Teacher Compensation Models and Advanced Teaching Roles Pilot Programs

Year 1 (2017-18) Interim Report

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Executive Summary

Overview

In 2016, the North Carolina General Assembly provided support for several advanced teaching roles and compensation plan 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***. In addition, the North Carolina Department of Public Instruction proposed several other evaluation components that fall into two other broad categories: a ***Comparative Analysis of Programs***; and ***Financial and Policy Considerations***.

This report—the second in a series of evaluation reports commissioned by the North Carolina State Board of Education—summarizes results from the first year of the evaluation. To date, the evaluation team has completed a Year 1 assessment of the status of each pilot's current implementation, established a plan for conducting quantitative outcomes analyses, and collected and analyzed survey and focus group data from all six of the participating Local Education Agencies (LEAs).

Quality of Classroom Instruction

Focus group data suggested four ways in which the presence of the Advanced Teaching Roles pilots appears to be having an early impact on 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.

Attractiveness of the Teaching Profession

The pilots appear 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.

[1] Session Law 2016-94, Section 8.7

It is worth noting that teachers not yet in lead roles also voiced support for additional compensation for lead teachers in recognition of the work many already do.

Recognition to High-Quality Classroom Teachers

Across the pilots, lead teachers, their colleagues, and administrators all indicated that the selection process was rigorous—so much so that some teachers wondered if it were perhaps *too* rigorous and excluded some teachers with strong leadership potential.

Retention of High-Quality Classroom Teachers

Lead teachers reported that they already were committed to careers in education, but 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. The measurable impact of the pilots on longer-term retention will be explored in later reports.

Retention of Beginning Classroom Teachers

Most pilots do not appear to be set up explicitly to provide support for beginning teachers. Lead teachers noted that such support occurred as part of the regular cycle of support in their schools. In the one LEA in which support for beginning teachers is a focus of the pilot, responses to that support were positive, with lead teachers noting that, because they are on site and teaching alongside the new teachers on a daily basis, their positions might allow them to provide more structured and direct support than is possible in other beginning teacher support programs.

Other Impacts on High-Quality Experienced Classroom Teachers

Lead teachers indicated that the professional development, resources, and support they received connected to their new roles was good—sometimes better than other support provided by their LEA or by the state—and as a result was inspiring support for the pilots among teachers. In addition, many participating teachers and their administrators attributed an increase in their sense of empowerment and confidence in their ability to lead to participation in the program.

One challenging aspect of some of the pilots was their difficulty fully staffing all of the new positions before starting up. A related area of concern involved the variability of quality in some of the support roles. Finally, for some lead teachers, increased exposure to their colleagues' practices led to a growing awareness of the variability in instructional quality across their schools.

Pilot Program Commonalities and Unique Features

All six pilots have at least one aspect in common (provision of related professional development), and four of the six have six common features (variable class sizes, teacher teams, coaches, co-teachers, and team leads, in addition to related professional development), but implementation is different in each LEA, and even sometimes in each participating school within an LEA.

Quantitative Estimations of Pilot Program Impacts

The team plans to conduct cross-LEA, combined-data analyses of impacts of the presence of the pilots on several school-level teacher quality, resilience, and effectiveness outcomes. When data allow, the team also will conduct the same analyses on a smaller cluster of LEAs whose pilot programs are most similar. If possible, the team will attempt to conduct analyses at the single-LEA level for the one LEA with a quasi-experimental roll-out in which only some schools participate and no other schools are exposed to similar initiatives. The primary method of analysis will be an Interrupted Time Series model, which analyzes changes over time.

Next Steps

The focus of Year 2 of the evaluation (July 2018-June 2019) will be on identifying LEA-level changes in implementation, rationales for those changes, and quantitative estimations of early impacts of the pilots on key outcome measures.

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 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 second in a series of evaluation reports commissioned by the State Board of Education—summarizes results from the first year of the evaluation. To date, the evaluation team has completed a Year 1 assessment of the status of each pilot's current implementation, established a plan for conducting quantitative outcomes analyses, and collected and analyzed survey and focus group data from all six of the participating Local Education Agencies (LEAs).

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 ***teach 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.
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 outlined a plan that included implementation of three-year pilots, to begin with the 2017-18 school year and conclude with the 2019-20 school year. Proposals from six LEAs were selected by the North Carolina Department of Public Instruction (NCDPI):

Chapel Hill-Carrboro City Schools, Charlotte-Mecklenburg Schools, Edgecombe County Schools, Pitt County Schools, Vance County Schools, and Washington County Schools.[2]

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 total appropriations for the three-year pilot program originally were $10,180,000.[3] The original disbursement of funds across the six accepted pilot programs is detailed in Table 1.

Table 1. Distribution of State-Provided Funding for Pilots

LEA	Total Project Budget	Recommend-ed Funding	Annual Recurring Funding			Total Funding
			2017-18	*2018-19*	*2019-20*	
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**

In 2018, the North Carolina General Assembly extended the life of the current pilots to eight years and provided support for additional pilots,[4] but the terms of the evaluation were not similarly amended, so this evaluation continues to focus on the first three years of implementation in the original six LEAs.

Purpose of the Overall 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 has been 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 **Revised and Updated Plan for Quantitative Estimations of Pilot Program Impacts** section of the current report) but also the evaluation team's better understanding overall of how the pilot programs are unfolding across the six participating LEAs.

Because measures for some outcomes will not be available until later this year, first-year data collected for this interim report are not representative of all of the data that will be collected for the full evaluation. As a result, this report is limited in what it can include with respect to all of

[2] Twelve LEAs submitted proposals, all of which can be found here: http://www.ncpublicschools.org/district-humanresources/

[3] Contingent upon $1 million recurring budget appropriations through the 2019-20 fiscal year.

[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).

the evaluation questions, but initial findings are presented for most of the evaluation questions (Table 2).

Table 2. Evaluation Questions Addressed in this Report

Evaluation Question	Related Outcome(s) Available for this Report
Q1. Do advanced teaching roles improve the quality of classroom instruction?	Teachers demonstrate quality classroom instruction
	Students exhibit increased interest and engagement in class
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 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 high-quality classroom teachers?	Programs sustain advanced positions
Q6. Do the pilot programs provide assistance to and support retention of beginning classroom teachers?	Lead teachers support new/beginning teachers (e.g., mentor, planning, model strategies, etc.)
Q7. In what other ways do these pilot programs impact high-quality experienced classroom teachers?	*(Other unanticipated/ untracked program impacts ([direct and indirect])*
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

Data and Methods

Data

Survey Data

Data were collected via formal online surveys that were administered to advanced roles teachers, educators impacted by those teachers, school and LEA-level administrators, and students in all six participating LEAs. The survey collected information on program impact related to teacher growth, recruitment, retention, and job attractiveness. Student surveys focused primarily on perceived changes in teacher's instruction and attitude in the classroom. Copies of the surveys are provided in **Appendix B**.

Interviews and Focus Groups

During the first year of pilot implementation (2017-18), the evaluation team conducted a total of 38 focus groups with students, teachers, school administrators, and LEA-level administrators from all six participating LEAs. 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. Copies of the protocols are provided in **Appendix B**.

Administrative Data

Administrative data were not available for this first interim report, as some of the outcome data for the first year of the pilots (2017-18) needed for the planned analyses outlined later in this report will not be available until Winter 2018. Once compiled, the full set of administrative data will be provided by seven partners: NCDPI and all six pilot program administration teams.

Data provided by NCDPI will span school years 2013-14 through 2017-18 (initially, with later school years added as the evaluation progresses) and will include school demographics, teacher characteristics, and student achievement—all reported in aggregate at the school level.

Data provided by the LEA pilot administration teams—also summarized at the school level—primarily will 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.

Methods

Pilot Proposal Analysis and Logic Model Construction

For the *Preliminary Report*, the Team developed narratives for each pilot plan, along with logic models that illustrate how LEA representatives envision their plans working (**Appendix C**). These narratives and models were shared with the LEAs for confirmation of their accuracy. In future reports, narratives and logic models will be updated to reflect new information and changes in plans between 2017 and 2020.

Survey Data Analysis

The survey was administered online beginning in April 2018 and closing in June 2018. Teachers (*n*=453), administrators (*n*=43), and students (*n*=3,053) from each of the pilot LEAs responded to the survey. Survey data were aggregated within and across groups to identify a variety of emerging perceptions among groups affected by the Advanced Teaching Roles programs. Subsequent survey administrations will help to identify changes in perceptions as the pilot programs mature. Results are included in **Appendix D**; select findings also are included in the **Analysis of Year 1 Qualitative Data** section, below.[5]

Analysis of Interview and Focus Group Data

After each audio recording was transcribed, all transcripts were coded by an evaluation team member. To achieve an acceptable inter-rater reliability (IRR) measure prior to coding all interview data, one transcript was analyzed by two Team members. After an initial phase of reviewing and refining code definitions, Team members analyzed and agreed on 80% of the coded data.[6] A total of 38 transcripts were analyzed. Team members coded the data using a coding scheme comprised of seven themes that align with the evaluation questions approved for this evaluation. After coding was complete, one Team member consolidated the quotes from each theme and integrated the data into the qualitative sections of the report.

For this first interim report, all LEA identifiers for focus group quotations and supplemental descriptive passages included in the **Analysis of Year 1 Qualitative Data** section have been removed; as we approach the end of the evaluation, we will reinstate LEA identifications in keeping with an end-goal of making recommendations about which pilots appear to be better suited for regional or statewide scale-up.

[5] Because the primary goal of the student survey is to detect *changes over time* in students' perceptions of their classroom experiences in Advanced Teaching Roles classrooms, results from their Year 1 surveys are reported in Appendix D but are not included in the analyses conducted for this year's report. Student responses will be included in future reports once the evaluation team has collected student responses for more than one year.

[6] Reliability = number of agreements/(number of agreements + disagreements); Miles and Huberman (1994).

Analysis of Year 1 Qualitative Data

This section uses focus group and survey data collected during the 2017-18 school year to begin to address seven of the evaluation questions (questions 1, 3, 4, 5, 6, 7, and 8; 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?

Teachers in participating schools were asked to discuss any changes they had experienced or observed in the quality of classroom instruction related to the presence of the new, lead teacher roles. Most advanced teaching roles allowed lead teachers to provide either one-on-one support (via coaching, modeling, and curriculum or lesson planning) or leadership to teacher teams (via Professional Learning Communities [PLCs] or Communities of Practice [CoPs]). Participants shared that lead teacher support was purposeful and data-driven, focusing on instructional changes that targeted students' specific needs.

> Development of lessons, materials, team teaching . . . right now I'm team teaching with them, whole group, to help build their capacity, while at the same time they are seeing it modeled with me doing it. And so, I can provide in-the-moment feedback when they're doing it and so it's like a collaborative thing. So the flexibility in my schedule allows me to do that, where[as] in a traditional world you don't have time for that. (Advanced Roles Teacher)

> We do a lot of data analysis to identify the need of the students. . . . [W]e plan corrective instruction instead of re-teaching. . . . [O]nce we're providing corrective instruction we're changing the way we are teaching it so that children can be more successful. (Advanced Roles Teacher)

> [My lead teacher] showed me how to drive my instruction through my data and that was . . . really, really eye-opening for me. [It] allowed us to make some instruction more rigorous because we could see what was going really well and how to take that a step further and what we needed to change to make it better. (Teacher Colleague)

Lead teachers either already possess the advanced knowledge and skills needed to support their colleagues, or they participate in professional development that advances their own capacity, with an expectation that they will share new knowledge, resources, and skills with other teachers. For example, one lead teacher shared that she will work with teachers in areas in which she has "a little bit more knowledge, like technology and implementing instructional and adaptive technology." In a different LEA, a lead teacher emphasized that the program had "caused [her] to grow more professionally," adding that "the trainings that we've had have taught us communication skills, team-building, and better ways to look at data, so I then turn around and do those same practices with my CoP."

Several lead teachers highlighted a ripple-effect phenomenon for leveraging PLCs and CoPs to share knowledge and support the development and practice of new instructional strategies: Lead teachers and their teacher colleagues first refine their skills during their team meetings, then share what they have learned with other teachers in their school. As one lead teacher noted, "The collaborating teachers, in our case anyway, are going back to their grade levels and sharing [what they learned] with the other teachers on their grade level." In other words, even in schools with only a handful of lead teachers, the impact of those lead teachers may be felt well outside of their immediate spheres of influence.

Lead teachers identified direct coaching as another common approach for enhancing professional practices. Many lead teachers assumed coaching responsibilities as a part of their new advanced roles.

> I didn't have a class of my own but through coaching I was able to help support the teacher and how she directly taught the students, and mak[e] sure that [it] was rigorous instruction and targeted instruction, and that [it] was based on the data that we were getting weekly from our assessments. (Advanced Roles Teacher)

> [W]e've always collaborated, but I think we've really embraced the coaching model; we really coach them. Like, I really feel like the teachers value what we have to say; they see us as somebody that is there to help improve their knowledge and their learning so they then can be even more effective with their students. (Advanced Roles Teacher)

These early signs of impact notwithstanding, other teacher feedback suggested that it may be too soon to see wholesale significant changes in practice. While 87% of lead teachers either agreed or strongly agreed that the instruction of the teachers with whom they worked had improved during the first year, their teacher colleagues and administrators were not yet quite as convinced (64% each). Teachers noted that, because programs were in an early implementation phase, lead teachers were still adjusting to their new roles. One common adjustment was adapting to the organizational changes that support larger class sizes, which allows lead teachers to work directly with more students—an outcome in line with one of the four initial legislated goals of the Advanced Roles pilots—but does not on its own help them improve their instruction.

> For me, it's just the ability to reach more students, [but it has not] really changed my instruction. I just get to reach more kiddos. . . . I think it's also allowed the other two teachers on the grade level to have less students so they can have a bigger impact with the kids they do have, so it has kind of alleviated that from them as well. . . . I haven't necessarily changed my instruction but I've had the ability to reach more kids. (Advanced Roles Teacher)

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

The two main components of each program—the advanced roles themselves and the related salary supplement—appear to be well-received among most teachers, though teachers tended to

think of the salary supplements as an *expectation* for taking on additional responsibilities, rather than as a *motivator* for doing so.

When asked if their participation in the program made the teaching profession more or less appealing, one lead teacher responded, "I think it's been more because we not only get to help the students [but] we now get to help the teachers, [too,] so it's like we have a better hand at helping education as a whole because we're able to help teachers if they're struggling with helping their students." Teachers across LEAs and programs expressed that they believed that many teachers "want opportunities to lead," and some added that the opportunities provided by the pilots have been professionally satisfying.

> I think that's the best part about the program itself; the overall role. (Advanced Roles Teacher)

> I like the leadership roles that come with it. I like being able to have that outreach to other teachers, I like having that position, so right now that's what is more appealing to me is that I can reach students *and* I can reach teachers in the same role. So I think that's what's most appealing to me right now. (Advanced Roles Teacher)

> It definitely makes it more appealing to know that there are opportunities out there that you can advance in and still remain in the classroom. [So], you know, it feels good to be able to remain in the classroom and still be a leader and be compensated for being a leader. And it makes you not want to retire as quickly—well, for me anyway. (Advanced Roles Teacher)

In addition, many teachers noted that there typically never is an opportunity to advance in their profession without having to leave the classroom, and that the opportunity to advance without having to become an administrator was the primary motivating factor to participate in the program:[7]

> I know for me it gave me opportunities to grow within my role without having to leave for like an administrative Master's. I knew I love teaching but I wanted growth within my profession and there [were] no growth opportunities for a teacher, and so [now] I've had opportunities to grow in my profession . . . and [I have] received professional development and also pay incentives. [I] don't have to leave the profession to grow and I don't have to become an administrator to grow. (Advanced Roles Teacher)

> When I got into teaching, it was kind of defeating thinking that if I want to move up then I needed to go on to be an Admin, and I'm not in Admin school, I don't want nothing to do with that; I like being in the classroom, I like developing curriculum, I like developing lessons, I like interacting with kids, so this is giving that opportunity to stay in the classroom and continue to actually feel like I am moving up. (Advanced Roles Teacher)

[7] Best NC captured similar sentiments regarding advanced roles opportunities from teachers in North Carolina.

While the extra pay may not have been the primary motivator for every advanced role teacher, it did matter to some. For instance, a lead teacher said the program "has made me feel more positive about being an educator because I came from a district where there was no other means of [earning] anything extra" and a lead teacher from a different LEA who initially said "I'm not here for the money. I mean, it's not the driving factor; this is not where you come to make lots of money" later added, "but it does feel good to be compensated." Other teachers shared similar sentiments:

> I will be honest, at twenty-five years without the money, I probably would not have taken on one more thing; I have a tendency to take on too many things. While it *sounded* interesting, . . . I don't want to tell you I would do it without the money, but I might. It's been a good year, it's been something different from anything I've done in my career . . . but the money is what motivated me to step up and say, "Yeah, I'm going to do this." (Advanced Roles Teacher)

> I've really enjoyed having a leadership role and I feel like I've gained a lot out of it, and, you know, having a little bit of extra pay is a nice perk with that. . . . I would say it's motivated me to do it, but [more importantly I have] felt like the work and the time I was putting into something was being valued. (Advanced Roles Teacher)

Several lead teachers indicated that their new roles were not a far stretch from what they had always done in their positions; as a result, the new roles were appealing because they provided additional compensation for work they were doing already. On the survey, when asked whether they believed that the compensation for their roles was adequate, 84% of lead teachers either agreed or strongly agreed.[8]

> [W]hen I was a classroom teacher, I was already doing a lot of the things that I do now but I just wasn't getting paid to do them. I was spending a lot of my own personal time and putting a lot of my own planning time, things like that, into, you know, mentoring other teachers and working with them. And so, when this opportunity became available, it was a chance for me to continue to do that outside of having my own classroom but get the extra pay for it. (Advanced Roles Teacher)

> I mean, pay is really out of whack here [in North Carolina], and I think when you talk about it as a way of addressing the pay issue, that's when you start to lose people because they get really irritated because they feel like I'm doing this work and I don't want to do more work, I want to get paid more for the work I already do. (Advanced Roles Teacher)

Teacher colleagues shared this perspective too, suggesting that the program was good because it directly compensated lead teachers for providing the leadership they would have provided anyway:

[8] Of note, the range of agreement is wide across LEAs—from a low of 60% to a high of 98%. Future reports will examine in greater detail the relationships between supplemental pay scales and teacher recruitment and retention.

> I would say that the existence of the program is more just rewarding people for the work that they are doing. So these are people that were already exhibiting a lot of leadership on their teams and now have moved into those roles but I think it's more of their being reimbursed for the actual work that they were doing. (Teacher Colleague)

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

In a recent study of advanced teaching roles that included analyses of data from one of the pilot LEAs, Backes and Hansen (2018) found that formal teacher evaluation ratings on such things as value added, leadership, and facilitation of learning were higher for teachers chosen for leadership roles. Most participants agreed that their program's recruitment and selection process was rigorous. On the survey, 89% of lead teachers, 87% of administrators, and 81% of teacher colleagues either agreed or strongly agreed that their pilots identified high-quality teachers.[9] In particular, teachers highlighted the specific criteria they had to meet to be considered for a lead position, stating that "the requirements were no joke!" and that the process "was pretty intense." Four of the six pilots formally required teachers to have a notable record of exceeding student growth, high evaluation ratings, and a successful interview with school or LEA leadership. Administrators directly involved with vetting and selecting lead staff at their schools agreed that the pilots recognize high-quality teachers. One principal said the intention was to make the selection process "fair and equitable" so that the LEA did not just "put people in positions because we feel like they deserve it but because they genuinely, authentically earned it, which I think gives more clout to these positions."

Most teachers who received direct support also felt that the teachers identified for advanced roles in their school were of high quality. One teacher shared, "I would say the people that we have in those roles are incredibly impactful." A beginning teacher described the support received from her Master Reach[10] teacher as "very comforting," adding that when you work "with someone who has had a high success with [literacy] content and [you] ask them, 'What is the best way to do this?' [as] a new teacher, it makes me feel comfortable with someone [like that] on my team." Another teacher shared, "I think these positions have brought about high-quality teachers. [This program] ensures you're getting a higher-quality [teacher] whereas if you're interviewing for a general position, you don't necessarily have as much of a guarantee."

A few teachers suggested that the selection criteria were perhaps *too* rigorous and likely excluded teachers with great leadership potential. These teachers noted that some colleagues could not meet the data requirements either because they did not teach a tested subject, their students only had met (not exceeded) expected growth, or they had only a year or two of experience in the classroom. One lead teacher said that, while advanced role teachers "had to somewhat prove themselves in terms of . . . exceeding growth and . . . really pushing their kids," she also knew "phenomenal teachers that haven't [shown] any [measured] student growth, so they couldn't be eligible for this program." Several teacher colleagues agreed that the selection criteria for the pilots in their LEAs excluded many talented teachers:

[9] Of note, *teacher colleague* agreement on this item was much higher in LEAs implementing variations on the Opportunity Culture framework (91%) than it was in the other LEAs (78%).

[10] A Master Reach teacher is one of the advanced teaching roles in Charlotte-Mecklenburg, Edgecombe, and Vance. For more information about specific advanced roles, please refer to **Appendix C**.

> I think that, because of the specific criteria, you might end up missing some people that would be very talented in certain roles but they're not going to make it into the talent pool because of a certain data point or because they're missing one of the many criterion, but it doesn't mean they wouldn't be excellent in those roles. So I think there almost has to be some leeway with . . . principal discretion based on what they're seeing in that person and their abilities and their interactions with others, and I think that will become important. (Teacher)

Some teachers mentioned that their recruitment began with an informal invitation or nudge from their principal—"As I got into it, it was more on a recommendation level from my Principal—'You are an effective teacher, you are strong, you have strong data, you should look at this and you should apply for it.'" While the selection process is similar across the six participating LEAs, smaller LEAs naturally had smaller candidate pools in Year 1. The evaluation will track how the selection process evolves, especially in the smaller LEAs that might have to expand their criteria to tap into a larger pool of teacher talent as their pilots expand.[11]

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

Meaningful measures of retention attributable to the pilots will be included in later reports, once the pilots have been in operation for more than one year, but even at this early stage, it is possible to discern a few indications of the relationship between the presence of the pilots and retention.

Several teachers pointed out that good teachers are in the profession for the students and that that is what keeps them committed to the job; however, because the pilots provide incentives specifically to keep teachers in the classroom rather than move into some other area of education, there is more than one type of retention to consider. For example, some noted that in any profession the day-to-day job can get mundane and that "you need another way to hook [teachers] back in." The advanced teaching roles programs created that hook for them, producing something new to be excited about.

> [When] you get into the profession, you're young, [and] your folks who are in those first couple of years, they're still trying to figure things out. When you get into that middle range of years, [though,] it's a toss-up, and would this program necessarily help them stay in? [W]ould this program help it? Absolutely. (Advanced Roles Teacher)

A few teachers specifically mentioned that they had the credentials—and in some cases even offers—to assume administrative positions, but that the advanced teaching roles program had provided them with another option to assume a leadership position and remain in the classroom, and that proved to be the better option for them.

> I just got my administrative license, and [the Advanced Teaching Roles pilot program] allowed me the opportunity to lead in a leadership role without leaving the classroom, so that was a positive for me. (Advanced Roles Teacher)

[11] For more information about each LEA's recruitment and selection procedures, please refer to **Appendix C**.

> I've always loved [teaching]; I have a degree in administration—I could go be an administrator, I was offered an AP position, [but] I did not want to leave the classroom. (Advanced Roles Teacher)

> I have an administrative degree, I have an advanced degree [as] an educational specialist, so I can leave the classroom at any point in time, but it's just the fact that . . . the program is acknowledging us as leaders and then, on top of that, you're compensated for it. Why would I leave the classroom? (Advanced Roles Teacher)

Overall, only about 7% of lead teachers indicated on the survey that the combination of their advanced roles and supplemental pay has not increased the likelihood that they will remain in the classroom.

When teacher colleagues were asked to reflect on the program's impact on teacher retention, their reactions were more reserved. Some teachers thought the extra leadership and potential to earn more was a great incentive, but others added that the pilots "created more frustration, more being overwhelmed, [and] more work" for everyone. One teacher pointed out that the pilot in her LEA "is not so outstanding and fantastic that this one thing is going to keep me here," adding that "there are so many other things in the profession that make me think [about staying]."

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

In all but one of the pilots, support for beginning teachers has not been the primary focus of the new lead roles. While support for beginning teachers was evident across several schools visited, it often was described as a continuation of typical job responsibilities (e.g., in-house mentor support, PLC planning, provision of professional development[12]) or as a function of the number of new teachers employed in the school, rather than as a specific lead teacher responsibility. When asked if they support beginning teachers, many lead teachers replied, "not directly," adding that they provide support but not as a component of their new lead roles.[13] As a result, lead teacher feedback yielded little insight at this stage with respect to the pilots' potential direct impact on beginning teacher retention.

> I know for us we still plan with our PLC, with the other teachers on our grade level, but as far as supporting the other teachers in the building, I wouldn't say that we do that. I normally plan with my grade level and we support each other in that way. [I] think that if we had more new teachers in our grade level with our PLC, we would have more of an impact, yes, but we are both on veteran teams. (Advanced Roles Teacher)

[12] For example, one lead teacher shared: "I got asked by a couple of other lead teachers that are at the high school that are in charge of the beginning teachers . . . if I would come in and give a professional development [session] for some of the beginning teachers on Reading 3D, which is one of our big things that we have at the elementary level, and how to analyze the data and look at the data . . . so that was definitely helping the beginning teachers and newer teachers."

[13] Less than two-thirds of lead teacher survey respondents (64%) believed they have been able to increase the amount of support provided to beginning teachers since beginning their new roles.

> [T]he way that the Community of Practice [the setting in which some lead teachers operate] was explained to me, you don't want to be [in one as] a first-year teacher . . . because they are focused on the instruction that is happening in their classroom and getting to know the routines that need to occur in order to have quality instruction for their students. That's their main purpose, I guess, main goal for that first year especially. By . . . year two and especially to year three, they've kind of got that classroom role as an educator down so they might could join a community of practice. (Advanced Roles Teacher)

For one of the six LEAs, beginning teacher support is a primary focus of the pilot. Lead teachers provide a variety of support to new teachers in their buildings, including one-on-one planning, mentoring or coaching, and modeling of best practices. While only a few first-year teachers were available for a focus group, those who participated agreed that lead teacher support was "very beneficial" and "very helpful," particularly for learning about "looking at data and planning," and "being able to see a lot of different strategies about how to teach things." Lead teachers agreed that the direct support made possible by their pilot was very beneficial to first-year teachers and talked about the role they played in providing that support:

> I have some non-new teachers on my team and I don't have to support them as extensively as I have to support my new teachers; right now, my time is really dedicated to my new teachers. They get most of my time, but that's where the need is, and so you have to assess where the need is with the teachers you coach, if the need is there. (Advanced Roles Teacher)

> [T]here's a lot of negative [perceptions] about teaching right now in the world, and so, everyone is like, "Don't do it, you're overworked, you're underpaid." That's what people are saying. Even teachers are saying that to new teachers that are considering going into the profession, and so, if we can say [to] new teachers, "You're not just going to have a mentor that meets with you and documents once a month; you're going to have a coach that's going to scaffold you and help you along the way and is equally responsible for those children as you are," that there will give that new teacher some sense of security, that "I've got someone to help me." (Advanced Roles Teacher)

> My brand new teacher, she just graduated in December so she's brand new, brand new to the whole thing; so she's very positive about it and she's like I'm able to do these things because I have a coach. Because she has other friends that she has graduated with and they're like, 'how are you able to do this, this, and this?' and she's like I have a coach. (Advanced Roles Teacher)

> I have a new teacher, brand new, never taught before and so, in the beginning like I would co-teach with her, go in, look at her data and do all of that and then plan with her, pull resources and things . . . So I do feel like it's been beneficial to her, like she'll tell me all the time. (Advanced Roles Teacher)

It is worth noting that several of the pilot LEAs already host programs that provide direct support to beginning teachers.[14] Lead teachers acknowledged that, while this support is still provided in the form of veteran teachers who serve as a mentor, the new lead teacher roles may position them to have a more significant impact:

> Now, with this brand new teacher, I co-taught with her, I modeled for her, I helped her create her small groups. . . . [S]he would practice, I would watch; I would provide feedback to her on how she could tweak it. [In me, s]he had somebody to come to and ask instructional questions to, not just personal questions or, like, "Where is the bathroom?" and, you know, "When do we turn in this kind of thing?" but [someone who could provide] more specific instruction. (Advanced Roles Teacher)

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

An important component of the three-year evaluation will be identifying impacts of the pilots beyond those targeted by the legislation, both positive and negative, locally and across multiple pilot locations. Year 1 focus groups suggested several potential impact areas that the evaluation team will continue to track in Year 2 and Year 3.

Lead teachers in one LEA felt that the overall quality of their program had influenced wide-spread buy-in among teachers. One lead teacher emphasized the quality of resources and support, stating that "everyone's vested, there's materials, there's research, there's useful information, and there's people that you can go to to get the answers or to have help with things. . . . [P]eople are taking more ownership of this program as opposed to different programs that may have come in the county." More broadly, lead teachers in several LEAs believed that the professional development they received from their programs was of high quality and useful to their roles. One teacher from another LEA shared, "I feel the professional development with [the local pilot program] is much better than the [LEA's regular] professional development. So I have grown as a leader more so in the last five years because of what they're offering us specifically than the rest of the district."

Some of the positive impacts were less tangible but equally notable. One administrator observed that, in order to be successful leaders, teachers first need to develop an "inner drive" to *be* a leader: "[I]f you don't see yourself as a leader, then it's kind of hard to take a jump into this [program]." Early feedback suggests that development of that inner drive may be another byproduct of the availability of advanced teaching roles. Several teachers felt that participating in their programs had increased not only their leadership ability[15] but also their confidence to lead. They talked about feeling "rejuvenated," "invigorated," and "empowered" in their new roles:

> It has given me . . . a lot of confidence that I can manage a small group or a larger group and that I can do and, you know, do the work and help these kids get where

[14] E.g., the New Teacher Support Program

[15] For example, 90% of lead teacher survey respondents indicated that their ability to lead other teachers had improved since they began their new roles.

> they need to be with the help from the teachers that I work with[, which] has made me feel much better about what I'm capable of. (Advanced Roles Teacher)

> [B]eing an instructor in some courses, the dialogue that I've had with my peers around certain teaching practices or whatever it might be, I've been more confident in what I'm saying because I'm like, I kind of know. So I feel like it's given me like more confidence in what I'm saying, more backup to what I'm saying. (Advanced Roles Teacher)

> [I]t's been invigorating, you know, sometimes it's the same ol' thing, you know, and you go to training and . . . you get that day and then you don't really get back to it, but [with the advanced role,] . . . it's been very intellectually stimulating, the training, the CoP, the working together, the learning to be in the community. . . . [It] has been so interesting to me to see that develop within the communities. (Advanced Roles Teacher)

> For me, it has empowered me as an educator. I don't want to say I was kind of living in my own little classroom and my own little world, because I love 1st grade and I love to teach, but you get caught up in the day-to-day, you got to plan it, you got to teach it, you got to grade it, you gotta move on. [This program] has empowered me to see that I can be a leader in different capacities. (Advanced Roles Teacher)

Most of the school sites that participated in evaluation site visits were in the initial phase of pilot implementation (i.e., first or second year). As a result, and perhaps not surprisingly, some teacher feedback focused on early implementation issues or limitations that impacted their experiences in their new roles. The most common issue raised was lingering school staff vacancies and the adjustments required to fill gaps.[16] These vacancies included not only lead teacher roles but also some supporting roles necessary for making lead roles more effective. One lead teacher stated that the pilot program in her LEA "needs to be fully staffed before it's implemented." Another teacher colleague described her lead teacher as "completely bogged down with extra responsibility and that really impeded her ability to help." Other lead teachers described how staffing gaps impacted their roles:

> [W]e're such a small school . . . we don't have the manpower to [cover positions]. We have just enough kids to have a program but then we don't have enough teachers to kind of cover it, so [my Reach Associate[17]] was running between the language arts class, math classes, and science class. (Advanced Roles Teacher)

> I'll stay on but I may end up eventually [leaving] because it's too much. I was told that I was going to have a Reach Associate and I do not have an assistant so it's just me doing everything all day. (Advanced Roles Teacher)

[16] This concern was most common among teachers in the three LEAs that are implementing the Opportunity Culture framework, which in some schools can require a significant amount of up-front role-shuffling and staffing changes.
[17] Reach Associates are supporting-role staff members in the Opportunity Culture framework. The Reach Associate is not a lead role, but it does provide direct support to lead teachers, often giving them the flexibility to teach more students or work more intensely with small groups of students.

Because staffing all of the supporting roles was a challenge, there were perceptions of considerable variability in the effectiveness of some of the people chosen to take on those supporting roles—some were of high quality, but others lacked the experience needed to fully support a lead teacher.

> [W]e are fortunate. Our Reach Associate in our math department . . . holds [one] Master's [and] she's working on another Master's degree right now . . . [and] she has a four-year degree in child development. (Advanced Roles Teacher)

> I gotta be honest with you—at the level I'm at, in 8th grade with EOG's . . . if I have a Reach Associate that doesn't know 8th grade science, it's almost impossible for me to choose her for help. (Advanced Roles Teacher)

A final area of concern had to do with expectations—both the expectations of the lead teachers and of some of the teachers with whom they were expected to collaborate. Several lead teachers were surprised to learn that some of their colleagues had limited knowledge or understanding of the curriculum and standards for their subject areas. As a result, much of their early efforts in building teacher capacity were focused on addressing fundamental issues, such as aligning curriculum and standards. In addition, a few lead teachers reported that some teachers were willing to adjust and work with them, while others refused to do the work or put in minimal effort overall.

> I assumed that every teacher kind of knew their curriculum and what to teach. Most of the time I walked into the classroom and the teacher like completely taught something wrong and I'm sitting there as a coach going "What is happening right now?" (Advanced Roles Teacher)

> [Our] lens coming in is, "You should be able to do this, you should be able to do some of these things," and some of our teachers are *not* able to do some of those things, and it was like . . . I just . . . I can't believe it. (Advanced Roles Teacher)

> [The pilot] has changed my perspective because I realize that there are people that don't have the same ability or the same skill or will for anywhere close to what I thought all teachers had. And I thought everyone did what I did. (Advanced Roles Teacher)

> I've got one teacher on my team, she's going to do every single thing I ask her to do and what she needs to do and she's going to come and say, "Ms. H. what do you think?" and she wants my feedback. [With] the other one, it's constantly "Did you do this, do you do this?" I'm constantly having to hold her accountable for the bare minimum. And so, the willingness of the one is there, [but] the other one, she doesn't . . . it's honestly a lack of self-fulfillment. Teaching is a self-fulfilling profession and it has to come from the inside and if you can't, how do you foster that in someone who doesn't have it? It's hard. (Advanced Roles Teacher)

In some ways, this last set of challenges may suggest that the pilots are beginning to impact exactly what they are intended to impact: As lead teachers become more aware of the variability

in quality across classrooms in their schools, they may attune their leadership to address that variability.

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

The evaluation team worked with each participating LEA to construct LEA-level logic models that reflect the planned actions and intents of each pilot (**Appendix C**). 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 **Revised and Updated Plan for Quantitative Estimations of Pilot Program Impacts** section, below). They also informed the development of a matrix that summarizes the major points of comparison across programs (Table 3).

Table 3. Common Pilot Program Features

	CHCCS	**CMS**	**Edge-combe**	**Pitt**	**Vance**	**Washing-ton**
Components						
Professional devel.	✔	✔	✔	✔	✔	✔
Variable class sizes		✔	✔	✔	✔	
Teacher teams		✔	✔	✔	✔	
Teacher-Leader Roles[18]						
PD facilitator[19]	✔			✔		✔
Coach[20]		✔	✔	✔	✔	✔
Co-teacher[21]		✔	✔	✔	✔	
Mentor[22]	✔					
Team leader[23]		✔	✔	✔	✔	

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

[18] *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.
[19] CHCCS=PD Facilitator; Pitt=Facilitating, Multi-Classroom Teacher; WCS=Master Teacher
[20] CMS=Multi-Classroom Teacher; ECPS=Expanded Impact Teacher, Multi-Classroom Teacher; Pitt=Facilitating, Multi-Classroom Teacher; VCS=Multi-Classroom Teacher; WCS=Master Teacher
[21] 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
[22] CHCCS=Mentor Teacher
[23] CMS, ECPS, Pitt, VCS=Multi-Classroom Teachers

with a common third-party support provider.[24] These commonalities are important to keep in mind when reviewing the plans for the quantitative component of the evaluation.

Leadership Roles

Lead positions, training, and support structures sometimes are only nominally similar across most of the pilots; differences exist in each LEA's implementation of each component and role—and sometimes even across schools within an LEA. For example, one lead teacher split her time evenly between classroom instruction, coaching other teachers, developing curriculum, and lesson-planning. A colleague in the same role at the same school spent most of her time working with small groups of children. Both teachers lead PLCs. Because of this variance in responsibility, one potentially is having a greater impact on teacher capacity, and the other on student learning.

> I work as the Multi-Classroom Leader . . . and so I have three teachers on my team, as well as a Reach Associate, and part of my responsibility is a combination. It's supposed to be 33-33-33 where 33% of my time was coaching, 33% of my time was working with curriculum and helping support with lesson-planning and whatever the needs that teachers have, [and] 33% of my time was working with small groups of students as well. (Advanced Roles Teacher)

Some lead teachers acknowledged the inconsistencies in lead roles but saw the value in providing flexibility for lead teachers to carry out their responsibilities. In many cases, it simply made sense to make adjustments to lead roles to best leverage personal strengths and streamline program supports. Teachers valued the ability to implement new instructional strategies and make course corrections without fear of reprisal. At the same time, they also recognized the potential benefit of making roles more consistent so that expectations among teachers within and between schools are aligned.

> I think that it needs to be a flexible program because, like, what we need is different than what that school needs, but I do wish that there was a little bit more commonality almost between what those roles look like so that I could say, "Oh, that's what's going on at that school, that's what it's going to look like here," and we don't always know that. (Advanced Roles Teacher)

> I think it was interesting because I'm an [Expanded Impact Teacher] as well; and every EIT we speak to is so different and, like, in every single school it looks so different. So something that on paper we thought we were just going to nail it, like, "This is going to be amazing," we get there and we're like "Oh my gosh, this is not working at all," like, none of this is working, and so it's just like constantly trying to like tweak it, tweak it. (Advanced Roles Teacher)

[24] Public Impact (http://publicimpact.com/), 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.

The number of leadership levels also varies across the pilots. One LEA, for example, offers multiple opportunities for advancement, beginning with the Key Beginning Teacher program and related professional development. From there, teachers can assume a Collaborating Teacher position, followed by a Facilitating Teacher or Multi Classroom Teacher lead position, all of which offer supplemental pay. Collaborating Teachers support the work of Facilitating Teachers; these teacher teams research problems of practice that correspond with local, data-driven needs, and teachers implement iterative cycles of new instructional strategies that target the problems of practice. This arrangement is unique among the pilots: Unlike other teachers who receive direct support from a lead teacher, Collaborative Teachers have a more structured commitment to the process and are compensated. Similar to other programs, Collaborative Teachers share their experiences with other teachers in their schools to support school-wide growth.

> The other 5th grade science and math teacher is part of my CoP, so we work together, but instead of [a school-level focus], we've kind of gone more district[-focused], because we work with teachers from other schools who are either self-contained or just teach that subject. . . . [S]o we're affecting their schools, their entire 5th grade. (Advanced Roles Teacher)

> [O]ne of my CTs [Collaborating Teachers] . . . was a Key Beginning Teacher, and now she's a CT with me this year and she is going to be an FT [Facilitating Teacher] next year; so she is going to have moved through three of the phases that fall under these career pathways that are promoting teachers to not leave the classroom and want to stay in the classroom where they can be effective . . . we don't have to be an administrator [or] go to the county office. (Advanced Roles Teacher)

Professional Development and Other Supports

In some schools, leads are asked to provide district-wide professional development, but in other schools, one-on-one or small-group professional development. More often, however, identification and delivery of needed support happens informally, with lead teachers asking, "What do you need?" or "How can I help?"

For example, during their first implementation year, lead teachers in one LEA focused mainly on transmitting their personal areas of knowledge and experience to the other teachers under their leadership, rather than working on a common strategy across all lead teachers. Instruction from their administrators was simple: "Teach people how to do what you're doing, because you do it very easily and others struggle with it." One teacher who was experienced in Reading 3D data analysis worked with beginning teachers to share that knowledge and to help them target their reading instruction. Another lead teacher had a background in integrating technology into instruction, so she shared with the teachers in her school how to use popular applications in the classroom to support instruction.

> One of the jobs that we were given is to provide professional development for . . . the teachers . . . that are in our building, as well as county-wide on our professional development days that we have for our county. We would pick some

> type of subject or some type of topic and we would present to other people from our county at those professional developments. (Advanced Roles Teacher)

> A lot of my sessions were technology-based. I'm very much a proponent of using technology in the classroom, and so what a lot of my sessions were, we're just introducing technology items that they probably had never heard of [that] would make their life easier. . . . Say, for instance, they did a session on Twitter and how you could use it as a classroom tool, as well as use it for where parents could see what you were doing in the classroom, your administrator could see—positive ways to use it rather than the negative ways that it can sometimes be in. I also did a session on Pinterest. (Advanced Roles Teacher)

One LEA's pilot is unique in that its robust professional development plan is the core component of the pilot. All teachers in the district are expected to participate in structured and sequenced professional development, and, upon completing each level, they receive a permanent salary increase. In addition, teachers can assume one of three lead roles—professional development course developer[25], professional development course facilitator, and mentor teacher (assigned to beginning teachers)—each of which comes with additional pay. Thus, a teacher in this LEA has an option to take on a lead role or simply participate in the mandated professional development; regardless of the path, all teachers in the LEA have the opportunity to grow and receive additional pay. No other pilot reaches all teachers to this extent.

> If people looked at the six pilots and knew what the six pilots offered, they would see that Chapel Hill-Carrboro is the only district that's offering an opportunity to advance to every single . . . certified employee. (Advanced Roles Teacher)

[25] Professional development course developers were an integral part of the program's early development to establish the new professional development modules. This lead position is currently unavailable as the district has paused development of new courses until further notice.

Revised and Updated Plan for Quantitative Estimations of Pilot Program Impacts

At this early stage, evidence of the impact of the pilots on student growth is anecdotal at best, but perhaps promising. One lead teacher exclaimed, "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!" As the evaluation continues over the next two years, the evaluation team will introduce a quantitative lens alongside the ongoing qualitative work to help determine if, indeed, the presence of advanced teaching roles has a measurable impact on teacher and student performance outcomes.

We will be guided in this endeavor not only by our own explorations of what we believe to be the most promising approaches (detailed below) but also by the strengths and limitations of similar efforts made for other studies. For example, we reviewed the methods used in a recent report (Backes and Hansen 2018) that described an attempt to estimate "the relationship between implementing . . . staffing models and student achievement based on standardized tests in reading and math" (p. 2) across three LEAs (including two in North Carolina). Their findings indicated a small but significant increase in math scores, but no significant differences in reading.

Perhaps more important for the current evaluation, the study enumerated several challenges associated with attempting to quantify the true impact of an advanced teaching roles model. For instance, they note that at least some of the impact they detected in math might be attributable to overall school improvement and not just to the presence of an advanced roles program. In addition, they caution against the influence on their estimates of cross-LEA model fidelity issues. In our case, these challenges may be even greater, since we are looking not at implementations of the same program in different settings but instead at implementations of different (albeit related) programs in different settings—sometimes different within LEAs and even within schools.

That said, while the preceding section makes clear that there are, indeed, several structural and implementation differences across the pilots—to be expected, given the experimental nature of pilots in general—Table 3 (above) also identifies important similarities. We believe that some of these similarities will aid in our team's ability to conduct useful quantitative estimations of the impacts of the pilot programs.

Quantitative Analysis Plan

As detailed in the *Teacher Compensation Models and Advanced Teaching Roles Pilot Programs: Year 1 (2017-18) Preliminary Report*, the evaluation team hosted a quantitative analysis summit in April 2018 with independent experts to discuss reasonable quantitative options for this evaluation, based on the information above and in **Appendix E**, 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 will be included in a single "treatment"[26] 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 plan to conduct 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.

Finally, if the sample size is large enough to allow for meaningful analyses, we will conduct a third set of analyses that include only participating and matched non-participating schools in Pitt County (the only LEA in which only some schools participate and no other schools are exposed to similar initiatives), with outcomes reflecting changes *more strongly attributable to the presence of a specific pilot iteration*. Attributions for this third set of analyses (if we are able to conduct them) would be stronger than those for the larger-group analyses because many of the cross-LEA differences that potentially influence the other analyses will not be present in a within-LEA analysis. On the other hand, the results of these analyses will be less representative, since they will apply only to one specific implementation of a single ATR model.

A School-Level Lens

Summit participants also recommended focusing on ***school-level rather than individual teacher- and 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 whole-school cultural change as the most likely preliminary outcome of the initiative (**Appendix F**), this approach emphasizes the impact of the presence of an LEA's plan on an entire school, rather than its impact on an individual teacher's or student's performance.

In most cases, the team will analyze quantitative differences between matched schools in similar participating and non-participating districts. Our preferred matching process is described later in this report. As noted above, in the case of one participating LEA (Pitt County[27]), the evaluation team may be able to conduct school-level quantitative analyses that compare impacted versus non-impacted schools within a single LEA.

[26] "Treatment" as used in this evaluation means involvement in one of the pilot programs.

[27] 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.

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 F**) and by the relatively short length of the pilots—are not likely to change significantly as a result of the pilots. To the extent available, we will rely 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 will analyze school-level changes in student outcomes but will continue to caution against over-interpretation of the results: Changes to school culture that eventually contribute to changes in student achievement outcomes may not be fully realized by the end of the evaluation window.[28]

To gauge the overall appeal of career ladder programs to young professionals, the evaluation team also plans to ask teacher licensure candidates in colleges of education to review short descriptions of each program (with a focus on role/position descriptions and salary/bonus schedules) to assess their relative appeal.

Quantitative Analysis Methods

The evaluation team's primary approach to operationalizing the plan above and estimating changes in most of the short- and mid-term school-level outcomes of interest will be via Interrupted Time Series (ITS) modeling, with Propensity Score Matching (PSM) as the preferred method for identifying comparison schools. Rationales for both are explained in this section, and more details are included in a Technical Appendix (**Appendix E**).

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 3 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 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 us 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 over time (for instance, a statistically notable change in the *progression* or *evolution* of an

[28] It should be noted, however, that the North Carolina General Assembly's extension of the pilot program from three to eight years (Session Law 2018-5, Section 7.9) would make 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.

outcome of interest, as measured at multiple points in time after the policy goes into effect).[29] 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).

Therefore, 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.[30]

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.[31]

School Matching and ITS

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.

[29] Contrast this with a Difference-in-Differences model, which only can detect differences in 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.

[30] **Appendix E** includes information about a valid but less robust alternative statistical model typically used when there are not enough pre-intervention data points to support an ITS.

[31] See **Appendix E** for a discussion of a statistical method typically used to test for this issue but that, because of data limitations, is not available for this evaluation.

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 still lingers. As a result, while we will take great care in our selection of comparison schools, we will present all conclusions from our analyses with a strong word of caution.

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 hope to 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, we plan to use a ***radius matching*** strategy. This strategy matches each treatment school to several schools within a given propensity score range.

Updated Limitations and Considerations

There are at least four factors[32] (some of which already have been touched on above and are repeated here for emphasis) that have the potential to limit the robustness of our quantitative findings: 1) The small number of teachers directly impacted, relative to the number of teachers 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 Population and ITS Precision*

   The strategy proposed above can estimate school-level changes in 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

[32] While the *Preliminary Report* identified and discussed all four of these factors, each has been updated for the current report.

teachers. A school-level ITS analysis "estimates the difference in school performance under treatment and comparison conditions . . . over time," but "[i]t does 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, emphases added). In other words, because school populations change over time (students and teachers move away, students and teachers join a school), ITS estimates "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).

That said, since the ATR pilots introduce few changes to a school environment that might be outwardly observable to parents and students, it is unlikely that their introduction alone contributes to changes in the student population year-to-year, so, barring evidence to the contrary as a result of our qualitative work, we will consider any changes in student population over time in pilot schools to be reflective of changes that would have occurred naturally, with or without the presence of the ATR pilots. That is explicitly *not* the case for the teacher population, but, since teacher population changes are one intended outcome of the pilots, we will consider any such changes to be expected and not detrimental to the validity of the evaluation.

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 3), each pilot program is different from the others in certain ways, and many are very different—enough so that combining data from multiple pilots (allowing for stronger analyses of impacts on larger groups of participants and impacted students) must be done with caution and with a full explanation of the caveats that apply to all results.

3. *Randomization and Non-Causality*

As noted above, the pilots depend upon either teacher participant volunteers or teacher assignment to program participation based on one or more preconditions, or both. In most cases, students are not randomly assigned to the teachers who participate. None of these factors prevents evaluators from determining statistically significant *correlations* between program initiative components and certain outcomes, but all of them do prevent evaluators from determining *causation*. Despite its rigors, the ITS approach does not fully compensate for this weakness. Several studies suggest, however, that, when appropriately and carefully constructed, ITS results can strongly mirror those of randomized control studies (Hallberg et al. 2018; Somers et al 2013).

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 the state'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 (a top-level Theory of Change produced as part of this work is included in **Appendix F**). With only a three-year evaluation window, it will be challenging to detect the potential full effects of any of these pilots, and it is not inconceivable that the initial short-term results will be negative, even if the longer-term prospects are potentially positive.

In addition, because counterfactual projection reliability based on pre-intervention data becomes less credible after about three post-intervention years, ITS typically is used with caution for longer post-intervention time periods (Somers et al. 2013). This short post-intervention timeline likely will not be a problem for the current study, however, as school year 2019-20 data will be the last available before the conclusion of the evaluation. In addition, these concerns should be mitigated somewhat by the comparison school matching procedure.

Updated Evaluation Question Table (July 2018)

The *Preliminary Report* included an initial assessment of the subset of evaluation questions for which the team anticipated being able to conduct quantitative analyses to supplement qualitative data. After cross-referencing the quantitative evaluation decisions described above with the original evaluation questions and the originally-proposed indicators and data sources for each, the evaluation team updated elements of Table 2 and Table 5 from the *Preliminary Report* to reflect more accurately and in greater detail the revised quantitative analysis plan (**Appendix G** and Table 4).

Table 4. Evaluation Questions with Quantitative Analysis Components

Evaluation Question	Measurable Outcome	Indicator	Quantitative Analysis
Q1. Do advanced teaching roles improve the quality of classroom instruction?	A. (Indirect) School performance scores increase over time	Changes in: 1. School performance grade score; and 2. Proportion of students performing at/above grade level in each tested subject relative to matched schools	Interrupted Time Series (ITS)

Evaluation Question	Measurable Outcome	Indicator	Quantitative Analysis
Q1. (cont.) Do advanced teaching roles improve the quality of classroom instruction?	C. Teachers[33] exhibit greater VA growth relative to pre-initiative period	1. Changes in overall school/LEA teacher quality (as measured by EVAAS outcomes) over time 2. *[Pending data availability] Changes in lead teacher and directly-impacted teacher quality (as measured by EVAAS outcomes) over time*	ITS
	D. Teachers exhibit greater VA growth than a) teachers at other matched local (same-district) or nearby (comparable neighbor district) schools and b) statewide growth averages	1. Changes in overall teacher quality (as measured by EVAAS outcomes) vs teacher quality in matched schools in the LEA or region 2. Changes in overall teacher quality (as measured by EVAAS outcomes) vs teacher quality in all other schools statewide	ITS
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	ITS
	B. Students exhibit more growth than a) students at other matched local (same-district) or nearby (comparable neighbor district) schools; and b) statewide growth averages	1. Changes in overall student growth (school level) vs students in matched schools in the LEA or region 2. Changes in overall student growth (school level) vs all other schools statewide	ITS

[33] *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	Quantitative Analysis
Q3. Do advanced teaching roles and/or related local-level salary supplements, either collectively or individually, increase attractiveness of the teaching profession?	A. Teachers apply for and fill advanced roles	1. Changes in lead teacher application figure 2. Changes in lead teacher vacancy figures	Annual, per-LEA counts and averages
	B. Lead teachers remain in advanced roles	Teacher retention in lead teacher roles (annual)	Annual, per-LEA counts, %s, and averages
	C. Teachers remain in participating schools	1. Changes in teacher retention (school level) vs retention in matched schools in the LEA or region\ 2. Changes in teacher retention (school level) vs retention in all schools statewide	ITS
Q4. Do the pilot programs provide recognition to high-quality classroom teachers?	B. 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	Annual, per-LEA counts, %s, and averages
Q5. Do the pilot programs support retention of high-quality classroom teachers?	B. The proportion of high-quality teachers at participating schools increases	Change in overall teacher quality (as measured by EVAAS outcomes) over time	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 new/beginning teachers (e.g., mentor, planning, model strategies, etc.)	*[Pending data availability] Lead teacher evaluations identify practices/actions that support beginning teachers*	Annual, per-LEA counts, %s, and averages
	B. New/beginning teachers remain in pilot school/LEA	New teacher attrition figures (annual)	Annual, per-LEA counts, %s, and averages

Summary of Findings

Quality of Classroom Instruction

Focus group data suggested four ways in which the presence of the Advanced Teaching Roles pilots appears to be having an early impact on instruction:

- Enhancing the value of PLCs/CoPs;
- 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.

Attractiveness of the Teaching Profession

The pilots appear 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.

It is worth noting that teachers not yet in lead roles also voiced support for additional compensation for lead teachers in recognition of the work many already do.

Recognition to High-Quality Classroom Teachers

Across the pilots, lead teachers, teacher colleagues, and administrators all indicated that the selection process was rigorous—so much so that some teachers wondered if it were perhaps *too* rigorous and excluded some teachers with strong leadership potential.

Retention of High-Quality Classroom Teachers

Lead teachers reported that they already were committed to careers in education, but 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. The measurable impact of the pilots on longer-term retention will be explored in later reports.

Retention of Beginning Classroom Teachers

Most pilots do not appear to be set up explicitly to provide support for beginning teachers. Lead teachers noted that such support occurred as part of the regular cycle of support in their schools. In the one LEA in which support for beginning teachers is a focus of the pilot, responses to that support were positive, with lead teachers noting that, because they are on site and teaching

alongside the new teachers on a daily basis, their positions might allow them to provide more structured and direct support than is possible in other beginning teacher support programs.

Other Impacts on High-Quality Experienced Classroom Teachers

Lead teachers indicated that the professional development, resources, and support they received connected to their new roles was good—sometimes better than other support provided by their LEA or by the state—and as a result was inspiring support for the pilots among teachers. In addition, many participating teachers and their administrators attributed an increase in their sense of empowerment and confidence in their ability to lead to participation in the program.

One challenging aspect of some of the pilots (primarily those modeled on the Opportunity Culture framework) that will be important to keep in mind, should any of the pilots be chosen to scale up for state-level implementation, was their difficulty fully staffing all of the new positions before starting up. A related area of concern involved the variability of quality in some of the support roles.

Finally, for some lead teachers, increased exposure to their colleagues' practices led to a growing awareness of the variability in instructional quality across their schools. Whether the pilots provide them with the tools and supports necessary to address this variability and fulfill one of the key objectives of the pilot programs will be an area of focus for the evaluation going forward.

Pilot Program Commonalities and Unique Features

All six pilots have at least one aspect in common (provision of related professional development), and four of the six have six common features (variable class sizes, teacher teams, coaches, co-teachers, and team leads, in addition to related professional development), but implementation is different in each LEA, and even sometimes in each participating school within an LEA.

Quantitative Estimations of Pilot Program Impacts

The team plans to conduct cross-LEA, combined-data analyses of impacts of the presence of the pilots on several school-level teacher quality, resilience, and effectiveness outcomes. When data allow, the team also will conduct the same analyses on a smaller cluster of LEAs whose pilot programs are most similar (Charlotte-Mecklenburg, Edgecombe, Vance, and Pitt). If possible, the team will attempt to conduct analyses at the single-LEA level for the one LEA in which only some schools participate and no other schools are exposed to similar initiatives (Pitt). The primary method of analysis will be an Interrupted Time Series model, which analyzes changes over time, with a baseline year of 2013-14 and outcome years of 2017-18 and 2018-19.[34]

[34] The state-supported portion of the evaluation ends in June 2020, but support from a third-party funder may allow the evaluation team to extend its evaluation work through December 2020, which will make analysis of 2019-20 quantitative outcomes a possibility, pending data availability early enough in the fall of 2020.

Next Steps

The focus of Year 2 of the evaluation (July 2018-June 2019) will be on identifying LEA-level changes in implementation, rationales for those changes, and quantitative estimations of early impacts of the pilots on key outcome measures. The evaluation team will:

- Continue carry-over work from Year 1 (quantitative and qualitative data collection); and
- Assess program components (recruitment, selection, program content, program delivery, etc.).

In addition, the evaluation team will begin to assemble quantitative and qualitative data to address the evaluation questions for which data were not yet available in Year 1.

- Begin recording beginning teacher and experienced teacher retention rates;
- Begin comparing historical and current teacher vacancy application rates in participating LEAs and in nearest-neighbor LEAs;
- Analyze short-term (one year out) qualitative outcomes for participating teachers, schools, and students; and
- Retrieve, prepare, and analyze administrative and accounting data for first year of implementation (anticipated initial data availability: Winter 2018).

In particular, one aspect of each program that will be assessed over the duration of the evaluation is the extent to which districts can sustain the programs entirely, or at least in part, without external financial support. Teachers often are cautious of fully committing to new programs based on past experiences of defunding or reprioritizing that ultimately ends every program. Some teachers discussed this potential outcome and their fear of losing a valuable program that they support.

> Things change so often with money, I feel like there needs to be a way to make it work. Like, we're losing positions next year because we're not allowed as much money as we were this year so these people that were amazing are now being cut because of it, and I think there needs to be some kind of way to make it work. (CMS Advanced Roles Teacher)

The evaluation team plans to report initial quantitative outcomes in late spring 2019, with the second full formative evaluation report to follow in October 2019.

References

Backes, B., and Hansen, M. (2018). *Reaching Further and Learning More? Evaluating Public Impact's* Opportunity Culture *Initiative*. Working Paper 181. Washington, D.C.: CALDER/American Institutes for Research.

Cook, T. D., Shadish, W. R., and Wong, V. C. (2008). Three Conditions Under Which Experiments and Observational Studies Produce Comparable Causal Estimates: New Findings from Within-Study Comparisons. *Journal of Policy Analysis and Management*, *27*(4): 724-750.

Glazerman, S., Levy, D. M., and Myers, D. (2003). "Nonexperimental Versus Experimental Estimates of Earnings Impacts. *Annals of the American Academy of Political and Social Science*, *589*(1): 63-93.

Hallberg, K., Williams, R., Swanlund, A., and Eno, J. (2018). Short Comparative Interrupted Time Series Using Aggregate School-Level Data in Education Research. *Educational Researcher*, *47*(5): 295-306.

Linden, A. (2015). Conducting Interrupted Time-Series Analysis for Single- and Multiple-Group Comparisons. *The Stata Journal*, *15*(2): 480--500.

Maser, R. H., Argueta, R., Davis, C., Janda, L., Parker, B., Stafford, B., and Stallings, D. T. (2014). *Strategic Staffing in North Carolina: A Summative Review of Local and State Implementation across the Race to the Top Period*. Consortium for Educational Research and Evaluation–North Carolina.

Miles, M.B., & Huberman, A.M. (1994). *Qualitative data analysis: An expanded sourcebook* (Second Edi). Sage Publications.

Rubin, D. B. (2001). Using Propensity Scores to Help Design Observational Studies: Application to the Tobacco Litigation. *Health Services and Outcomes Research Methodology*, *2*(3-4): 169-188.

Somers, M., Zhu, P., Jacob, R., and Bloom, H. (2013). The Validity and Precision of the Comparative Interrupted Time Series Design and the Difference-in-Difference Design in Educational Evaluation. Working Paper. New York and Oakland, CA: MDRC.

Steiner, P. M., Cook, T. D., Shadish, W. R., and Clark, M. H. (2010). The Importance of Covariate Selection in Controlling for Selection Bias in Observational Studies. *Psychological Methods*, *15*(3): 250-267.

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, some of the questions have been 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 have been modified slightly to reflect the evaluation team's proposed approach to completing a comprehensive evaluation within the available budget.

Academic and Instructional Impact
1. Do advanced teaching roles improve the quality of classroom instruction?
2. Do advanced teaching roles increase school-wide student growth?
Impact 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?
Comparative 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?[35]
Financial 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?

[35] *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

Surveys

NC STATE UNIVERSITY

THE WILLIAM & IDA FRIDAY INSTITUTE FOR EDUCATIONAL INNOVATION

Public Schools of North Carolina

Introduction and Consent:
Thank you for your participation in [*For student version*: our survey about teaching in your school; *For all others*: the Advanced Teaching Roles Pilot Program survey. Our questions are intended to solicit your feedback on the advanced teaching roles established at your school and the impact of those roles on teaching and learning.]

We encourage your open and candid responses. All responses are kept strictly confidential. In reports, all responses will be combined, so no one will be able to connect you to your responses.

Your participation is entirely voluntary and you may exit the survey at any time. We appreciate your willingness to participate and thank you in advance for your insight.

If you have questions or technical difficulty while completing the survey, please contact Robert Maser by telephone (919 513-8588) or by email (rhmaser@ncsu.edu).

Consent: "I have read and understand the above information.
"Yes, I agree to participate with the understanding that I may withdraw at any time."
"No, I decline to participate."

Demographic items for all surveys:

1. Please select your school district. [dropdown: 6 pilot LEAs]
2. [*Do not include in student survey*] 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. [*Do not include in student survey*] What is your current role at your school? [dropdown: list all roles aligned with response to #2, including administrative; add other, open-end]
4. [*Do not include in student survey; 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+]
5. [*Include* only *in student survey*] I am in [drop-down list] grade this year.

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

Break

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

Break

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

Break

Student Items:
When you answer these questions, think about ***all*** of your teachers at this school this year.

1. Overall, I think my teachers understand the best ways to teach me. [Agreement Scale; I'm not sure]

2. I have learned a lot from my teachers this year. [Agreement Scale; I'm not sure]

3. I believe I have learned more from my teachers this year than I did last year. [Agreement Scale; I'm not sure]

4. I believe my teachers are ready to teach every day. [Agreement Scale; I'm not sure]

5. My teachers enjoy their jobs. [Agreement Scale; I'm not sure]

6. My teachers this year seem to enjoy their jobs more than my teachers did last year. [Agreement Scale; I'm not sure]

7. My teachers are respected and valued by their students. [Agreement Scale; I'm not sure]

8. I am considering teaching as a career. [Agreement Scale; I'm not sure]

Focus Group Protocols

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Public Schools of North Carolina

Introduction:
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Advanced Role Teacher Group:
Prior to each group interview, provide a brief overview of the local program including descriptions of each role created by the program.

1. How has the program and/or your position allowed you to support the professional growth of other teachers in your school?

2. Has your new role allowed you to improve your own classroom instruction? If so, how?

3. How, if at all, has your experience in your advanced teaching role changed your perception of the teaching profession?
    a. Has your participation made the teaching profession more or less appealing or satisfying to you?
    b. To what extent does the opportunity to advance in your career impact the overall appeal of the profession to you?
    c. In what ways does the salary supplement impact the overall appeal of the profession to you?
4. Does the program recognize high-quality classroom teachers? If so, in what ways?

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Public Schools of North Carolina

   a. How could the program be improved to better recognize high-quality classroom teachers?

5. To what extent does your involvement in the program/new role impact your thinking about continuing to teach in the classroom?

6. In what ways do you provide support to beginning teachers?
   a. Does this level of support mark a change in the support provided to beginning teachers in previous years? If so, how?

7. Apart from what we've already discussed, in what other ways has this program impacted your experience in the classroom?
   a. In what other ways has the program impacted your experience with other teachers?
   b. What has been the most valuable aspect of the advanced teaching roles program?

Break

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Non-Advanced Role Teacher Group:
Prior to each group interview, provide a brief overview of the local program including descriptions of each role created by the program.

1. In what ways have the program or the "lead" teachers at your school impacted your classroom instruction? [*Focus group moderator: Differentiate between overall program impact and specific lead teacher impact.*]
    a. Please share specific examples of how the program or lead teachers impacted your classroom instruction.

2. How, if at all, has the program (advanced teaching roles and extra pay) changed your perception of the teaching profession?
    a. To what extent does the opportunity to advance in your career impact the overall appeal of the profession to you?
    b. In what ways does the salary supplement impact the overall appeal of the profession to you?

3. Does the program recognize high-quality classroom teachers? If so, in what ways?
    a. How could the program be improved to better recognize high-quality classroom teachers?

4. To what extent do the supports you receive through the program (for example, collaboration with lead teachers) impact your thinking about continuing to teach in the classroom? [*Focus group moderator: Identify beginning teachers in the group to highlight their responses.*]

5. Describe how lead teachers at your school provide support to *beginning* teachers. [*Focus group moderator: Identify beginning teachers in the group to highlight their responses.*]

6. Apart from what we've already discussed, in what other ways has this program impacted your experience in the classroom?
    a. In what other ways has the program impacted your experience with other teachers?
    b. What has been the most valuable aspect of the advanced teaching roles program to your professional practice?

Break

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Administrator Group:
Prior to each group interview, provide a brief overview of the local program including descriptions of each role created by the program.

1. In what ways has the program impacted your lead teachers' classroom instruction and other professional practices?

2. How has the program supported improvements in the classroom instruction of a) beginning teachers, and b) all other teachers?

3. Based on what you've observed or heard from your teachers, how has the program impacted the overall attractiveness of the teaching profession?

4. In what ways do you believe the program recognizes high-quality classroom teachers?
    a. How could the program be improved to better recognize high-quality classroom teachers?

5. Do you believe the program impacts your teachers' thinking about continuing to teach in the classroom? If so, how; if not, why not? [*Focus group moderator: Differentiate between lead teachers and all other teachers.*]

6. Describe how lead teachers at your school provide support to *beginning* teachers.
    a. How do you think this program impacts *beginning* teachers' decision to continue teaching?

7. Apart from what we've already discussed, in what other ways do you think this program has impacted your teachers' experiences in the classroom?
    a. In what ways has the program impacted your school's overall culture?
    b. What do you believe has been the most valuable aspect of the advanced teaching roles program for your teachers and school?

Break

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Student Group:
[*Focus group moderator: Group students by teacher role: lead or non-lead. Identify the lead or non-lead teacher subject to include in questions below (e.g., your math teacher, science teacher, etc.).*]

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1. What changes, if any, have you noticed throughout the year in the way your [*subject*] teacher teaches class?
    a. What differences have you noticed in the way your [*subject*] teacher teaches class, compared to other teachers you have?

2. In what ways does your teacher's classroom instruction help (or not help) you to learn the subject?

3. How would you describe your teacher's enthusiasm about teaching?
    a. Have you noticed any changes in her or his enthusiasm throughout the year?
    b. How does her or his enthusiasm affect the way you learn in the classroom?

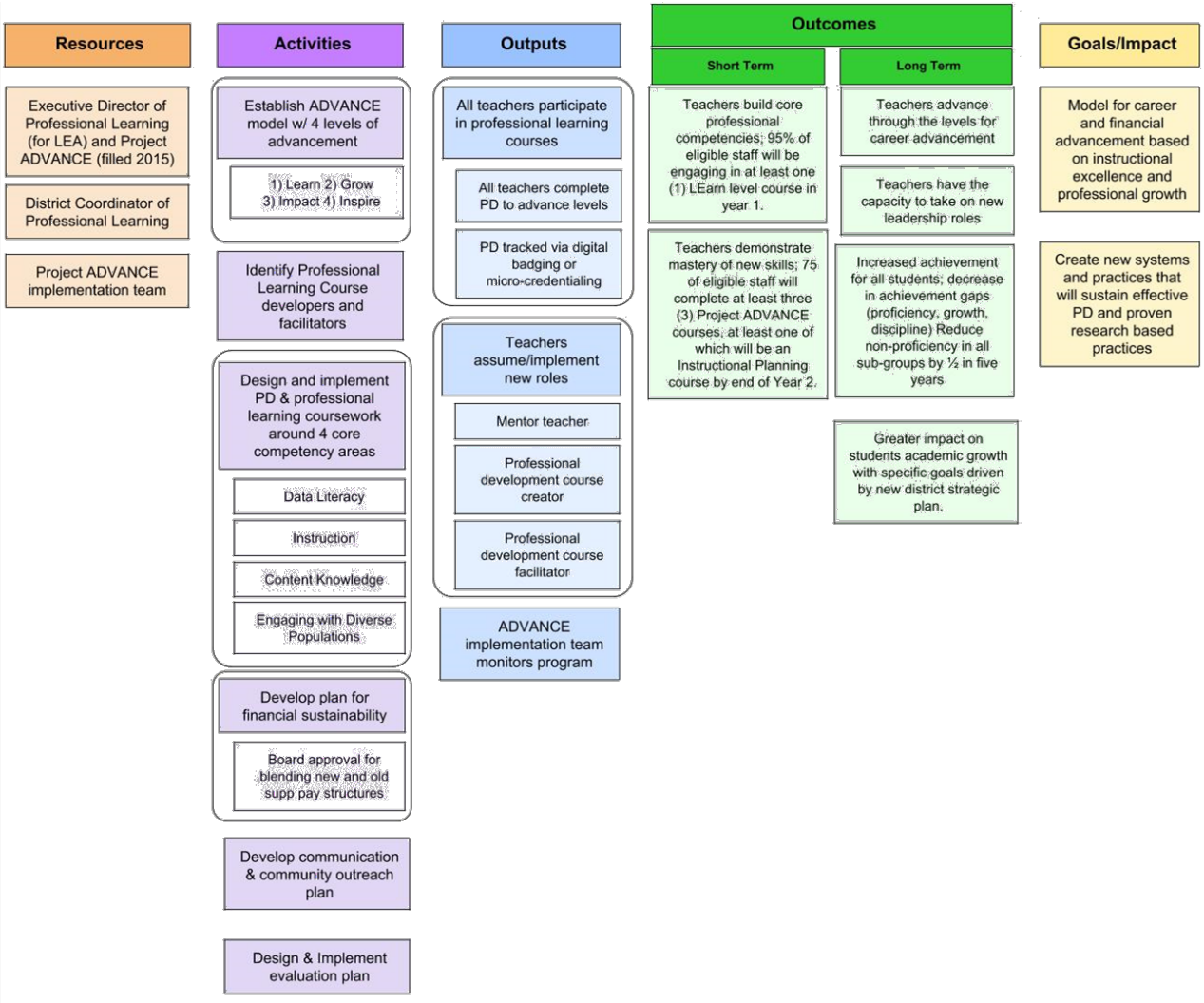
4. Do you ever think about becoming a teacher? How, if at all, has your thinking about teaching as a career changed over the course of this school year?

5. Do you believe teachers are valued at your school?

Appendix C. Pilot Program Narratives and Logic Models

Chapel Hill-Carrboro

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 $1500.00. The Learn level is designed is 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--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 $1500.00 salary increase for a total of $3000.00. 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 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 micro-credentialing 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 Kids[36] 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.

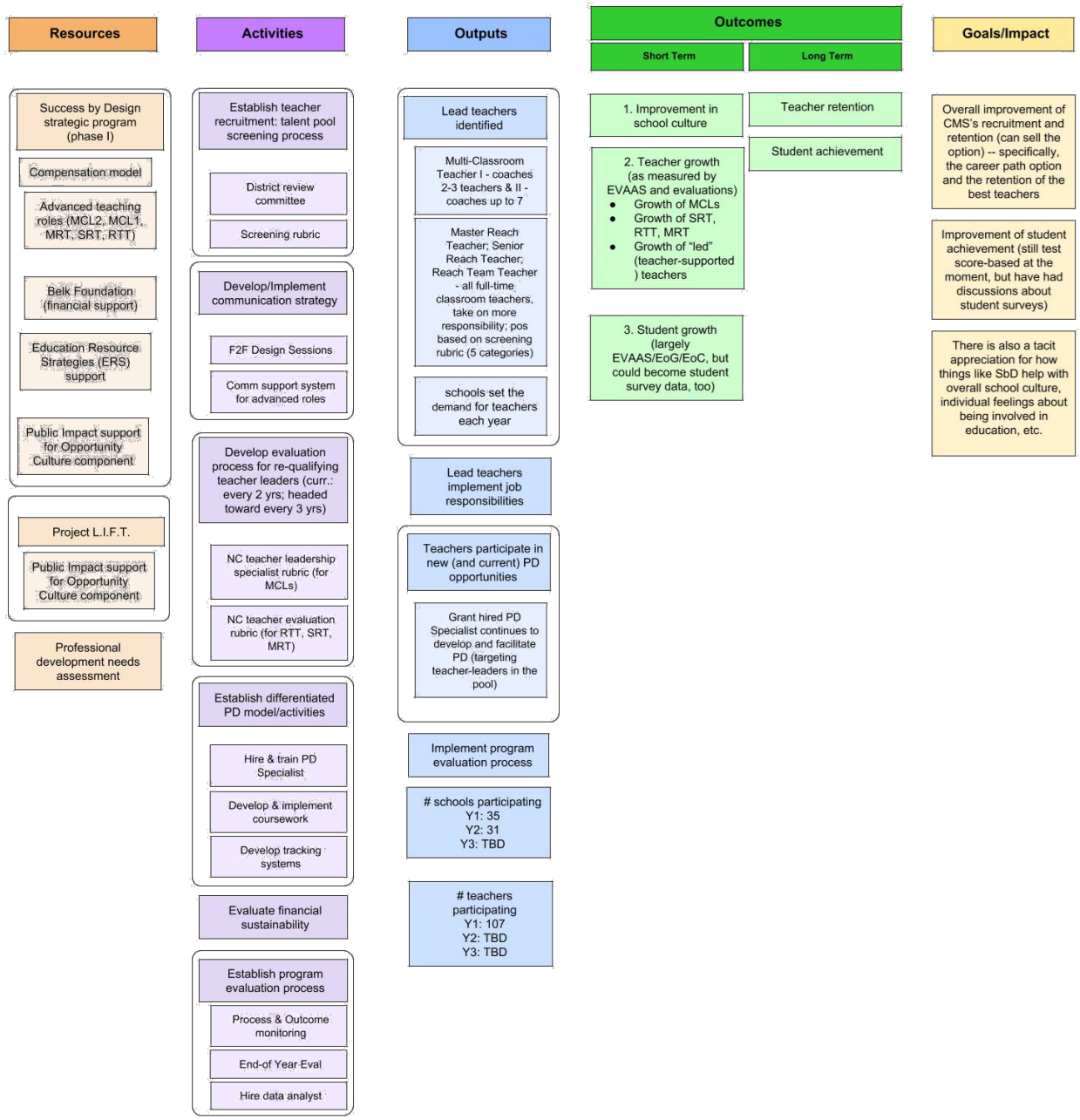
Table C1. CHCCS Supplemental Pay Table

Position Title	Salary Differential
PD Course Creator	$500 / course
PD Course Facilitator	$500 / course
Mentor Teacher	$1,200
Learn Level	$0
Grow Level	$1,500
Impact Level	$3,000
Inspire Level	$5,000

[36] https://www.battelleforkids.org/

Charlotte-Mecklenburg

Logic Model



Narrative

Overview. Charlotte-Mecklenburg Schools' (CMS) Success by Design (SbD) advanced teaching roles 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. Success by Design is a modification of earlier efforts to establish advanced teacher roles in the district; SbD's compensation models and advanced teaching roles are closely related to those established

as part of Project LIFT, which incorporated Public Impact's Opportunity Culture[37] model for supporting advanced teaching roles. SbD's structure also is informed by a recent district professional development needs assessment.

The first schools in 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. By the 2017-18 school year, 31 schools and 107 teachers were participating in the SbD program, with 9 additional schools beginning their Design Year. SbD projects nearly 200 teacher participants for 2018-19.

Though it shares a history with previous CMS advanced teaching roles efforts, SbD has introduced several modified or new elements, including its 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 SbD 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.
- ***Reach Teachers*** (Reach Team Teachers, Senior Reach Teachers, and Master Reach Teachers) are full-time classroom teachers who take on increasingly challenging school leadership responsibilities as they advance. Each participating school sets the specific roles it needs its Reach 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 SbD and CMS staff--that includes courses and workshops designed to build skills specific to leading other adults. In addition, SbD teacher-leaders re-qualify for the program every two years through a shortened application progress and rubric-based assessment, but SbD is modifying this process based on data collected from previous years.

Design Process. Most schools are recruited to SbD through internal newsletters, webinars, and word of mouth. After successful completion of a readiness application and a review of the SbD school-specific design process with district staff, the school shares program details with school personnel.[38] Next, the SbD Program Manager meets with school staff and conducts three sessions on the program. At this point, teacher recruitment begins and the participating school 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.

[37] http://opportunityculture.org/opportunity-culture/

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

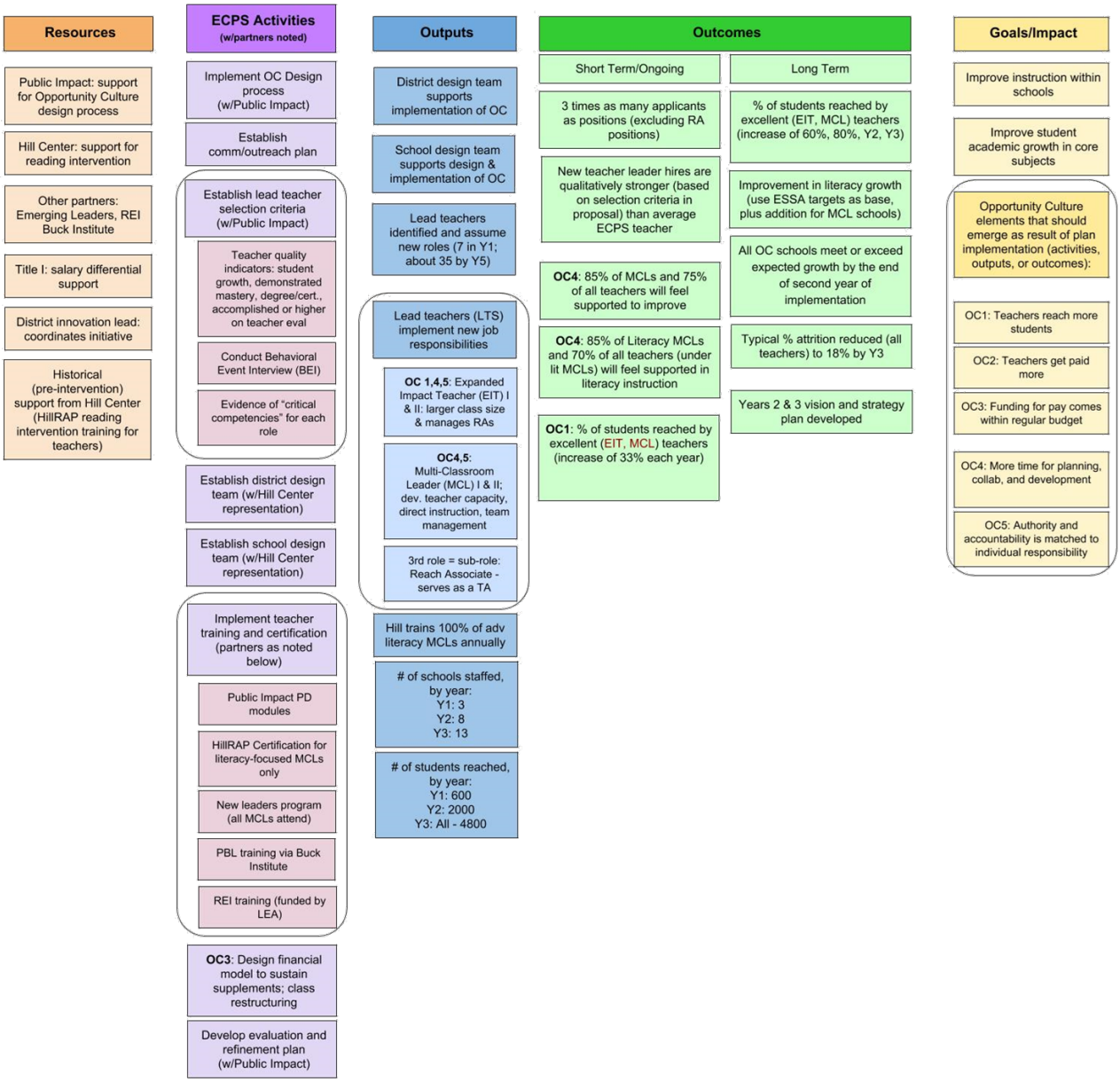
Expected Outcomes. Short-term expected outcomes for the grant include improvements in school culture as measured by the The New Teacher Project Insight survey, which measures school culture, and student surveys. In addition, program developers expect to see professional growth (as measured by EVAAS and 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 SbD schools outperform district and state results on student achievement, school culture, and teacher retention and effectiveness.

Table C2. CMS Supplemental Pay Table

Position Title	Salary Differential
Reach Multi-Classroom Leader 2	$20,000
Reach Multi-Classroom Leader 1	$13,000
Master Reach Teacher	$9,800
Senior Reach Teacher	$6,000
Reach Team Teacher 1	$2,000

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 Culture[39] framework to help teacher leader 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): EITs have 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.
- ***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 Schools[40] to all MCLs
- Public Impact provides professional development modules on various topics
- The Hill Center[41] provides training and certification in literacy interventions for teachers interested in becoming literacy MCLs
- The Buck Institute[42] provides training in problem-based learning
- The Racial Equity Institute[43] (REI) provides training on racial equity
- CT3[44] 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 will be 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 Accomplished level. These teachers also completed behavioral interviews and provided evidence

[39] http://opportunityculture.org/opportunity-culture/
[40] http://newleaders.org/
[41] https://www.hillcenter.org/
[42] https://www.bie.org/
[43] https://www.racialequityinstitute.com/
[44] http://www.ct3education.com/

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" schools[45], 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.

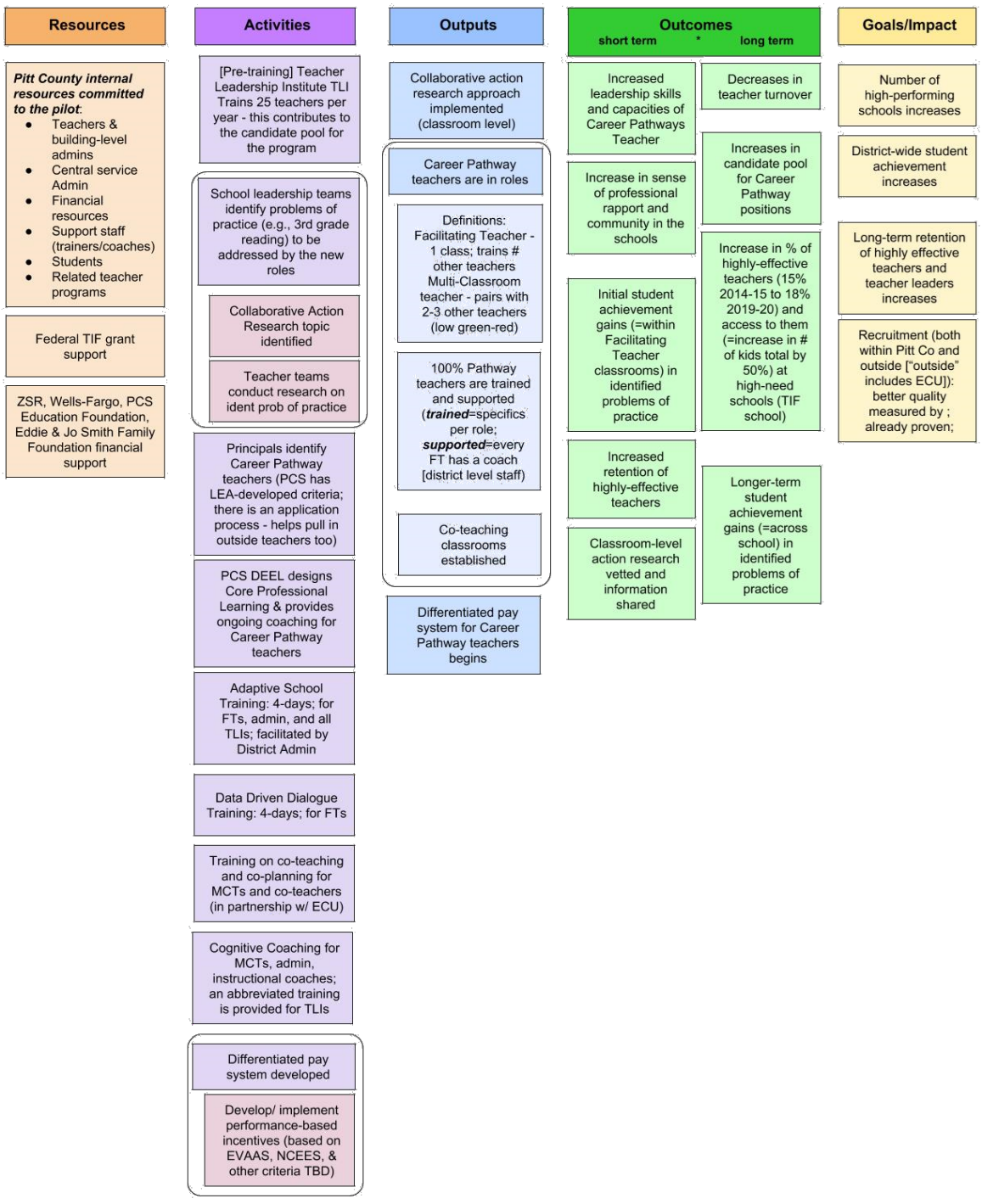
Table C3. ECPS Supplemental Pay Table

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

[45] 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



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 Leadership[46] (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 one class but train other collaborative teachers (CTs) in a variety of topics. 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.[47]

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℠[48], and Adaptive School Training.[49] 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, North Carolina Educator Evaluation System (NCEES) ratings, and other criteria.

[46] https://successforeverychild.com/
[47] 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.
[48] http://www.thinkingcollaborative.com/seminars/cognitive-coaching-seminars/
[49] http://www.thinkingcollaborative.com/seminars/adaptive-schools-seminars/

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.

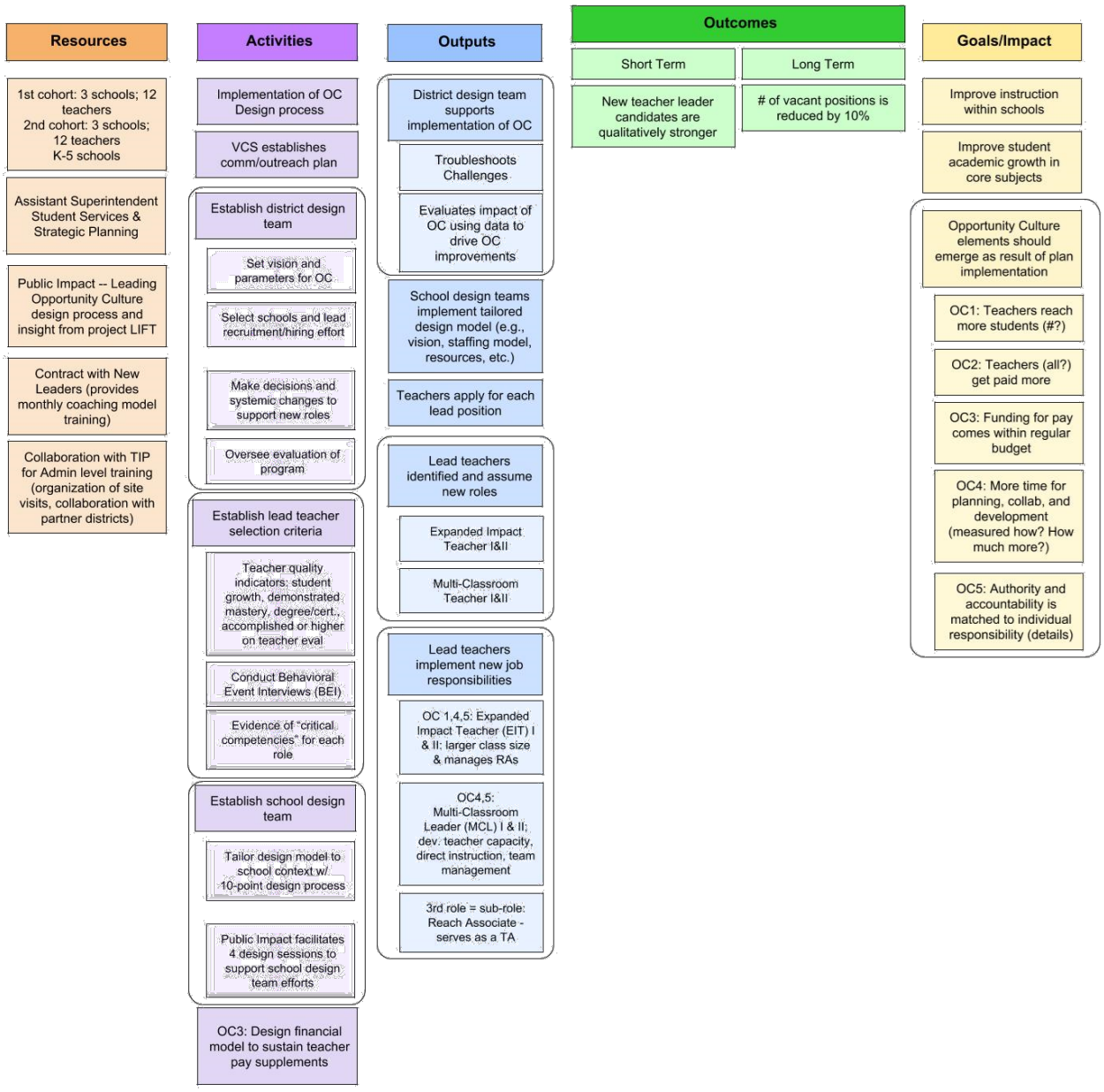
Table C4. PCS Supplemental Pay Table

Position Title	Salary Differential
Facilitating Teachers	15% of salary
Multi-Classroom Teachers	30% of salary

Other Supplements	Salary Differential
Collaborating Teacher	$1,200
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

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 Culture[50] approach to providing advanced roles for classroom

[50] http://opportunityculture.org/opportunity-culture/

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)**:[51] 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 teachers[52] 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.

[51] There are also two tiers (levels) within both the EIT and MCL categories.
[52] 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.[53] 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%.

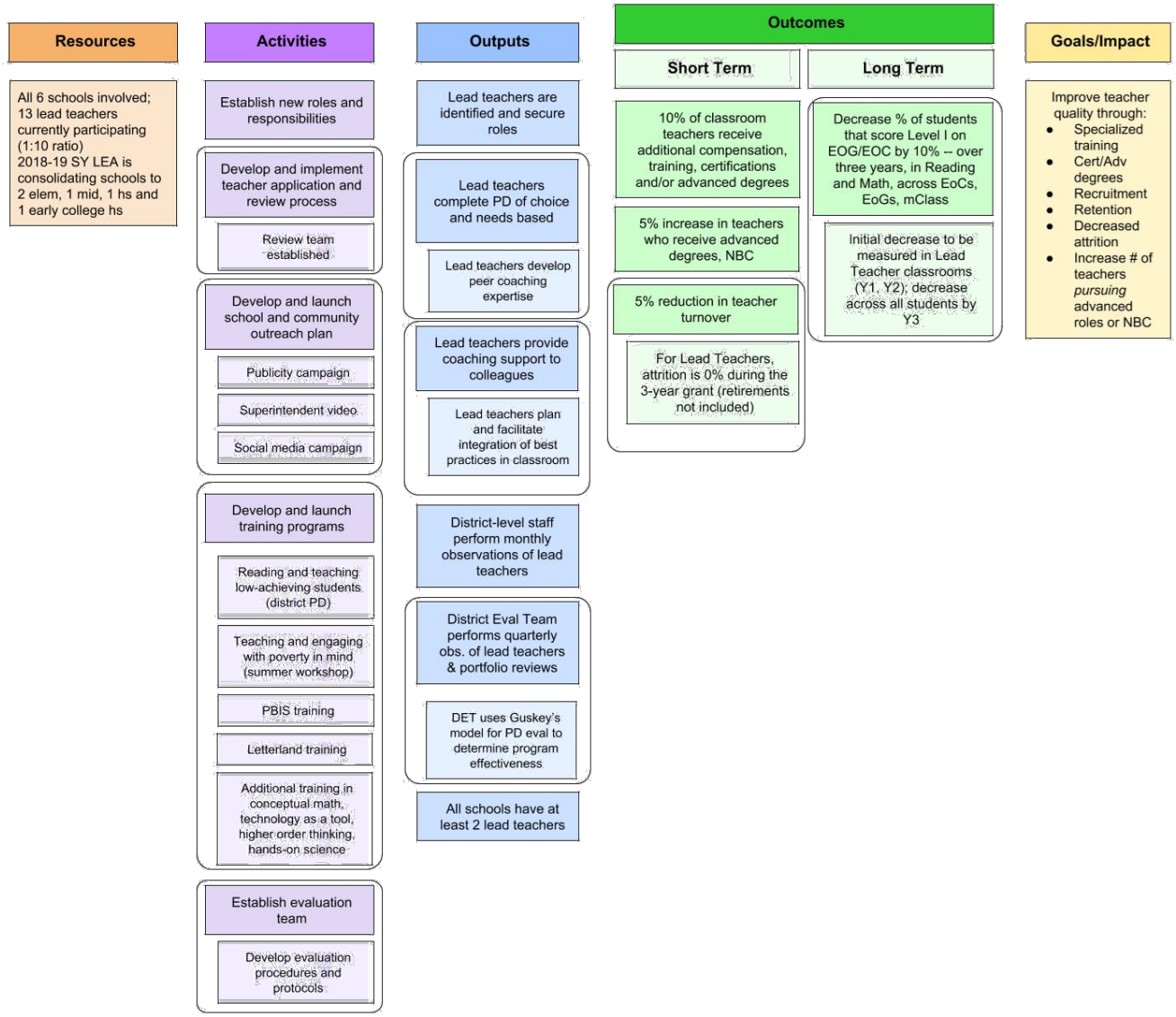
Table C5. VCS Supplemental Pay Table

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

[53] http://opportunityculture.org/the-opportunity-culture-principles/

Washington

Logic Model



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. Currently, there are 13 teachers participating across six schools; all but one WCS school has at least one lead teacher 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 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 also receive professional development support, including training on the Larry Bell strategy[54] during Year One and additional training in Positive Behavior Intervention and Supports, Letterland, conceptual math, technology as a tool, higher-order thinking, and hands-on science in subsequent years. WCS also provides additional training to meet specific needs identified by MTs.

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. To prepare, MT training also includes peer coaching professional development. 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.[55] 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)

Because there are at least two MTs at nearly 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

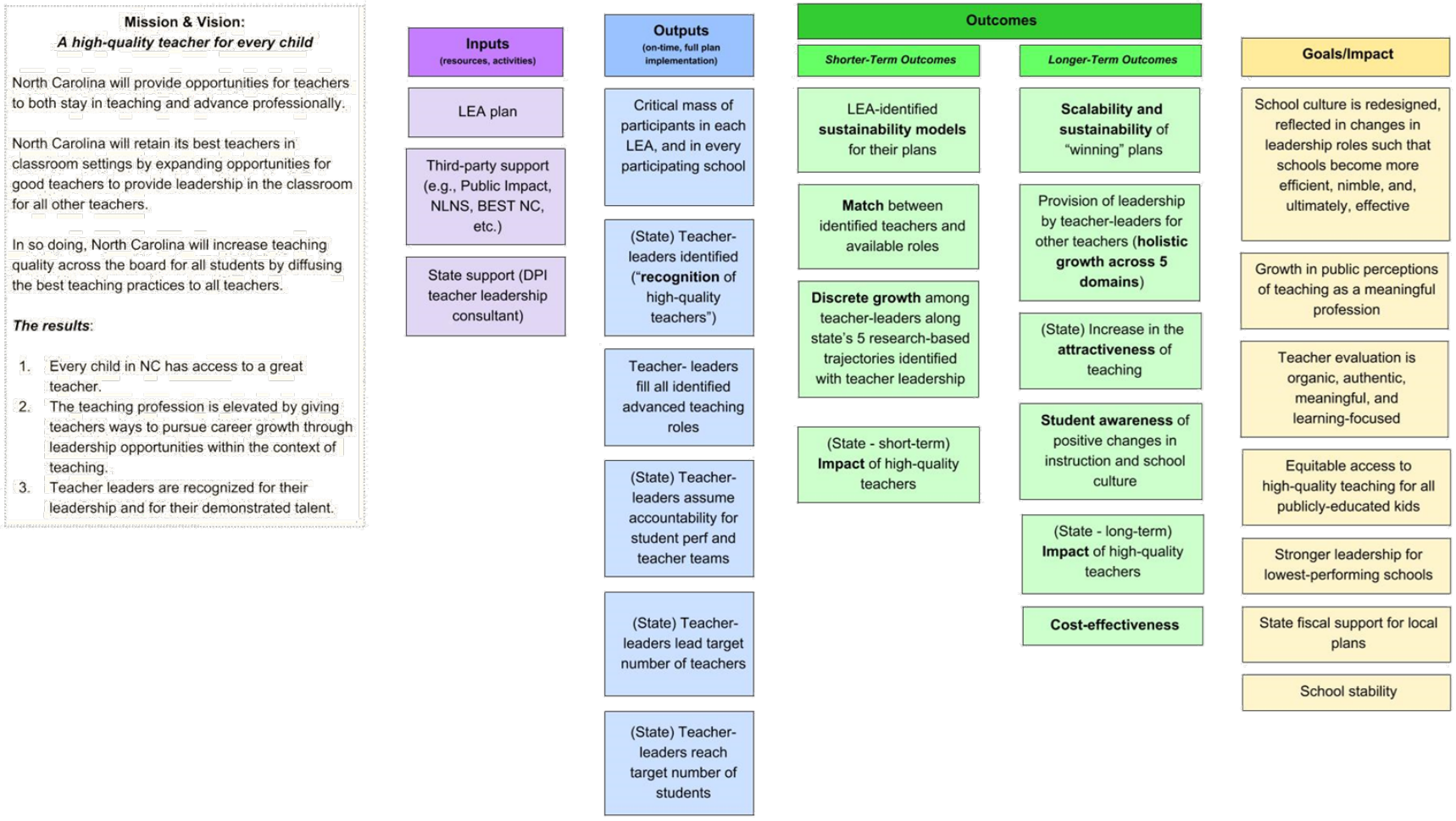
[54] The Larry Bell Strategy (https://www.larry-bell.com/) provides instructional strategies to promote high expectations for struggling learners.
[55] WCS originally intended to support the initiative with both state and federal Title II funds, but Title II funding was cut prior to implementation.

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


Mission & Vision:
A high-quality teacher for every child
North Carolina will provide opportunities for teachers to both stay in teaching and advance professionally.
North Carolina will retain its best teachers in classroom settings by expanding opportunities for good teachers to provide leadership in the classroom for all other teachers.
In so doing, North Carolina will increase teaching quality across the board for all students by diffusing the best teaching practices to all teachers.
The results:
1. Every child in NC has access to a great teacher.
2. The teaching profession is elevated by giving teachers ways to pursue career growth through leadership opportunities within the context of teaching.
3. Teacher leaders are recognized for their leadership and for their demonstrated talent.
Inputs
(resources, activities)
LEA plan
Third-party support (e.g., Public Impact, NLNS, BEST NC, etc.)
State support (DPI teacher leadership consultant)
Outputs
(on-time, full plan implementation)
Critical mass of participants in each LEA, and in every participating school
(State) Teacher-leaders identified ("recognition of high-quality teachers")
Teacher- leaders fill all identified advanced teaching roles
(State) Teacher-leaders assume accountability for student perf and teacher teams
(State) Teacher-leaders lead target number of teachers
(State) Teacher-leaders reach target number of students
Outcomes
Shorter-Term Outcomes
LEA-identified sustainability models for their plans
Match between identified teachers and available roles
Discrete growth among teacher-leaders along state's 5 research-based trajectories identified with teacher leadership
(State - short-term) Impact of high-quality teachers
Longer-Term Outcomes
Scalability and sustainability of "winning" plans
Provision of leadership by teacher-leaders for other teachers (holistic growth across 5 domains)
(State) Increase in the attractiveness of teaching
Student awareness of positive changes in instruction and school culture
(State - long-term) Impact of high-quality teachers
Cost-effectiveness
Goals/Impact
School culture is redesigned, reflected in changes in leadership roles such that schools become more efficient, nimble, and, ultimately, effective
Growth in public perceptions of teaching as a meaningful profession
Teacher evaluation is organic, authentic, meaningful, and learning-focused
Equitable access to high-quality teaching for all publicly-educated kids
Stronger leadership for lowest-performing schools
State fiscal support for local plans
School stability

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.

All Survey-Takers

Q1 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.

	SD	*D*	*N*	*A*	*SA*	SD + D	*N*	*A + SA*	*n*
Administrators	0%	9%	27%	41%	23%	9%	27%	64%	*22*
Other Teachers	3%	10%	22%	45%	19%	13%	22%	64%	*230*
Lead Teachers	1%	1%	11%	58%	29%	2%	11%	87%	*98*

Q2 The program allows me to identify high-quality classroom teacher leaders. / All of the teachers in leadership roles at my school are high-quality classroom teachers. / All of the teachers in leadership roles like mine at my school are high-quality classroom teachers.

	SD	*D*	*N*	*A*	*SA*	*No others in roles like mine*	*SD + D*	*N*	*A + SA*	*n*
Administrators	0%	0%	12%	39%	48%		0%	12%	87%	*33*
Other Teachers	1%	4%	14%	41%	40%		5%	14%	81%	*262*
Lead Teachers	1%	1%	2%	25%	64%	7%	2%	2%	89%	*97*

Q3 I believe the program provides adequate support for beginning classroom teachers. / I believe the program provides adequate support to beginning teachers.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
Other Teachers	3%	15%	21%	43%	18%	18%	21%	61%	*253*
Lead Teachers	0%	7%	23%	58%	12%	7%	23%	70%	*97*

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 PD	*Receiving supplemental pay*	*Providing support for classroom teachers*	*Mentoring early-career teachers*	*Assuming more leadership responsibi-lities*	*n*
Other Teachers	7%	23%	43%	14%	13%	*283*
Lead Teachers	8%	29%	32%	6%	26%	*98*

Lead Teachers

Q1 I believe the quality of classroom instruction has improved among the teachers I support in my role.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	1%	1%	11%	58%	29%	2%	11%	87%	*98*
CHCCS	5%	0%	18%	55%	23%	5%	18%	78%	*22*
CMS	0%	10%	20%	70%	0%	10%	20%	70%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	6%	58%	37%	0%	6%	95%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	0%	22%	78%	0%	0%	22%	78%	*9*

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

	SD	*D*	*N*	*A*	*SA*	*No others in roles like mine*	*SD + D*	*N*	*A + SA*	*n*
All	1%	1%	2%	25%	64%	7%	2%	2%	89%	*97*
CHCCS	0%	0%	5%	33%	52%	10%	0%	5%	85%	*22*
CMS	10%	0%	0%	20%	70%	0%	10%	0%	90%	*10*
ECPS	---	---	---	---	---	---	---	---	---	*
PCS	0%	2%	2%	21%	69%	6%	2%	2%	90%	*52*
VCS	---	---	---	---	---	---	---	---	---	*
WCS	0%	0%	0%	45%	55%	0%	0%	0%	100%	*9*

Q3 I believe the program provides adequate support to beginning teachers.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	0%	7%	23%	58%	12%	7%	23%	70%	*97*
CHCCS	0%	5%	14%	68%	14%	5%	14%	82%	*22*
CMS	0%	10%	20%	70%	0%	10%	20%	70%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	6%	25%	56%	13%	6%	25%	69%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	11%	44%	44%	0%	11%	44%	44%	*9*

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

	Providing PD	*Receiving supplemental pay*	*Providing support for classroom teachers*	*Mentoring early-career teachers*	*Assuming more leadership responsibi-ities*	*n*
All	8%	29%	32%	6%	26%	*98*
CHCCS	14%	23%	27%	18%	18%	*22*
CMS	0%	30%	20%	10%	40%	*10*
ECPS	---	---	---	---	---	*
PCS	4%	37%	29%	2%	29%	*52*
VCS	---	---	---	---	---	*
WCS	33%	11%	45%	0%	11%	*9*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	2%	2%	8%	53%	35%	4%	8%	88%	*98*
CHCCS	5%	0%	4%	59%	23%	5%	4%	82%	*22*
CMS	10%	10%	0%	60%	20%	20%	0%	80%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	4%	54%	42%	0%	4%	96%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	0%	33%	44%	22%	0%	33%	66%	*9*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	3%	2%	5%	35%	55%	5%	5%	90%	*98*
CHCCS	5%	0%	9%	41%	45%	5%	9%	86%	*22*
CMS	10%	10%	0%	50%	30%	20%	0%	80%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	2%	2%	4%	25%	67%	4%	4%	92%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	0%	11%	56%	33%	0%	11%	89%	*9*

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.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	1%	9%	26%	45%	19%	10%	26%	64%	*98*
CHCCS	5%	0%	14%	55%	27%	5%	14%	82%	*22*
CMS	0%	10%	40%	40%	10%	10%	40%	50%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	13%	29%	40%	17%	13%	29%	57%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	11%	0%	78%	11%	11%	0%	89%	*9*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	1%	5%	18%	53%	23%	6%	18%	76%	*98*
CHCCS	0%	5%	36%	45%	14%	5%	36%	59%	*22*
CMS	0%	0%	20%	70%	10%	0%	20%	80%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	2%	6%	8%	58%	27%	8%	8%	85%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	0%	44%	33%	22%	0%	44%	55%	*9*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	2%	10%	4%	57%	27%	12%	4%	84%	*98*
CHCCS	0%	32%	9%	55%	5%	32%	9%	60%	*22*
CMS	10%	10%	0%	70%	10%	20%	0%	80%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	2%	56%	42%	0%	2%	98%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	0%	11%	78%	11%	0%	11%	89%	*9*

Q10 I feel valued in my advanced teaching role.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	2%	1%	13%	50%	34%	3%	13%	84%	*98*
CHCCS	0%	0%	18%	64%	18%	0%	18%	82%	*22*
CMS	10%	0%	10%	40%	40%	10%	10%	80%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	2%	10%	48%	40%	2%	10%	88%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	0%	33%	44%	22%	0%	33%	66%	*9*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	0%	0%	9%	59%	32%	0%	9%	91%	*97*
CHCCS	0%	0%	18%	64%	18%	0%	18%	82%	*22*
CMS	0%	0%	10%	60%	30%	0%	10%	90%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	6%	52%	42%	0%	6%	94%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	0%	0%	11%	78%	11%	0%	11%	89%	*9*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	2%	5%	12%	38%	42%	7%	12%	80%	*97*
CHCCS	5%	5%	27%	45%	18%	10%	27%	63%	*22*
CMS	0%	0%	0%	50%	50%	0%	0%	100%	*10*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	6%	2%	33%	60%	6%	2%	93%	*52*
VCS	---	---	---	---	---	---	---	---	*
WCS	11%	0%	33%	56%	0%	11%	33%	56%	*9*

Q13 Rank these aspects of the program from most valuable to least valuable to your professional practice.

Rank All	*PD*	*Supplemental pay*	*Opp. to support classroom teachers*	*Opp. to mentor early-career teachers*	*Leadership responsibi-lities*	*n*
First	18%	24%	27%	11%	20%	*95*
Second	26%	25%	21%	7%	20%	*95*
Third	15%	19%	24%	15%	27%	*95*
Fourth	21%	12%	23%	26%	18%	*95*
Fifth	20%	20%	4%	41%	15%	*95*
CHCCS						
First	36%	14%	14%	23%	14%	*22*
Second	18%	18%	36%	9%	18%	*22*
Third	14%	27%	23%	23%	14%	*22*
Fourth	9%	5%	23%	23%	41%	*22*
Fifth	23%	36%	5%	23%	14%	*22*
CMS						
First	0%	50%	10%	20%	20%	*10*
Second	10%	30%	30%	0%	30%	*10*
Third	10%	0%	30%	40%	20%	*10*
Fourth	10%	20%	30%	30%	10%	*10*
Fifth	70%	0%	0%	10%	20%	*10*
PCS						
First	15%	29%	31%	2%	23%	*52*
Second	33%	31%	12%	4%	21%	*52*
Third	15%	15%	27%	8%	35%	*52*
Fourth	27%	12%	25%	31%	6%	*52*
Fifth	10%	13%	6%	56%	15%	*52*
WCS						
First	11%	0%	44%	22%	22%	*9*
Second	33%	0%	33%	33%	0%	*9*
Third	22%	33%	11%	11%	22%	*9*
Fourth	22%	22%	11%	0%	44%	*9*
Fifth	11%	44%	0%	33%	11%	*9*

Note: 5 or fewer respondents in ECPS and VCS

Teacher Colleagues and Other Teachers

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	3%	10%	22%	45%	19%	13%	22%	64%	*230*
CHCCS	9%	15%	24%	39%	13%	24%	24%	52%	*46*
CMS	6%	12%	6%	47%	29%	18%	6%	76%	*17*
ECPS	0%	0%	36%	50%	14%	0%	36%	64%	*14*
PCS	2%	10%	23%	47%	18%	12%	23%	65%	*114*
VCS	6%	0%	24%	41%	29%	6%	24%	70%	*17*
WCS	0%	18%	18%	41%	23%	18%	18%	64%	*22*

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

	Providing PD	*Receiving supplement-al pay*	*Providing support for classroom teachers*	*Mentoring early-career teachers*	*Assuming more leadership responsibi-lities*	*n*
All	7%	23%	43%	14%	13%	*283*
CHCCS	8%	27%	39%	19%	7%	*59*
CMS	0%	57%	29%	10%	5%	*21*
ECPS	4%	12%	50%	15%	19%	*26*
PCS	6%	19%	47%	10%	17%	*118*
VCS	4%	18%	61%	18%	0%	*28*
WCS	23%	16%	23%	19%	19%	*31*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	1%	4%	14%	41%	40%	5%	14%	81%	*262*
CHCCS	2%	6%	26%	34%	32%	8%	26%	66%	*53*
CMS	0%	0%	0%	23%	77%	0%	0%	100%	*22*
ECPS	0%	0%	14%	45%	41%	0%	14%	86%	*22*
PCS	1%	5%	9%	47%	38%	6%	9%	85%	*115*
VCS	4%	0%	8%	40%	48%	4%	8%	88%	*25*
WCS	0%	4%	28%	40%	28%	4%	28%	68%	*25*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	3%	15%	21%	43%	18%	18%	21%	61%	*253*
CHCCS	4%	26%	11%	43%	15%	30%	11%	58%	*46*
CMS	0%	20%	20%	55%	5%	20%	20%	60%	*20*
ECPS	0%	10%	25%	30%	35%	10%	25%	65%	*20*
PCS	2%	9%	25%	45%	20%	11%	25%	65%	*110*
VCS	0%	26%	22%	33%	19%	26%	22%	52%	*27*
WCS	13%	7%	23%	47%	10%	20%	23%	57%	*30*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	2%	6%	17%	45%	30%	8%	17%	75%	*236*
CHCCS	6%	12%	16%	47%	18%	18%	16%	65%	*49*
CMS	0%	6%	12%	24%	59%	6%	12%	83%	*17*
ECPS	0%	0%	12%	69%	19%	0%	12%	88%	*16*
PCS	1%	6%	17%	42%	35%	7%	17%	77%	*115*
VCS	0%	0%	24%	53%	24%	0%	24%	77%	*17*
WCS	5%	5%	23%	45%	23%	10%	23%	68%	*22*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	2%	2%	12%	46%	39%	4%	12%	85%	*267*
CHCCS	4%	2%	19%	45%	30%	6%	19%	75%	*53*
CMS	0%	0%	9%	18%	73%	0%	9%	91%	*22*
ECPS	0%	0%	9%	55%	36%	0%	9%	91%	*22*
PCS	1%	3%	6%	51%	39%	4%	6%	90%	*115*
VCS	4%	0%	11%	44%	41%	4%	11%	85%	*27*
WCS	0%	0%	25%	43%	32%	0%	25%	75%	*28*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	12%	20%	30%	26%	12%	32%	30%	38%	*266*
CHCCS	23%	30%	21%	18%	7%	53%	21%	25%	*56*
CMS	17%	22%	28%	22%	11%	39%	28%	33%	*18*
ECPS	10%	33%	48%	10%	0%	43%	48%	10%	*21*
PCS	3%	10%	34%	35%	17%	13%	34%	52%	*116*
VCS	26%	33%	26%	11%	4%	59%	26%	15%	*27*
WCS	11%	14%	25%	32%	18%	25%	25%	50%	*28*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	10%	14%	25%	33%	18%	24%	25%	51%	*267*
CHCCS	19%	18%	25%	30%	9%	37%	25%	39%	*57*
CMS	17%	6%	22%	22%	33%	23%	22%	55%	*18*
ECPS	5%	33%	48%	10%	5%	38%	48%	15%	*21*
PCS	3%	7%	20%	46%	25%	10%	20%	71%	*116*
VCS	20%	36%	28%	16%	0%	56%	28%	16%	*25*
WCS	10%	10%	27%	30%	23%	20%	27%	53%	*30*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	7%	11%	22%	40%	19%	18%	22%	59%	*269*
CHCCS	20%	13%	18%	39%	11%	33%	18%	50%	*56*
CMS	0%	10%	25%	40%	25%	10%	25%	65%	*20*
ECPS	0%	24%	43%	24%	10%	24%	43%	34%	*21*
PCS	2%	5%	21%	46%	27%	7%	21%	73%	*116*
VCS	15%	26%	26%	22%	11%	41%	26%	33%	*27*
WCS	10%	10%	14%	48%	17%	20%	14%	65%	*29*

Q10 How often do you work with a lead teacher?

	Never	*Once/Twice*	*Quarterly*	*Monthly*	*Weekly*	*Daily*	*n*
All	19%	5%	5%	22%	26%	23%	*286*
CHCCS	30%	5%	14%	21%	16%	14%	*57*
CMS	9%	0%	0%	5%	36%	50%	*22*
ECPS	41%	11%	0%	4%	30%	15%	*27*
PCS	3%	1%	2%	38%	33%	24%	*120*
VCS	38%	7%	10%	7%	17%	21%	*29*
WCS	29%	16%	3%	6%	16%	29	*31*

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

Rank ***All***	*PD*	*Support provided for my classroom instruction*	*Mentoring provided to early-career teachers*	*Additional responsibility taken on by lead teacher*	*n*
First	23%	32%	33%	12%	*262*
Second	31%	27%	20%	10%	*262*
Third	31%	27%	24%	26%	*262*
Fourth	11%	14%	23%	52%	*262*
CHCCS					
First	28%	37%	30%	6%	*54*
Second	37%	24%	30%	9%	*54*
Third	26%	22%	30%	22%	*54*
Fourth	9%	17%	11%	63%	*54*
CMS					
First	30%	40%	15%	15%	*20*
Second	25%	30%	25%	20%	*20*
Third	35%	25%	30%	10%	*20*
Fourth	10%	5%	30%	55%	*20*

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

ECPS	*PD*	*Support provided for my classroom instruction*	*Mentoring provided to early-career teachers*	*Additional responsibility taken on by lead teacher*	*n*
First	4%	58%	29%	8%	*24*
Second	33%	21%	33%	13%	*24*
Third	46%	13%	21%	21%	*24*
Fourth	17%	8%	17%	58%	*24*
PCS					
First	26%	41%	17%	16%	*109*
Second	33%	27%	24%	17%	*109*
Third	28%	23%	21%	28%	*109*
Fourth	14%	9%	38%	39%	*109*
VCS					
First	4%	65%	23%	8%	*26*
Second	38%	19%	35%	8%	*26*
Third	46%	8%	23%	23%	*26*
Fourth	12%	8%	19%	62%	*26*
WCS					
First	31%	24%	31%	14%	*29*
Second	21%	41%	21%	17%	*29*
Third	41%	24%	24%	10%	*29*
Fourth	7%	10%	24%	59%	*29*

Administrators

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	0%	9%	27%	41%	23%	9%	27%	64%	*22*
CHCCS	---	---	---	---	---	---	---	---	*
CMS	0%	14%	29%	43%	14%	14%	29%	57%	*7*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	11%	33%	33%	22%	11%	33%	55%	*9*
VCS	---	---	---	---	---	---	---	---	*
WCS	---	---	---	---	---	---	---	---	*

Q2 The program allows me to identify high-quality classroom teacher leaders.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	0%	0%	12%	39%	48%	0%	12%	87%	*33*
CHCCS	---	---	---	---	---	---	---	---	*
CMS	0%	0%	7%	57%	36%	0%	7%	93%	*14*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	10%	30%	60%	0%	10%	90%	*10*
VCS	---	---	---	---	---	---	---	---	*
WCS	---	---	---	---	---	---	---	---	*

Q3 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*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	0%	3%	22%	28%	47%	3%	22%	75%	*32*
CHCCS	---	---	---	---	---	---	---	---	*
CMS	0%	8%	15%	23%	54%	8%	15%	77%	*13*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	20%	30%	50%	0%	20%	80%	*10*
VCS	---	---	---	---	---	---	---	---	*
WCS	---	---	---	---	---	---	---	---	*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	0%	0%	26%	22%	52%	0%	26%	74%	*23*
CHCCS	---	---	---	---	---	---	---	---	*
CMS	0%	0%	57%	14%	29%	0%	57%	43%	*7*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	20%	20%	60%	0%	20%	80%	*10*
VCS	---	---	---	---	---	---	---	---	*
WCS	---	---	---	---	---	---	---	---	*

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

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	0%	4%	4%	35%	57%	4%	4%	92%	*23*
CHCCS	---	---	---	---	---	---	---	---	*
CMS	0%	14%	14%	43%	29%	14%	14%	72%	*7*
ECPS	---	---	---	---	---	---	---	---	*
PCS	0%	0%	0%	30%	70%	0%	0%	100%	*10*
VCS	---	---	---	---	---	---	---	---	*
WCS	---	---	---	---	---	---	---	---	*

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

Rank	*PD*	*Support provided for classroom instruction*	*Mentoring provided to early-career teachers*	*Additional responsibility taken on by lead teacher*	*The supplemental pay for lead teachers*	*n*
First	26%	42%	11%	11%	11%	*19*
Second	5%	42%	26%	11%	16%	*19*
Third	32%	5%	37%	21%	5%	*19*
Fourth	21%	5%	11%	37%	26%	*19*
Fifth	16%	5%	16%	21%	42%	*19*

Students

Q1 Overall, I think my teachers understand the best way to teach me.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	3%	9%	16%	50%	22%	12%	16%	72%	*2670*
CHCCS	2%	10%	22%	49%	17%	12%	22%	66%	*310*
CMS	0%	3%	5%	39%	52%	3%	5%	91%	*61*
ECPS	2%	2%	16%	58%	22%	4%	16%	80%	*132*
PCS	4%	9%	16%	50%	21%	13%	16%	71%	*2056*
VCS	4%	5%	5%	48%	39%	9%	5%	87%	*107*
WCS	---	---	---	---	---	---	---	---	*

Q2 I have learned a lot from my teachers this year.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	2%	4%	8%	48%	38%	6%	8%	86%	*2768*
CHCCS	1%	4%	9%	52%	34%	5%	9%	86%	*314*
CMS	0%	0%	10%	37%	54%	0%	10%	91%	*63*
ECPS	1%	4%	3%	44%	49%	5%	3%	93%	*136*
PCS	2%	4%	9%	48%	36%	6%	9%	84%	*2141*
VCS	1%	1%	2%	47%	49%	2%	2%	96%	*110*
WCS	---	---	---	---	---	---	---	---	*

Q3 I believe I have learned more from my teachers this year than I did last year.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	5%	11%	21%	32%	31%	16%	21%	63%	*2596*
CHCCS	4%	12%	24%	34%	26%	16%	24%	60%	*284*
CMS	0%	6%	13%	32%	49%	6%	13%	81%	*53*
ECPS	2%	4%	5%	41%	48%	6%	5%	89%	*131*
PCS	6%	12%	22%	31%	30%	18%	22%	61%	*2033*
VCS	10%	11%	15%	37%	26%	21%	15%	63%	*91*
WCS	---	---	---	---	---	---	---	---	*

Q4 I believe my teachers are ready to teach every day.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	4%	11%	18%	39%	28%	15%	18%	67%	*2621*
CHCCS	3%	13%	19%	41%	25%	16%	19%	66%	*310*
CMS	0%	0%	5%	34%	61%	0%	5%	95%	*62*
ECPS	3%	8%	17%	38%	34%	11%	17%	72%	*119*
PCS	5%	12%	18%	39%	26%	17%	18%	65%	*2022*
VCS	2%	10%	9%	38%	42%	12%	9%	80%	*104*
WCS	---	---	---	---	---	---	---	---	*

Q5 My teachers enjoy their jobs.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	5%	8%	21%	41%	24%	13%	21%	65%	*2300*
CHCCS	3%	10%	19%	45%	24%	13%	19%	69%	*289*
CMS	4%	0%	10%	37%	49%	4%	10%	86%	*49*
ECPS	1%	4%	18%	44%	32%	5%	18%	76%	*115*
PCS	6%	9%	23%	40%	23%	15%	23%	63%	*1765*
VCS	6%	6%	6%	53%	28%	12%	6%	81%	*78*
WCS	---	---	---	---	---	---	---	---	*

Q6 My teachers this year seem to enjoy their jobs more than my teachers did last year.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	8%	17%	36%	23%	16%	25%	36%	39%	*2225*
CHCCS	5%	18%	42%	22%	13%	23%	42%	35%	*255*
CMS	9%	9%	17%	38%	28%	18%	17%	66%	*47*
ECPS	4%	13%	20%	27%	36%	17%	20%	63%	*107*
PCS	9%	17%	37%	23%	15%	26%	37%	38%	*1733*
VCS	11%	32%	24%	19%	14%	43%	24%	33%	*79*
WCS	---	---	---	---	---	---	---	---	*

Q7 My teachers are respected and valued by their students.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	9%	16%	23%	34%	17%	25%	23%	51%	*2666*
CHCCS	9%	15%	27%	37%	12%	24%	27%	49%	*310*
CMS	2%	9%	12%	29%	48%	11%	12%	77%	*58*
ECPS	2%	10%	20%	42%	27%	12%	20%	69%	*126*
PCS	10%	17%	24%	33%	16%	27%	24%	49%	*2063*
VCS	10%	17%	12%	37%	23%	27%	12%	60%	*105*
WCS	---	---	---	---	---	---	---	---	*

Q8 I am considering teaching as a career.

	SD	*D*	*N*	*A*	*SA*	*SD + D*	*N*	*A + SA*	*n*
All	57%	18%	8%	10%	7%	75%	8%	17%	*2586*
CHCCS	56%	25%	8%	8%	3%	81%	8%	11%	*295*
CMS	33%	6%	15%	27%	19%	39%	15%	46%	*52*
ECPS	48%	24%	8%	12%	8%	72%	8%	20%	*130*
PCS	59%	17%	8%	9%	7%	76%	8%	16%	*2009*
VCS	41%	17%	5%	24%	14%	58%	5%	38%	*96*
WCS	---	---	---	---	---	---	---	---	*

Appendix E. Technical Appendix

Additional Notes on Interrupted Time Series (ITS)

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.

Our final modeling decision will be based on an analysis of pre-intervention trends in all of our outcomes of interest for both 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.

Effect sizes can be calculated using the standard 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).

ITS versus Difference-in-Differences

Without at least four pre-measures to establish a reasonably measured trend in the progression of an outcome of interest, a Difference-in-Differences (DD) model might be used instead, but at a cost of some level of validity with potentially more biased impact estimates (Somers et al. 2013), since a smaller number of pre-intervention measurements makes it harder to identify pre-intervention trends that may have been leading to the post-intervention outcomes, even if the intervention never took place.

Unlike a DD model, which looks periodically at differences in outcomes between the affected schools and the comparison schools, the ITS model examines not only these discrete outcome differences but also differences in the outcome variable's trend over time (i.e., the slope of the line formed by connecting the discrete outcome measures over time). This is an important distinction, as, without the additional analysis of the pre-intervention trend, a difference in outcomes alone might be attributed to the program being studied, when in actuality it may have been just an artifact of the natural progression of the outcome measure over time even without the presence of the initiative. In addition, this inclusion of a baseline (pre-intervention) trend better handles identification of meaningful differences over time, not only by providing a more accurate projection of trends without intervention but also by being more mathematically honest about declining accuracy in longer-term educational 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).

Additional Notes regarding Historical Context

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.

Additional Notes on School Matching

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). 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 can address the second and third strategies, but we are less likely to be able to address 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;[56] however, limiting the match pool to only those six LEAs significantly reduces the pool of available schools for matching purposes.

If enough schools from the other six LEAs that applied for pilot funding allow for strong matches, we should be able to create a tight comparison group. If not, however, we will take cues from two sources. First, we will follow Steiner, Cook, Shadish, and Clark (2010), who suggest that, when the motivation for selection into an impacted group is not known or is inconsistent (indeed, even among the six LEAs that applied and were selected, each used a different set of criteria for selecting the participating schools within their LEAs[57]), it may be necessary to match on a broader set of covariates (e.g., a standard set of demographic variables along with pre-test and geographic variables) to reduce bias, though Somers et al. (2013) caution that this strategy also may make it harder to find appropriate matches, given the increased number of matching variables and the still-limited pool of schools. Second, we feel less concerned about the geographic component than we might have (*cf.* Hallberg et al. 2018) as a result of work by Somers et al. (2013) that compared results from a hypothetical ITS study of an education intervention to actual results of a more rigorous study using the same data and, based on the similarity of those results, determined that geographic proximity may be less important for ITS in a school setting than originally thought.

Propensity Score Matching (PSM)

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), the match also should include any 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.

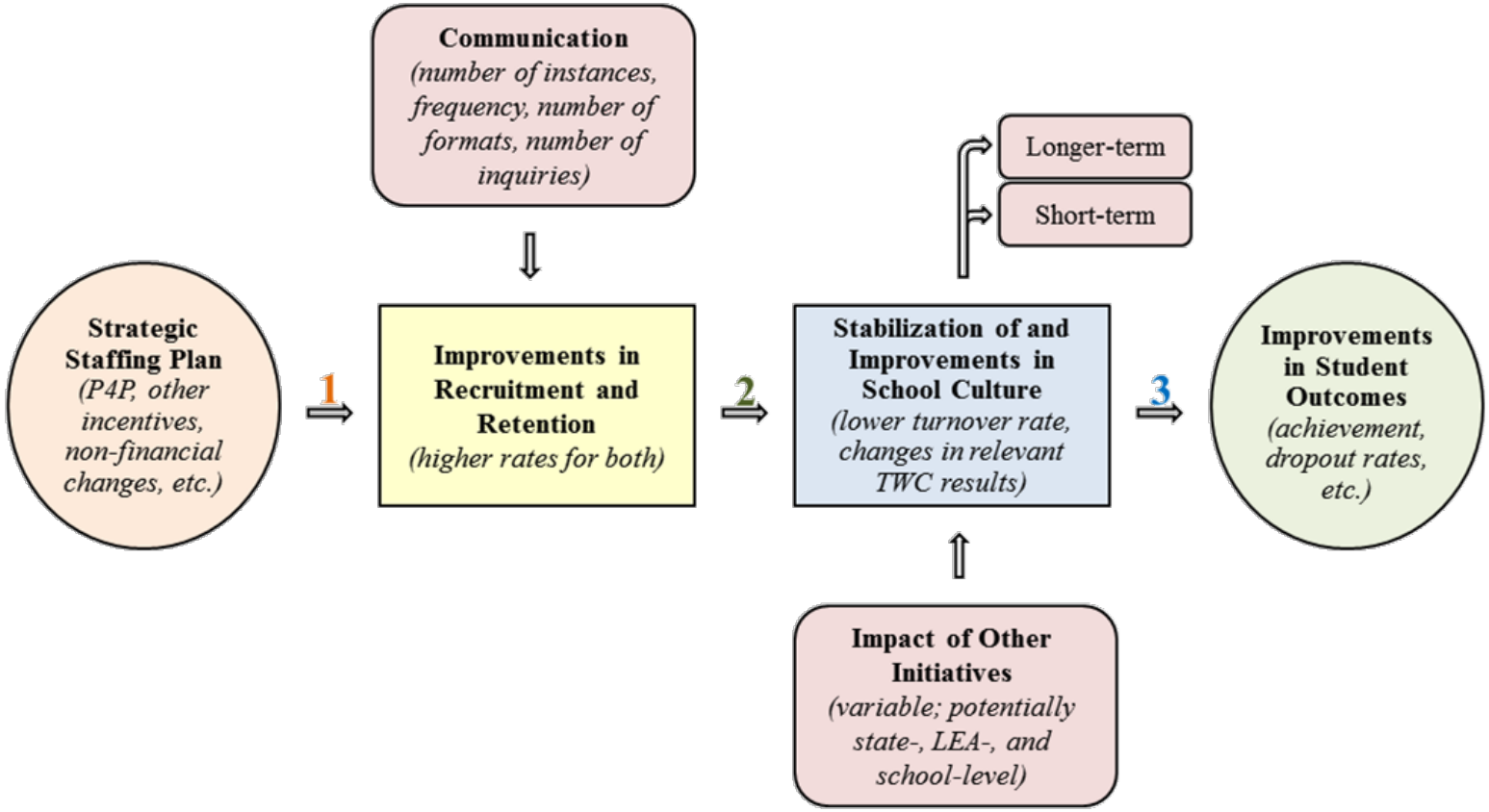
PSM strategies include "nearest neighbor," radius matching, and synthetic matching, but, as noted in the main test, many researchers believe that the strategy matters much less than does the choice of variables on which schools are matched (see, for instance, Hallberg et al. 2018). Nearest-neighbor matching with replacement typically reduces bias in estimations, but it does so at a cost: it significantly reduces the size of the comparison group. Instead, 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, we plan to preference ***radius matching*** (propensity scores within 0.25 SD of each treatment school's score)

[56] Cabarrus, Cumberland, Durham, Franklin, Wilson, and Winston-Salem/Forsyth were the other six applicants in 2016.
[57] Indeed, in at least one case--CHCCS--all schools in the LEA technically are "selected" for the pilot program.

with replacement, which matches each treatment school to several schools within a given propensity score range, increases the size of the comparison pool, and in our case should have little impact on bias because of the depth of pre-intervention data available for matching. Per Rubin (2001) and others, the evaluation team plans to determine matches based on the logit of the generated propensity scores.

Appendix F. Advanced Teaching Roles Theory of Change

Evaluations of state- and local-level advanced teaching roles initiatives funded by North Carolina's Race to the Top grant (2010-2014)[58] suggested that several intermediate changes needed to occur in a school (e.g., better teacher recruitment and retention, lower teacher turnover rate, etc.) before the existence of a staffing plan would have a measurable impact on student outcomes:



[58] At the time, referred to as *strategic staffing* initiatives: http://cerenc.org/rttt-evaluation/equitable-supply-and-distribution-of-teachers-and-leaders/

Appendix G. Evaluation Questions with Proposed Data Source(s) and Planned Quantitative Analysis Approaches

Evaluation Question	Measurable Outcome	Indicator	Data Source(s)[59]	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: 1. School performance grade score; and 2. Proportion of students performing at/above grade level in each tested subject relative to matched schools	State administrative data	Interrupted Time Series (ITS)
	B. Teachers demonstrate quality classroom instruction	Teachers and school leaders report quality classroom instruction	Teacher and principal focus groups and/or surveys	
	C. Teachers[60] exhibit greater VA growth relative to pre-initiative period	1. Changes in overall school/LEA teacher quality (as measured by EVAAS outcomes) over time 2. *[Pending data availability]: Changes in lead teacher and directly-impacted teacher quality (as measured by EVAAS outcomes) over time*	EVAAS data	ITS

[59] See **Data and Methods** for more details.

[60] *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)[59]	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-district) or nearby (comparable neighbor district) schools and b) statewide growth averages	1. Changes in overall teacher quality (as measured by EVAAS outcomes) vs teacher quality in matched schools in the LEA or region 2. Changes in overall teacher quality (as measured by EVAAS outcomes) vs teacher quality in all other schools statewide	EVAAS data	ITS
	E. Students exhibit increased interest and engagement in class	1. Students report increased interest in class 2. 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	ITS
	B. Students exhibit more growth than a) students at other matched local (same-district) or nearby (comparable neighbor district) schools; and b) statewide growth averages	1. Changes in overall student growth (school level) vs students in matched schools in the LEA or region 2. Changes in overall student growth (school level) vs all other schools statewide	State administrative data	ITS

Evaluation Question	Measurable Outcome	Indicator	Data Source(s)[59]	Quantitative Analysis (If Applicable)
Q3. Do advanced teaching roles and/or related local-level salary supplements, either collectively or individually, increase attractiveness of the teaching profession?	A. Teachers apply for and fill advanced roles	1. Changes in lead teacher application figure 2. Changes in lead teacher vacancy figures	Local administrative data	Annual, per-LEA counts and averages
	B. Lead teachers remain in advanced roles	Teacher retention in lead teacher roles (annual)	Local administrative data	Annual, per-LEA counts, %s, and averages
	C. Teachers remain in participating schools	1. Changes in teacher retention (school level) vs retention in matched schools in the LEA or region\ 2. Changes in teacher retention (school level) vs retention in all schools statewide	State administrative data	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	
Q4. Do the pilot programs provide recognition to high-quality classroom teachers?	A. Schools/LEAs provide role-based incentives for lead teachers	1. Financial program incentives 2. 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 Question	Measurable Outcome	Indicator	Data Source(s)[59]	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	Annual, per-LEA counts, %s, and averages
Q5. Do the pilot programs support retention of high-quality classroom teachers?	A. Programs sustain advanced positions	1. Program funding allocation and sustainability plans 2. 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	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 new/beginning teachers (e.g., mentor, planning, model strategies, etc.)	*[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
		1. Lead teachers/ administrators report provision of support to new teachers 2. 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)	State administrative data	Annual, per-LEA counts, %s, and averages
		New teachers indicate a desire to continue teaching (short and/or long term)	Teacher and principal focus groups and/or surveys	

Evaluation Question	Measurable Outcome	Indicator	Data Source(s)[59]	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)	1. Teacher perceptions of impact related to the program 2. 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	1. Descriptions of program models, intended impact, and fidelity of implementation 2. 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[61]	LEA projections for fiscal sustainability after pilot period (cost)	Extant state and local fiscal data	

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

Evaluation Question	Measurable Outcome	Indicator	Data Source(s)[59]	Quantitative Analysis (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) 2. 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. Trends in teacher survey responses over pilot period 2. Trends in administrator survey responses over pilot period 3. Trends in teacher focus group responses over pilot period 4. Trends in administrator focus group responses over pilot period	All data gathered and results generated for evaluation questions described above	

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