 Yrs Experience	0.82	10.45	0.08	0.94	
% Teachers w/10+ Yrs Experience	-6.46	12.28	-0.53	0.60	% Teachers w/10+ Yrs Experience	3.74	21.83	0.17	0.86	% Teachers w/10+ Yrs Experience	-21.56	11.28	-1.91	0.06	
Student Population~					Student Population~					Student Population~					
% Black	-2.23	3.26	-0.69	0.50	% Black	0.16	6.60	0.02	0.98	% Black	-0.64	3.97	-0.16	0.87	
% Hispanic	-17.48*	7.47	-2.34	0.02	% Hispanic	-16.72	21.11	-0.79	0.43	% Hispanic	-18.28*	7.97	-2.29	0.02	
% Other	-6.51	13.27	-0.49	0.63	% Other	-36.58	25.49	-1.44	0.16	% Other	-9.08	20.45	-0.44	0.66	
% Exceptional Children	30.38	15.31	1.98	0.05	% Exceptional Children	44.65	31.54	1.42	0.16	% Exceptional Children	24.83	16.66	1.49	0.14	
Observation Years ⁺					Observation Years ⁺					Observation Years ⁺					
SY 2014-15	0.13	0.57	0.23	0.82	SY 2014-15	2.21	1.84	1.20	0.23	SY 2014-15	-1.34	0.68	-1.97	0.05	
SY 2015-16	-0.85	1.13	-0.75	0.46	SY 2015-16	1.46	2.79	0.52	0.60	SY 2015-16	-1.90	1.34	-1.42	0.16	
SY 2016-17	1.21	1.05	1.15	0.25	SY 2016-17	1.81	2.84	0.64	0.52	SY 2016-17	1.21	1.12	1.08	0.28	
SY 2017-18	1.32	1.07	1.23	0.22	SY 2017-18	-0.26	2.47	-0.11	0.92	SY 2017-18	15.48***	1.10	14.03	0.00	
SY 2018-19	1.83	1.03	1.79	0.08	SY 2018-19	0.22	2.59	0.08	0.93	SY 2018-19	18.41***	1.28	14.43	0.00	
Constant	73.85***	13.78	5.36	0.00	Constant	83.01**	26.73	3.11	0.00	Constant	69.02***	9.85	7.01	0.00	

* *p*<0.05, ** *p*<0.01, *** *p*<0.001

[^] Comparison Category: % Teachers w/less than 4 Yrs Experience

~ Comparison Category: % White

Results Excluding CHCSS and WCS ATR Schools

Elementary Only

	Elementary School Perf	Only formance Gra	de Score			Elementary Only School Accountability Growth		Elementary Only School Performance Composite			posite			
	Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value
Years of ATR					Years of ATR					Years of ATR				
1 Year Out	3.22*	1.37	2.36	0.02	1 Year Out	5.55**	1.71	3.25	0.00	1 Year Out	2.35	1.49	1.58	0.12
2 Years Out	2.40	1.39	1.72	0.09	2 Years Out	1.83	2.16	0.85	0.40	2 Years Out	2.94	1.52	1.93	0.05
School Size					School Size					School Size				
Average Daily Membership	-0.01	0.00	-1.69	0.09	Average Daily Membership	-0.01	0.01	-1.05	0.29	Average Daily Membership	0.00	0.00	-1.28	0.20
Number of Teachers	0.16	0.09	1.80	0.07	Number of Teachers	0.12	0.11	1.09	0.28	Number of Teachers	0.14	0.09	1.60	0.11
Teacher Characteristics [^]					Teacher Characteristics [^]					Teacher Characteristics [^]				
% Teachers w/4-9 Yrs Experience	3.09	3.39	0.91	0.36	% Teachers w/4-9 Yrs Experience	1.16	7.06	0.16	0.87	% Teachers w/4-9 Yrs Experience	3.37	3.33	1.01	0.31
% Teachers w/10+ Yrs Experience	7.66	4.39	1.74	0.08	% Teachers w/10+ Yrs Experience	9.73	6.42	1.52	0.13	% Teachers w/10+ Yrs Experience	7.43	4.59	1.62	0.11
Student Population~					Student Population~					Student Population~				
% Black	-2.68	4.82	-0.55	0.58	% Black	3.11	5.39	0.58	0.56	% Black	1.06	2.72	0.39	0.70
% Hispanic	10.34	8.17	1.27	0.21	% Hispanic	17.38	9.38	1.85	0.07	% Hispanic	9.31	9.13	1.02	0.31
% Other	12.00	12.39	0.97	0.33	% Other	23.96	13.92	1.72	0.09	% Other	3.24	11.25	0.29	0.77
% Exceptional Children	-8.41	10.48	-0.80	0.42	% Exceptional Children	-28.68	16.19	-1.77	0.08	% Exceptional Children	-11.32	10.22	-1.11	0.27
Observation Years ⁺					Observation Years ⁺					Observation Years ⁺				
SY 2014-15	0.84	0.68	1.22	0.22	SY 2014-15	2.14	1.48	1.45	0.15	SY 2014-15	0.44	0.59	0.75	0.46
SY 2015-16	3.17***	0.86	3.67	0.00	SY 2015-16	3.02*	1.48	2.04	0.04	SY 2015-16	3.22***	0.85	3.81	0.00
SY 2016-17	2.09*	0.93	2.26	0.03	SY 2016-17	1.17	1.42	0.83	0.41	SY 2016-17	2.37*	0.93	2.54	0.01
SY 2017-18	2.56**	0.86	2.96	0.00	SY 2017-18	3.14*	1.47	2.13	0.03	SY 2017-18	2.54**	0.80	3.19	0.00
SY 2018-19	1.94	0.99	1.96	0.05	SY 2018-19	1.49	1.56	0.96	0.34	SY 2018-19	1.75	0.97	1.80	0.07
Constant	47.49***	3.76	12.64	0.00	Constant	65.46***	5.77	11.34	0.00	Constant	41.29***	3.98	10.37	0.00

* p<0.05, ** p<0.01, *** p<0.001

[^] Comparison Category: % Teachers w/less than 4 Yrs Experience

~ Comparison Category: % White

Elementary and Middle Combined

	Elementary School Perf	y & Middle Formance Gra	de Score			Elementary School Acco	v & Middle Duntability Gr	owth			Elementary & School Perfor	& Middle mance Compo	osite	
	Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value
Years of ATR					Years of ATR					Years of ATR				
1 Year Out	2.89*	1.18	2.44	0.02	1 Year Out	5.89**	1.93	3.05	0.00	1 Year Out	1.93	1.25	1.54	0.13
2 Years Out	2.29	1.25	1.83	0.07	2 Years Out	1.13	1.97	0.58	0.56	2 Years Out	2.82*	1.43	1.97	0.05
School Size					School Size					School Size				
Average Daily Membership	-0.01*	0.00	-2.04	0.04	Average Daily Membership	-0.01*	0.00	-2.36	0.02	Average Daily Membership	0.00	0.00	-1.23	0.22
Number of Teachers	0.17*	0.08	2.12	0.04	Number of Teachers	0.20	0.11	1.82	0.07	Number of Teachers	0.15	0.08	1.79	0.07
Teacher Characteristics [^]					Teacher Characteristics [^]					Teacher Characteristics [^]				
% Teachers w/4-9 Yrs Experience	3.54	2.90	1.22	0.22	% Teachers w/4-9 Yrs Experience	9.69	6.49	1.49	0.14	% Teachers w/4-9 Yrs Experience	2.28	3.11	0.73	0.47
% Teachers w/10+ Yrs Experience	7.89*	3.90	2.02	0.04	% Teachers w/10+ Yrs Experience	9.07	6.22	1.46	0.15	% Teachers w/10+ Yrs Experience	8.00	4.17	1.92	0.06
Student Population~					Student Population~					Student Population~				
% Black	-2.21	4.54	-0.49	0.63	% Black	1.87	5.77	0.32	0.75	% Black	1.58	2.66	0.59	0.55
% Hispanic	12.39	7.30	1.70	0.09	% Hispanic	16.75	8.96	1.87	0.06	% Hispanic	12.12	8.09	1.50	0.14
% Other	13.77	11.08	1.24	0.22	% Other	19.25	15.64	1.23	0.22	% Other	7.21	9.93	0.73	0.47
% Exceptional Children	-11.64	9.38	-1.24	0.22	% Exceptional Children	-25.05	14.71	-1.70	0.09	% Exceptional Children	-15.86	8.95	-1.77	0.08
Observation Years ⁺					Observation Years ⁺					Observation Years ⁺				
SY 2014-15	1.43*	0.59	2.41	0.02	SY 2014-15	3.88**	1.43	2.73	0.01	SY 2014-15	0.74	0.48	1.53	0.13
SY 2015-16	2.98***	0.72	4.11	0.00	SY 2015-16	2.93*	1.32	2.22	0.03	SY 2015-16	3.01***	0.69	4.36	0.00
SY 2016-17	2.23**	0.82	2.71	0.01	SY 2016-17	1.25	1.28	0.98	0.33	SY 2016-17	2.52**	0.82	3.05	0.00
SY 2017-18	2.43**	0.80	3.02	0.00	SY 2017-18	1.72	1.48	1.16	0.25	SY 2017-18	2.72***	0.78	3.48	0.00
SY 2018-19	2.68**	1.01	2.66	0.01	SY 2018-19	2.04	1.32	1.55	0.12	SY 2018-19	2.66*	1.08	2.46	0.01
Constant	45.43***	3.55	12.81	0.00	Constant	63.14***	5.50	11.48	0.00	Constant	39.07***	3.65	10.69	0.00

* *p*<0.05, ** *p*<0.01, *** *p*<0.001

[^] Comparison Category: % Teachers w/less than 4 Yrs Experience

[~] Comparison Category: % White

High School

	High School	l Commanae Cua	da Saana			High Schoo	l watability C	nowth			High School	manaa Comr	nosita	
	Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value		Coefficient	Std. Error	t-Statistic	p-Value
Years of ATR					Years of ATR					Years of ATR				
1 Year Out	2.26*	1.00	2.26	0.03	1 Year Out	3.59	2.58	1.39	0.17	1 Year Out	2.56	1.58	1.62	0.11
2 Years Out	1.98	1.67	1.19	0.24	2 Years Out	1.79	4.40	0.41	0.68	2 Years Out	2.16	1.67	1.29	0.20
School Size					School Size					School Size				
Average Daily Membership	0.00	0.00	-1.30	0.20	Average Daily Membership	-0.01	0.00	-1.15	0.26	Average Daily Membership	0.00	0.00	-1.01	0.31
Number of Teachers	-0.11	0.10	-1.15	0.25	Number of Teachers	-0.23	0.23	-0.98	0.33	Number of Teachers	-0.12	0.09	-1.31	0.20
Teacher Characteristics [^]					Teacher Characteristics [^]					Teacher Characteristics [^]				
% Teachers w/4-9 Yrs Experience	3.75	7.56	0.50	0.62	% Teachers w/4-9 Yrs Experience	13.93	18.86	0.74	0.46	% Teachers w/4-9 Yrs Experience	-5.31	10.37	-0.51	0.61
% Teachers w/10+ Yrs Experience	-15.28	10.03	-1.52	0.13	% Teachers w/10+ Yrs Experience	-13.94	17.98	-0.78	0.44	% Teachers w/10+ Yrs Experience	-24.63*	9.36	-2.63	0.01
Student Population~					Student Population~					Student Population~				
% Black	1.06	3.14	0.34	0.74	% Black	2.82	6.74	0.42	0.68	% Black	1.79	3.38	0.53	0.60
% Hispanic	-14.52*	6.78	-2.14	0.04	% Hispanic	-18.48	21.97	-0.84	0.40	% Hispanic	-13.92*	6.26	-2.22	0.03
% Other	-13.53	12.87	-1.05	0.30	% Other	-36.66	27.20	-1.35	0.18	% Other	-25.62	14.72	-1.74	0.09
% Exceptional Children	20.26	11.64	1.74	0.09	% Exceptional Children	35.51	32.23	1.10	0.27	% Exceptional Children	25.70*	12.74	2.02	0.05
Observation Years ⁺					Observation Years ⁺					Observation Years ⁺				
SY 2014-15	0.09	0.63	0.14	0.89	SY 2014-15	2.80	2.13	1.32	0.19	SY 2014-15	-1.46*	0.67	-2.17	0.03
SY 2015-16	-0.17	1.07	-0.16	0.87	SY 2015-16	3.14	3.06	1.03	0.31	SY 2015-16	-1.63	1.33	-1.23	0.22
SY 2016-17	2.14	1.09	1.96	0.05	SY 2016-17	3.69	3.01	1.23	0.22	SY 2016-17	1.89	1.16	1.63	0.11
SY 2017-18	1.89	0.95	1.99	0.05	SY 2017-18	0.74	2.51	0.30	0.77	SY 2017-18	16.65***	1.07	15.57	0.00
SY 2018-19	1.68	0.99	1.70	0.09	SY 2018-19	1.16	2.81	0.41	0.68	SY 2018-19	16.41***	1.03	15.96	0.00
Constant	81.32***	11.48	7.08	0.00	Constant	98.41***	22.49	4.38	0.00	Constant	70.84***	9.10	7.78	0.00

* p < 0.05, ** p < 0.01, *** p < 0.001

^ Comparison Category: % Teachers w/less than 4 Yrs Experience

~ Comparison Category: % White

Appendix G. Advanced Teaching Roles Theory of Change

Years of evaluations of state- and local-level advanced teaching roles initiatives (beginning with those funded by North Carolina's Race to the Top grant [2010-2014])⁷³ suggest that several intermediate changes sometimes need to occur in a school (e.g., better teacher recruitment and retention, lower teacher turnover rate, etc.) before a staffing plan has a measurable impact on student outcomes:



⁷³ At the time, referred to as *strategic staffing* initiatives: <u>http://cerenc.org/rttt-evaluation/equitable-supply-and-distribution-of-teachers-and-leaders/</u>

Appendix H. Evaluation	Questions, O	utcomes, Indicators,	, Data Sources,	and Analyses
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Evaluation Question	Measurable Outcome	Indicator	Data Source(s) ⁷⁴	Quantitative Analysis (If Applicable)
Q1. Do advanced teaching roles improve the quality of classroom instruction?	A. (Indirect) School performance scores increase over time	 Changes in: School performance grade score; and Proportion of students performing at/above grade level in each tested subject relative to matched schools 	State administrative data	Difference-in- Differences (DD), or Interrupted Time Series (ITS), as appropriate and as data allow
	B. Teachers demonstrate quality classroom instruction	Teachers and school leaders report quality classroom instruction	Teacher and principal focus groups and/or surveys	
	C. Teachers ⁷⁵ exhibit greater VA growth relative to pre-initiative period	 Changes in overall school/LEA teacher quality (as measured by EVAAS [SAG/EEG] outcomes) over time [Pending data availability]: Changes in lead teacher and directly- impacted teacher quality (as measured by EVAAS outcomes) over time 	EVAAS data (School- level: SAG, EEG)	DD or ITS

⁷⁴ See **Data and Methods** for more details.

⁷⁵ *Note*: The evaluation team also may attempt to measure lead teacher and other teacher performance changes separately, to determine changes in either group (as opposed to just changes in the overall group), as time, data, and funding allow.

Evaluation Question	Measurable Outcome	Indicator	Data Source(s) ⁷⁴	Quantitative Analysis (If Applicable)
Q1. (cont.) Do advanced teaching roles improve the quality of classroom instruction?	D. Teachers exhibit greater VA growth than a) teachers at other matched local (same- LEA) or nearby (comparable neighbor LEA) schools and b) statewide growth averages	 Changes in overall teacher quality (as measured by EVAAS outcomes) vs teacher quality in matched schools in the LEA or region Changes in overall teacher quality (as measured by EVAAS outcomes) vs teacher quality in all other schools statewide 	EVAAS data (School- level: SAG, EEG)	DD or ITS
	E. Students exhibit increased interest and engagement in class	 Students report increased interest in class Teachers report increased student engagement 	Student and teacher survey and/or focus group data	
Q2. Do advanced teaching roles increase school-wide student growth?	A. Students demonstrate greater academic growth relative to pre-initiative period	Changes in overall student growth (school level) over time	State administrative data	DD or ITS
	B. Students exhibit more growth than a) students at other matched local (same-LEA) or nearby (comparable neighbor LEA) schools; and b) statewide growth averages	 Changes in overall student growth (school level) vs students in matched schools in the LEA or region Changes in overall student growth (school level) vs all other schools statewide 	State administrative data	DD or ITS

Evaluation Question	Measurable Outcome	Indicator	Data Source(s) ⁷⁴	Quantitative Analysis (If Applicable)
Q3. Do advanced teaching roles and/or related local-level salary supplements, either collectively or individually, increase	A. Teachers apply for and fill advanced roles	 Changes in lead teacher application figure Changes in lead teacher vacancy figures 	Local administrative data	Annual, per-LEA counts and averages
teaching profession?	B. Lead teachers remain in advanced roles	Teacher retention in lead teacher roles (annual)	Local administrative data	Annual, per-LEA counts, %s, and averages
Q4. Do the pilot programs provide recognition to high- quality classroom teachers?	C. Teachers remain in participating schools	 Changes in teacher retention (school level) vs retention in matched schools in the LEA or region Changes in teacher retention (school level) vs retention in all schools statewide 	State administrative data (School-level: all teachers, 0-3 teachers, 4- 10 teachers, 10+ teachers)	DD or ITS
	D. Teachers apply for positions in participating LEAs because of the initiative	Teachers attribute attractiveness of the teaching profession (in part or in whole) to initiative	Teacher and principal surveys and/or focus groups Teacher preparation program surveys	
	A. Schools/LEAs provide role-based incentives for lead teachers	 Financial program incentives Job-related (e.g., leadership position) program incentives 	Pilot program theories of action/logic models/incentive schedules Teacher and principal focus groups and/or surveys	
	B. Schools/LEAs recruit and hire/reassign high- quality teachers for advanced roles	Initiative recruitment/ recognition plan	Pilot program theories of action/logic models Teacher and principal focus groups and/or surveys	

Evaluation Ouestion	Measurable Outcome	Indicator	Data Source(s) ⁷⁴	Quantitative Analysis (If Applicable)
Q4. (cont.) Do the pilot programs provide recognition to high-quality classroom teachers?	B. (Cont.) Schools/LEAs recruit and hire/reassign high-quality teachers for advanced roles	Lead teacher quality measures (e.g., local measures, prior EVAAS scores, etc.) compared to lead teacher applicant quality measures	Local administrative data EVAAS data (Teacher- level: Teacher Composite Index value)	Annual, per-LEA counts, %s, and averages
Q5. Do the pilot programs support retention of high- quality classroom teachers?	A. Programs sustain advanced positions	 Program funding allocation and sustainability plans Number and type of advanced roles available to teachers each year 	Pilot program theories of action/logic models Local administrative data	
	B. The proportion of high-quality teachers at participating schools increases	Change in overall teacher quality (as measured by EVAAS outcomes) over time	EVAAS data (School- level: SAG, EEG)	Annual, per-LEA counts, %s, and averages
Q6. Do the pilot programs provide assistance to and support retention of beginning classroom teachers?	A. Lead teachers support	[Pending data availability] Lead teacher evaluations identify practices/actions that support beginning teachers	State teacher evaluation data (Leadership domain)	Annual, per-LEA counts, %s, and averages
	new/beginning teachers (e.g., mentor, planning, model strategies, etc.)	 Lead teachers/ administrators report provision of support to new teachers New teachers report receiving adequate support from lead teachers 	Pilot program theories of action/logic models Teacher and principal focus groups and/or surveys	
	B. New/beginning teachers remain in pilot school/LEA	New teacher attrition figures (annual) New teachers indicate a desire to continue teaching (short and/or long term)	State administrative data Teacher and principal focus groups and/or surveys	Annual, per-LEA counts, %s, and averages

Evaluation Ouestion	Measurable Outcome	Indicator	Data Source(s) ⁷⁴	Quantitative Analysis (If Applicable)
Q7. In what other ways do these pilot programs impact high-quality experienced classroom teachers?	Other unanticipated/ untracked program impacts (direct and indirect)	 Teacher perceptions of impact related to the program Principal perceptions of impact related to the program 	Teacher and principal focus groups and/or surveys	
Q8. What do the pilot programs have in common? What are each pilot program's unique components?	Participating LEAs and evaluation team complete state-level and program-specific logic models	 Descriptions of program models, intended impact, and fidelity of implementation Unique program elements highlighted 	Pilot program theories of action/logic models Descriptions of similar or related prior initiatives	
Q9. As measured by the quantitative and qualitative outcomes of interest described above, which pilot program or programs appear to be the most successful?	Measurable outcomes for Q1 through Q7— individually or collectively—indicate successful outcomes for a specific pilot model or models	Comparative assessment of qualitative and quantitative results for Q1 through Q7	All data gathered and results generated for evaluation questions described above	
Q10. Which pilot programs appear to be most scalable? What resources would the State need to commit in order to successfully scale them?	Program sustainability measured by cost (and availability) of resources to maintain roles and salary supplements ⁷⁶	LEA projections for fiscal sustainability after pilot period (cost)	Extant state and local fiscal data	

⁷⁶ A rigorous benefits-costs analysis or cost-effectiveness analysis is not feasible on the current pilot timeline and evaluation budget

					Quantitative Analysis
Evaluation Question	Measurable Outcome		Indicator	Data Source(s) ⁷⁴	(If Applicable)
Q10a. Should the State consider scaling one or more of the pilot programs?	 A. Individual successful program components identified for Q9 show evidence of scalability to other LEAs B. Overall successful pilot program(s) identified for Q9 show evidence of scalability to other LEAs 	1.	Pilot program components are not place-dependent (i.e., they do not require locale- specific inputs, can be adapted across LEA contexts) (flexibility) Via survey and focus groups, implementers indicate ease of implementation (minimum LEA capacity requirements)	All data gathered and results generated for Q1 through Q9 Extant state and local fiscal data	
Q11. What are the costs and benefits associated with establishing advanced teaching roles? To what extent does the return on investment in establishing new compensation models that correspond with these roles (as measured by the outcomes of interest described above) justify the investment?	Teachers and administrators express support for continuing the pilot	1. 2. 3. 4.	Trends in teacher survey responses over pilot period Trends in administrator survey responses over pilot period Trends in teacher focus group responses over pilot period Trends in administrator focus group responses over pilot period	All data gathered and results generated for evaluation questions described above	

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