Sound Basic Education for All: An Action Plan for North Carolina

How Teaching and Learning Conditions Affect Teacher Retention and School Performance in North Carolina

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Introduction

Over the last two decades, a growing body of research has shown how the "character" of the workplace can influence the overall quality of teaching, teacher retention, and school improvement.[1] Studies have begun to pinpoint the following:
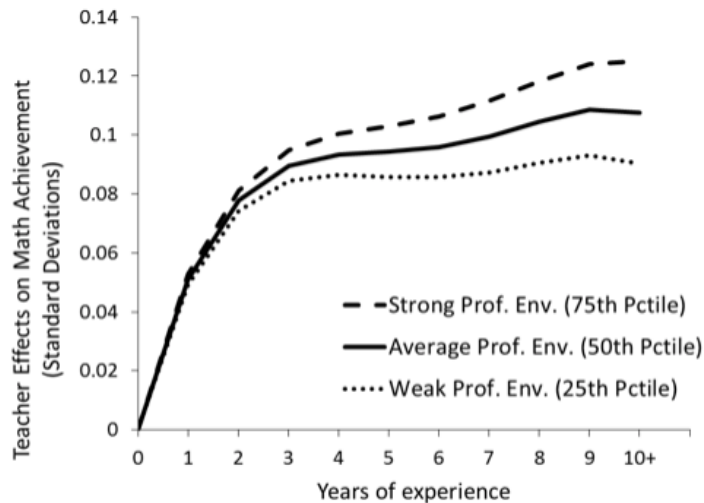
» The organizational characteristics of schools influence teachers' career paths, including decisions about whether to stay in or leave the profession.[2]

» High rates of teacher turnover have an adverse impact on student achievement.[3]

» Districts pay high costs to replace teachers who leave.[4]

The evidence on the importance of teacher working conditions continues to mount. For example, Ladd found that working conditions are "highly predictive" of North Carolina teachers' stated intentions to remain in or leave their schools, with leadership emerging as the most important factor.[5]

In addition, Ingersoll and colleagues, using data from the Teacher Working Conditions (TWC) survey of 900,000 teachers across 16 states (including North Carolina), found a strong relationship between teacher decision-making and school performance. They found that schools with the highest levels of overall instructional leadership had substantially higher mathematics and English language arts test scores than schools with poor instructional leadership. They also found that in schools that serve high-poverty and minority students, teachers were less likely to report that they can raise concerns, that leaders support them, and that they work in trusting environments.[6]

Kraft and Papay, utilizing 10 years' worth of test score and survey data from an urban district in North Carolina, found that teachers working in schools with strong professional environments improved their effectiveness, over time, by 38% more than did peers in schools with weak environments.[7] The environments that supported teacher improvement provided supportive principal leadership, opportunities for peer collaboration, effective professional development, meaningful feedback, trust, and order. (See Figure 1.)

Figure 1: Predicted Returns to Teaching Experience Across Schools With Strong, Average, and Weak Professional Environments

Source: Kraft, M., & Papay, J. (2016, April). Developing workplaces where teachers stay, improve, and succeed. Albert Shanker Institute. Retrieved from: http://www.shankerinstitute.org/blog/developing-workplaces-where-teachers-stay-improve-and-succeed

These studies represent a growing number of other investigations that have specified direct links between the quality of school working environments and outcomes for students and teachers. And the qualities of these more positive and professional working environments have been shown to serve as critical building blocks for developing collective teacher efficacy, which some new research suggests is one of the most important factors influencing student achievement.[8]

Collectively, these research findings strongly suggest that teachers are not fixed in their effectiveness. Policymakers should pay attention to the role of working conditions in promoting teacher development and how those conditions may vary in different school contexts.

This Study

The aforementioned studies have significant implications for North Carolina. The Supreme Court of North Carolina (the Court) has established that every child in the state has a constitutionally guaranteed right to a "sound basic education." The Court's ruling called for constitutional compliance for ensuring effective teachers in all classrooms, effective principals in all schools, and "adequate resources" to do so. The research we've reviewed above suggests that in order for high-quality teaching to be in place, well-prepared teachers need to work under teaching and learning conditions that enable them to teach effectively. And these effective and well-supported teachers need to stay long enough in their teaching positions to produce strong outcomes for students, particularly in high-poverty schools.

Researchers have concluded that working conditions matter a great deal for both teacher retention and student achievement. Since 2004, North Carolina has collected survey data every two years to assess teachers' reports on eight domains: the use of time; facilities and resources; professional development; teacher leadership; school leadership; instructional practices and support; management of student conduct; and community support and involvement. The state has used the TWC survey for 15 years, and some districts have used these data for a variety of improvement initiatives. However, the state has yet to develop a comprehensive strategy to evaluate and improve these conditions to support its ability to maintain a strong teaching force in every school.

In this paper, we report on analyses of the relationship between teaching and learning conditions and both student and teacher outcomes. Our approach was threefold.

» First, the Education Policy Initiative at Carolina (EPIC) conducted multivariate regression analyses using 2016 North Carolina TWC survey results and a wide array of available school-level administrative data to assess whether working conditions and other school-level variables influence teachers' retention and school performance. Our analysis focused on how these conditions influence outcomes in both high- and low-poverty schools.

» Second, we conducted focus group interviews with a representative mix of 30 teachers from high- and low-poverty schools and from urban, rural, and suburban schools from across the state to better inform our understanding of how they experience teaching and learning conditions in their schools.

» Third, we drew upon the interviews produced in site visits to four North Carolina schools, representing high-poverty and low-poverty contexts in both urban and rural communities.

We present our findings in three parts. First, in Part 1, we examine the impact of teaching and learning conditions broadly, displaying the statistical results showing which factors from the 2016 TWC survey had the most influence on both school-level teacher retention and academic performance gains. In Part 2, we deepen our analysis, examining which survey items correlated most strongly with teacher retention and drawing on our focus group data, as well as additional survey results from high- and low-poverty schools, to explain in greater detail the most significant constructs. Finally, in Part 3, we draw on the focus group interviews to understand how teachers experience and respond to teaching and learning conditions, especially in high-poverty schools.

In Part 4, we summarize our findings and draw out implications for policy.

Part 1. The Influence of Teaching and Learning Conditions on Teacher Retention and School Performance

In fall 2018, members of the research team from EPIC at the University of North Carolina at Chapel Hill drew on administrative data from the state of North Carolina and the results of the 2016 TWC surveys to examine the factors predicting teacher retention and school achievement gains.

Methods

We began with a factor analysis of the 2016 teacher working conditions data, from which nine factors were identified. The responses to the items clustered, for the most part, around the previously established TWC survey domains. However, the previously identified domains for teacher and administrative leadership loaded on one factor, and the factors emerged with a slightly different set of patterns, producing a new list of factors to more accurately describe the teaching and learning conditions:

» **Teacher and school leadership:** Teachers are recognized as experts, supported to meet high standards, involved in decision-making, and tapped for school leadership.

» **Professional learning and collaboration:** Professional development is readily available, useful, focused on practice, aligned with school improvement, and collaborative.

» **Community support and parent engagement:** Families and the community are informed, engaged, consulted, and supportive of the school and teachers.

» **Teachers' collective efficacy:** Teachers develop collective practices for teaching and assessing student work and have a strong sense of their efficacy in supporting student success.

» **Instructional resources:** Teachers have sufficient access to instructional resources, including digital tools, content, and communication technologies, as well as training.

» **Time for teaching:** Teachers have reasonable time for collaboration and planning, class sizes to meet student needs, and few interruptions and other duties.

» **Student conduct:** Students and faculty know and follow/enforce expectations for conduct and are supported by administrators in doing so.

» **Conducive physical environment:** The school is clean, is well maintained, and offers appropriate space/classrooms for teaching and learning.

» **Student assessment data:** State and local assessment data are available in time to impact instruction and are viewed as assessing learning standards.

Of particular interest is that the leadership factor was not focused primarily on traditional conceptions of strong administrative leadership, but, instead, on how teachers are both enabled to meet high professional standards — through productive feedback and evaluation as well as shared problem solving — and treated as experts, trusted to make sound decisions, and involved in school improvements and decision-making. Along with a clear focus on teacher leadership, the implicit conception of administrative leadership in this factor is of the principal as someone who supports teachers in becoming instructionally expert and then involves them in guiding school-wide improvement and shared decision-making.

Also of interest is that the factor on teaching practice and efficacy emphasizes collective practice rather than individual practice. The questions gauge how teachers know what the other teachers are doing in teaching and assessment, if they develop shared practices, and if they have a strong belief that they can help students succeed — feelings of efficacy. Together, these items capture the notion of collective efficacy, which is more powerful than individual practice. (See Appendix A, Factors From Teacher Working Conditions Survey, for a full list of items for each factor.)

For our teacher retention outcome, we constructed an average of school-level retention for the 2015–16 and 2016–17 school years. This school-level retention rate is the sum of the number of teachers returning in 2015–16 and 2016–17 divided by the sum of the number of teachers at the school in 2014–15 and 2015–16. For our measure of school performance, we used schools' Education Value-Added Assessment System (EVAAS) school growth status — does not meet, meets, or exceeds expected student growth — from the 2015–16 school year (see Appendix B, North Carolina's School Performance Model). The EVAAS is a value-added growth model that uses end-of-grade and end-of-course assessment data to measure the amount of growth groups of students achieve in a year. To construct the school poverty rate, we classified schools as elementary, middle, or high and placed them into deciles based on the percentage of economically disadvantaged students enrolled.

In addition to examining the influence of these factors on the dependent variables (teacher retention and school achievement growth), our models included the following covariates: school level (elementary, middle, or high), percentage of economically disadvantaged students, percentage of minority students, school size, teacher-student ratio, percentage of novice teachers, percentage of National Board–certified teachers, total per-pupil expenditures, average teacher salary supplement, State Board of Education region, North Carolina Department of Commerce economic tier classification, and type of community (city/suburb/rural).

Influences on Teacher Retention

During the period of our investigation (2015–16 and 2016–17), the average school-level teacher retention rate was 80%, with a standard deviation of 9.1. School-level retention rates meaningfully varied by the concentration of economically disadvantaged students. In the lowest-poverty schools, the retention rate was nearly 84%, whereas in the highest-poverty schools, the retention rate was 73%. Teachers' plans to leave their schools were also highly correlated with the school's one-year teacher retention rate (0.46).

Across all schools, six of nine working-condition factors predict school-level teacher retention. Teacher and school leadership, professional learning and collaboration, community support and parent engagement, teachers' collective practice and efficacy, time for teaching, and student conduct are all positively associated with teacher retention. (See Table 1.)

It is worth noting that having student assessment data available to impact instruction has a negative association with teacher retention. It may be that schools with a strong focus on assessment are those in which there is significant pressure to raise scores — often in low-scoring schools that serve concentrations of students in poverty. This pressure may encourage or be coincidentally associated with higher teacher attrition. In the national Schools and Staffing Surveys, the most frequently cited reason for leaving the profession in 2012, during the No Child Left Behind era, was dissatisfaction with student testing and accountability, cited by 25% of teachers who left.[9]

Almost all of these factors have even stronger associations with teacher retention in high-poverty schools. An exception is having time for teaching, which is more strongly associated with teacher retention in low-poverty schools.

Table 1: Relationship Between School Working Conditions and School-Level Teacher Retention

Factors	All Schools	High-Poverty Schools (Top 2 Deciles)	Low-Poverty Schools (Bottom 2 Deciles)
Teacher and school leadership	1.269** (0.144)	1.966** (0.305)	0.849** (0.275)
Professional learning and collaboration	0.469** (0.172)	0.920* (0.375)	−0.130 (0.264)
Community support and parent engagement	1.771** (0.225)	2.480** (0.464)	1.403* (0.685)
Teachers' collective practice and efficacy	0.519** (0.178)	1.105** (0.430)	0.413 (0.364)
Instructional resources	0.302 (0.164)	0.060 (0.405)	0.333 (0.321)
Time for teaching	0.672** (0.194)	0.504 (0.509)	0.701* (0.335)
Student conduct	0.569** (0.192)	1.293* (0.498)	−0.071 (0.427)
Conducive physical environment	−0.137 (0.148)	0.198 (0.315)	−0.773** (0.256)
Student assessment data	−0.810** (0.244)	−1.269* (0.576)	−0.411 (0.441)
Observation Count	2399	481	480

*Note: *p<.05; **p<.01. This table displays regression coefficients and standard errors (in parentheses) from models examining the association between school-level teacher retention and school working-condition constructs. Models also control for school level (elementary, middle, or high), percentage of economically disadvantaged students, percentage of minority students, school size, teacher-student ratio, percentage of novice teachers, percentage of National Board–certified teachers, total per-pupil expenditures, average teacher salary supplement, State Board of Education region, North Carolina Department of Commerce economic tier classification, and type of community (city/suburb/rural).*

It is important to note that in the full model, the percentage of inexperienced teachers in a school has a significant negative association with teacher retention (p<.001), and the size of a district's teacher supplement has a significant positive association with teacher retention (p<.05). As one would expect from the literature, better-paid teachers who have more positive working conditions are more likely to stay in the profession and in their schools.[10]

Influences on School Performance

Our analysis found that teaching and learning conditions also predict school performance, as defined by the North Carolina School Performance accountability system's measures for failing to meet, meeting, or exceeding the school's expected growth. Teaching and learning conditions are particularly powerful in predicting the likelihood of a school exceeding its growth target relative to not meeting the target. (See Table 2.)

For example, across all schools, teachers' collective practices and efficacy and student conduct are positively associated with meeting expected growth relative to not meeting growth. These two factors also predict the school's probability of exceeding its growth target, as do teacher and school leadership, community support and parent engagement, time for teaching, and student assessment data. There are not major differences between low- and high-poverty schools in how school working conditions predict exceeding EVAAS growth status. (See Table 2.)

It is important to note that in the full model, a school's likelihood of exceeding its growth targets is also strongly associated with having a higher ratio of teachers to students ($p<.01$), having a greater proportion of National Board–certified teachers ($p<.01$), and having greater total per-pupil expenditures ($p<.05$). This suggests that fiscal and human resources matter to schools' ability to support student achievement growth. As Table 3 shows, the proportion of National Board–certified teachers is three times higher in low-poverty than high-poverty schools, 15% and 5%, respectively. Since 2009, the share of such teachers has declined in high-poverty schools and increased in low-poverty schools (though remains lower than the high point of 18% in 2012).

Table 2: Associations Between School Working Conditions and School EVAAS Growth Status

	All Schools	High-Poverty Schools (Top 2 Deciles)	Low-Poverty Schools (Bottom 2 Deciles)
Meets Growth (relative to Does Not Meet)			
Teacher and school leadership	1.113 (0.095)	1.102 (0.525)	1.241 (0.194)
Professional learning and collaboration	1.040 (0.510)	1.079 (0.655)	1.019 (0.890)
Community support and parent engagement	1.142 (0.093)	1.046 (0.802)	1.462 (0.186)
Teachers' collective practice and efficacy	**1.232**** (0.002)	1.221 (0.205)	1.212 (0.184)
Instructional resources	0.962 (0.474)	0.870 (0.313)	0.918 (0.574)
Time for teaching	1.001 (0.985)	0.749 (0.061)	0.919 (0.717)
Student conduct	**1.508**** (0.000)	1.281 (0.097)	**1.657**** (0.007)
Conducive physical environment	1.058 (0.345)	1.098 (0.501)	**1.338*** (0.019)
Student assessment data	1.072 (0.381)	1.187 (0.363)	0.982 (0.921)
Exceeds Growth (relative to Does Not Meet)			
Teacher and school leadership	**1.356**** (0.000)	**1.444*** (0.047)	1.388 (0.071)
Professional learning and collaboration	1.038 (0.591)	0.994 (0.969)	1.077 (0.635)

	All Schools	High-Poverty Schools (Top 2 Deciles)	Low-Poverty Schools (Bottom 2 Deciles)
Community support and parent engagement	1.451** (0.000)	1.693* (0.033)	1.993* (0.039)
Teachers' collective practice and efficacy	1.421** (0.000)	1.202 (0.328)	1.648** (0.004)
Instructional resources	1.025 (0.698)	0.959 (0.788)	0.815 (0.305)
Time for teaching	1.218* (0.018)	1.079 (0.752)	0.833 (0.499)
Student conduct	1.933** (0.000)	1.765** (0.002)	2.060** (0.000)
Conducive physical environment	1.070 (0.310)	1.018 (0.907)	1.362* (0.029)
Useful student assessment data	1.223* (0.047)	0.935 (0.806)	1.194 (0.458)
Observation Count	2282	418	475

Note: This table displays relative risk ratios and p-values (in parentheses) from models examining the association between a school's EVAAS growth status and school working-condition constructs. Risk ratios greater than 1 are positive; risk ratios less than 1 are negative. Models also control for school level (elementary, middle, or high), percentage of economically disadvantaged students, percentage of minority students, school size, teacher-student ratio, percentage of novice teachers, percentage of National Board–certified teachers, total per-pupil expenditures, average teacher salary supplement, State Board of Education region, North Carolina Department of Commerce economic tier classification, and type of community (city/suburb/rural).

Table 3: Percentage of Teachers in Low- and High-Poverty Schools Who Are National Board–Certified

Year	Decile 1 (Low-Poverty Schools)	Decile 10 (High-Poverty Schools)
2009	13.6	5.4
2010	15.6	5.6
2011	18.1	6.5
2012	18.5	7.3
2013	17.9	5.8
2014	17.2	5.6
2015	17.0	6.0
2016	16.1	6.2
2017	15.4	5.1

Part 2. How Teaching and Learning Conditions Matter

In this section, we look further at how insights from the TWC survey are reflected in the literature on school development and in the lived experiences of North Carolina teachers whom we interviewed. (See Appendix C, Focus Group Interviews, for methods and interview guide.) We examined the patterns of teachers' responses to questions of why they entered teaching, where they teach, and what is needed for them to be successful with the students they teach.

Leadership

The survey results revealed the importance of leadership in improving teacher retention and school performance — consistent with a growing number of studies — including how principals matter in creating positive working conditions.[11] It is worth noting that the items in the leadership factor that were most highly related to teacher retention are most focused on teachers' roles as leaders. For example:

» Teachers have influence on decision-making.

» Teachers are trusted to make sound professional decisions.

» Teachers are relied upon to make decisions about educational issues.

» Teachers are encouraged to participate in school leadership roles.

» Teachers are effective leaders.

» Teachers are recognized as educational experts.

» The faculty has an effective process for solving problems.

» The school takes steps to solve problems.

These opportunities for teachers to lead suggest that principals need to value their participation in decision-making and problem solving and understand how to create conditions for distributed leadership. Teachers clearly want to be in schools that tackle problems collectively and where they can work as a team to make sound professional decisions.

Other studies using North Carolina TWC survey data have shown that teacher ratings of their teaching and learning conditions depend on which principal is leading the school, independent of other school and district contextual factors.[12] Principals often serve as gatekeepers to teacher involvement in decision-making, collaboration, and instructional support, all conditions that lead to teachers' collective efficacy.

Our focus group interviews reinforced the fact that principal leadership matters most in the cultivation of teachers' own leadership. And a key goal of teacher leadership is to ensure that those who work most closely with students and families can lead instructional improvement efforts and make sure that teaching expertise spreads. Our interviews mirrored the research revealing that collective leadership has a stronger influence on student achievement than individual leadership — and administrators do not lose influence when teachers gain it.[13]

As a Wake teacher noted, and as research has well documented, "Good principals build trust and trust teachers to lead." A teacher from Guilford noted:

> *[Principals] need to treat you as a professional. Firm is just fine. But not overbearing in a traditional boss sense.*

Another teacher, also from Guilford, noted how her principal led effectively as an instructional leader: "She is in and out of our classrooms all the time, but she does not micro-manage us." A number of teachers interviewed told us of how they moved to certain schools to work with principals who led in these ways because they "know how important it is for us to lead."

When asked how they want to lead, teachers talked primarily about mentoring and coaching colleagues and novices. Some, however, because of the leadership experiences they had, wanted the time and space to create new models of teaching and learning. One teacher, from Durham, had learned about community schooling and wanted more time to lead efforts in this way in the district.

In fact, this teacher talked about community schooling as the quintessential form of teacher leadership — when those who teach redesign their schools to be more responsive to students. He noted:

> *We are creating a community-based school model in Durham, and that could create all kinds of teacher leadership opportunities. Most want to be involved in mentoring, curriculum, and coaching. … Instead of bringing people in for professional development, we create space for teachers to help other folks out. I think in particular about developing teachers as leaders in order to create opportunities for more student engagement … and for us to meet the kids' academic needs as well as those of the community.*

In one focus group, we asked how many of the principals in their school system would be supportive of teachers' leadership and have the necessary knowledge, skills, and dispositions. One teacher quickly noted, "I would say 25% are there; there are 50% that could be, and about 25% that never will be." Others agreed. One teacher added, "It seems to matter whether a principal has taught for just a few years, or 15, before becoming an administrator." Another said, "The more teaching experience a principal has, the more they understand the realities of the classroom." Everyone nodded. There seemed to be a consensus, though, that too few principals are selected and prepared for the collaborative learning teachers seek and the leadership they want to enact.

We also found a strong cluster of individual items regarding school leaders creating an atmosphere of trust and respect, where high professional standards are in operation and teachers are recognized for their accomplishments, where members of the faculty are comfortable raising issues and concerns, and where the school improvement process is deemed effective.

The nature and importance of teacher and school leadership play out very differently in high- and low-poverty schools. First, high-poverty schools are disproportionately staffed by the least well-prepared and the least experienced teachers, who often leave before they develop a sense of individual and collective efficacy. As a result, principal leadership matters even more in a high-poverty school; yet it is difficult for the school leader to develop the necessary teacher leadership if new recruits are underprepared and depart soon after they arrive.

Second, low-poverty schools often are staffed by better-prepared teachers, including those who are National Board–certified, and they are more likely to remain as teachers and develop a strong sense of collective efficacy — meaning that they can together overcome the ill effects of their school being led by a weaker principal. As one teacher from a low-poverty school, where one in five teachers is National Board–certified, noted:

> *We have had so many mandates from central office of late and a principal whose skill set is surely not communicating with staff. I am 53 years of age, and I'm not certain I would find really greener grass elsewhere if I leave for another district. We can withstand a lot at my school. We have so many excellent teachers at (name of school), we can weather any kind of B.S. from an administrator.*

Professional Learning and Collaboration

Professional learning, properly structured, positively influences teacher retention and the kind of collective efficacy necessary for long-term school improvement. Particularly in high-poverty schools, certain aspects of teachers' professional learning identified in survey items were associated with greater teacher retention: professional learning that is aligned with school improvement plans, that encourages reflection on practice, and that offers opportunities for follow-up efforts that relate to specific training.

North Carolina teachers polled about their professional development needs identified some closely related areas in common in which a majority feel they need more professional development. These include differentiating instruction, serving students with disabilities in special education, closing the achievement gap, and integrating

technology into instruction. (See Table 4.) Beyond these areas, most middle school teachers also want more professional development for teaching English learners and gifted and talented students.

In the high-poverty middle schools we visited, the needs were often more intense and pervasive, with a greater share of teachers articulating a wider array of needs, including needs for professional development associated with content teaching, Common Core standards, literacy strategies, and student assessment. In focus groups with teachers in high-poverty communities, teachers also mentioned professional development needs going beyond those listed in the survey, such as skills for supporting students' social-emotional learning, as well as for developing trauma-informed, culturally responsive practices.

Table 4: Professional Development Access and Needs

In which of the following areas (if any) do you need professional development to teach your students more effectively? In the past two years, have you had 10 hours or more of professional development in any of the following areas?

2018 TWC Survey	ALL NC Schools % Yes Need / Had	All NC Middle Schools % Yes Need / Had	Culbreth (low-poverty school) % Yes Need / Had	Townsend (high-poverty school) % Yes Need / Had	Lewis Chapel (high-poverty school) % Yes Need / Had	Enka (high-poverty school) % Yes Need / Had
Content area	39/65	43/65	33/63	59/59	47/72	37/75
Common Core standards	26/32	28/32	12/35	**47/59**	50/44	**17/20**
Student assessment	31/43	34/42	30/48	**59/59**	57/67	**27/20**
Differentiating instruction	54/44	57/45	66/49	**65/47**	69/55	**62/44**
Special education	55/20	56/22	**61/35**	53/41	87/44	57/17
Gifted and talented education	49/13	51/14	56/33	62/18	70/24	47/10
English learners	49/16	52/15	68/53	44/29	65/34	62/32
Closing achievement gap	52/25	54/24	79/60	**47/35**	**77/51**	**52/13**
Methods of teaching	33/44	34/44	29/55	**41/59**	**52/68**	25/33
Literacy strategies	42/55	41/55	33/54	**53/59**	**57/67**	30/70
Integrating technology	50/50	49/53	49/46	**47/65**	**54/84**	47/70
Classroom management	30/24	33/23	25/18	**47/53**	**45/67**	27/12
Workforce development	23/12	25/12	19/11	**41/41**	**40/45**	17/2

Source: 2018 TWC survey. Highlighted cells indicate items in which most teachers reported they needed more professional development.

Our interviews revealed that for the most part, the teachers gave mixed grades to the professional development they experienced. Across the state, as reported in the TWC survey, only 20% of North Carolina's teachers strongly agreed that "sufficient resources are available for professional development" and that their schools "provide ongoing opportunities for teachers to work with colleagues to refine teaching practices" — both characteristics of high-quality learning environments.

The interviews revealed what high-quality professional development can look like for teachers. A teacher from a low-poverty school, where heterogeneous seventh-grade classrooms may have students reading anywhere from the 1st through the 11th grade level, told us:

> *We have each other. We teachers could not come close to differentiating the way our students need without the co-planning and co-teaching that the school's leadership team helps us engage in. Our principal helps us help each other.*

We learned that this principal had been at this school for only two years. In that school, on the 2014 TWC survey, only 41% of the teachers reported that they had "time to collaborate with colleagues," whereas in 2018, the percentage had increased to 66%.

This kind of environment seemed, however, to be rare. In our focus groups, teachers indicated that time for collaboration and teacher-led learning are the exception, not the norm. They expressed a desire for more opportunities to define and lead their professional development and to collaborate with one another on improving practice. A teacher from Guilford noted:

> *So much of our professional development time is district driven. It can be real or somebody reading to you off a list of things to do.*

Most teachers reported that their professional development (PD) was "top down" and even when they can get together as a team, the work to be done "is already carved out" for (them). A teacher from Robeson told us:

> *Professional development is always defined by the district. Sometimes it is worthwhile, but often it is not. They could just as well have sent me the PowerPoint. My best PD is when I work with [my colleague who teaches in the room next door].*

A teacher from Lexington noted, "We rarely work together as a team the way we want to." And a teacher from Burke County noted:

> *We have no time to collaborate and look at each other's data. We mostly do this independent of each other. If we do [professional learning communities], it is after school, and it is once a month, and it is assigned. We rarely have choice.*

Most teachers also reported that they have very few chances to see one another teach.

Finally, we learned of an acute need for teachers in small, rural schools who have no colleagues nearby who teach the same subject and grade level. A teacher may, for example, be the only seventh grade math teacher and have no naturally occurring network of colleagues who are teaching to the same standards. They end up reinventing many lessons by themselves. Some may have found resources and supports in online networks. But if these teachers are using YouTube, Pinterest, or even LearnZillion, their districts do not appear to have plans to systematically use these resources as part of a professional development strategy to address the needs teachers have.

Developing Collective Efficacy

Our interviews began with general questions about how teachers came to teach in their specific (high- or low-poverty) school and what is it like for them to work with students. These questions brought up a number of issues related to teachers' collective efficacy and instruction, that is, whether they believe that what is taught will make a difference in students' lives and whether they work with other teachers to create coherent learning and consistent norms.

The interviews revealed a wide array of examples of how teachers' collective efficacy is developed, most notably by a school's expert teachers having time to work closely with novices, constructing joint lessons, assessing each other's student work, and seeing each other teach. Teachers from low-poverty schools with more local funding described how they work with principals in designing highly structured time for professional learning. These teachers tended to point out that, although still less than ideal, they do have some time to observe each other's teaching in real time. As one teacher, who teaches in a low-poverty school, noted: "Many of us are National Board–certified, and we find time to help each other get better."

The interviews also brought to light how, especially in high-poverty schools, teachers' collective efficacy can be undermined by inadequate mentoring, which includes the mismatch in numbers between novices and experts. An experienced teacher who teaches in a high-need, urban school talked about the challenges that underprepared recruits have in teaching in the district — and the mismatch in numbers between those who need support and those who can offer it:

> *In my district, we are losing 60-plus percent of teachers within the first five years. We do not have a lot of veterans around them to mentor. The first five years of teaching (in schools like mine) is like learning to tie your shoes. You have so much to learn about this community and its students.*

The most recent TWC survey revealed the challenges of experts and novices learning from each other. In 2018, fewer than half (47%) of the state's new teachers reported that they have release time to observe other teachers, and 44% of the novices never or rarely (less than once a month) develop lessons with their mentors. Most (76%) of them have never or rarely observed their mentor's teaching, and 63% of them have never or rarely been observed by their mentors.

The focus group interviews brought to light the difficulties that new and veteran teachers experienced with the varied and often underdeveloped and under-resourced mentoring programs. There are approximately 15,000 teachers in the state with less than three years of experience, but only 1,000 of them are being supported by the state's formal mentoring program. The state requires all beginning teachers to participate in a three-year induction program; however, only $2.2 million is allocated for the state program, now housed at East Carolina University. Districts often draw on federal (Title II, Part 2) funds to pay for whatever mentor program they create.

One teacher, from a rural district, noted:

> *There used to be a mentoring program in the state where the mentors were trained. I was trained 15 years ago, and it was a week long and you had new teachers assigned to you and you were supposed to meet with them once a week.*

Another teacher, who teaches in the same district, weighed in:

> *Now it is a "pretend-to" program with an online tutorial. I know young teachers at my school have "mentors," and they'll say that they haven't seen them. They don't meet with them.*

These teachers see the consequences of inadequate mentoring as significant for both new recruits and the students they teach, undermining the development of the collective efficacy that pays off for retaining new recruits in teaching.

An experienced teacher noted:

> *The instructional piece develops over time, as does the classroom management, but unless you can get a quick handle on your classroom management, the more miserable you are going to become as a teacher, and the students will feel that. And when teachers are not succeeding, they will leave.*

This part of the conversation brought to light the structure and cost of high-quality mentoring. Some districts just do not have the money to pay for veteran educators to supervise and evaluate new recruits as well as mentor and nurture them. A teacher asserted:

> *In our district, our so-called mentoring comes from the instructional coach who comes from the central office, and she actually does one of the observations for new teachers' evaluations. So there's no way the new teacher is going to be totally comfortable because she is going turn around and do her observation (and determine if she stays in teaching).*

The teachers interviewed expressed despair and desperation over the lack of mentoring. As one teacher noted:

> *Some of us who have been teaching for a while see new teachers come in who are struggling … and we say to ourselves, "If we don't help them, who will?" It is about students — if we don't do something so that these students are getting who they need down the line, then all is lost.*

Student Conduct

Well documented in both national studies and in our own supply and demand investigation in North Carolina, high-poverty schools experience a revolving door of underprepared teachers. Our analysis of educator supply and demand found that 53% of the state's lateral-entry teachers — who enter teaching before they have had training — are found in high-poverty (top 2 deciles) schools, compared with only 30% in low-poverty schools. Among these, 60% of North Carolina's Teach for America recruits were teaching in higher-poverty schools, compared with only 7% in lower-poverty schools.[14]

Underprepared teachers teaching in high-poverty schools rarely have the knowledge and skills to address the social-emotional learning needs of their students. And without significant training in teaching high-need students, teachers struggle to contribute to consistent and equitable school discipline policies and practices. We

have found that such practices are a key factor in teacher retention. The survey revealed that productive student behaviors and a safe environment, along with consistent enforcement of norms by teachers and principals, are major predictors of both teacher retention and student achievement gains.

Teachers were often quick to point to the intensity and severity of students living with trauma, including those who are homeless and those whose chronic absenteeism was due less to a lack of interest in school and more to their families being in crisis (e.g., parents who work two and/or three shift jobs, students who need to take care of their younger siblings).

Ill-prepared teachers, we learned, often blame their students for trauma-induced behaviors that lead to acting out in class or refusing to complete assignments, and then they use inappropriate disciplinary measures that are inconsistent with the policies and the practices of their more well-trained peers. It is not that these teachers have low expectations for these students; they just do not have the pedagogical skills to work effectively with them.

These examples from three different focus groups are illustrative. First, a new Teach for America recruit with an art history major in college, now teaching special education in a high-poverty school, described the challenges she faced with student behavior. She said, "I really do not know how to manage children with all of their issues and their parents who are not involved with them at home." She had only two years of experience and was planning to leave her high-need school.

Second, a teacher from a rural high-poverty school who entered through a state-sanctioned lateral-entry program, explained in animated fashion:

> *I was a lateral-entry teacher. Like others have said, I was thrown into the classroom, and I had never done a lesson plan before, and administrators were saying things to me like, "Oh, you're going do this part of the lesson" and I'm like, "I don't even know what to do."*

Finally, a teacher from Cumberland, with more than 20 years of experience, who had watched many international teachers come and go in a district that hires 200 new recruits a year, talked about the challenges these teachers experienced. Although these teachers typically had some pedagogical training, it was insufficient in her view. She said, "We have so many teachers who come from places like Jamaica, and they do not understand how our children behave in classrooms; we have asked our superintendent to find ways to help them, and he has not been able to do so."

Teachers from low-poverty schools also teach economically disadvantaged students. They, too, faced challenges in reaching these students. However, in our interviews, these teachers talked about how they had learned to manage classrooms and support student needs, both in their training programs and over time with more seasoned and expert colleagues.

Even in wealthier districts — like Chapel Hill, where many students come from privileged homes — teachers spoke to the intense psychological needs of the upper-middle-class students they serve, including the pressures for them to get into the best (i.e., Ivy League) colleges and "never make less than a perfect score on a test." In

serving students living with trauma, teachers from low-poverty schools reported more often than not that they felt they had the pedagogical skills as well as the help of other professionals to be able to work with them.

Community Support and Parent Engagement

Our analyses pointed to the important role that community support and parent engagement play in teacher retention as well as school performance. Among the most important survey items predicting teacher retention are those associated with parent or guardian engagement with the school — being informed by the school and teachers, being involved, and being engaged in decision-making — and with community support for the teachers and the school.

In our focus group interviews, teachers were swift in letting us know that their students needed more than just better computers and books. Teachers believed their students could learn to meet the new standards, but not without additional resources in the form of community support and parent engagement. "Community support" means that school, summer, and mentoring and other school-home outreach programs are needed to serve high-need students. "Parent engagement" means that there are tools and processes to have two-way conversations about their children, even when the mother, father, grandparent, or guardian cannot easily be reached (e.g., working two jobs) or is deeply disengaged from their child's education (e.g., because of the problems they faced when they were public school students).

The lack of resources in both homes and communities were poignantly described in our focus groups. A teacher from a rural elementary school lamented that only eight of her 25 students came from "stable homes." Teachers pointed out that their effectiveness in the classroom was often undermined by the lack of community resources needed to serve their students. A Northampton teacher observed:

> *In one of our towns, there is no more recreation department. All of the after-school sports programs are dissolved, and even the grass on the fields has to be cut by volunteers.*

Another teacher from the same district said:

> *We don't have YMCAs or Boys and Girls Clubs here. Our kids need that safe after-school environment, and it shouldn't have to be with the teachers who have taught them all day.*

Although some teachers called for better instructional materials and resources, many focused on the physical, social, and mental health services students need in order for them to learn. A teacher from a rural community was explicit in describing the link between lack of resources needed to serve students and the willingness of teachers to remain in the classroom. She said:

> *Before I started teaching, I worked in mental health in the community. … And that drew me to become a teacher. We don't have the resources that we need. … It is harder for me to do what I know how to do.… This is why we lose new teachers.*

An experienced teacher from Washington noted:

> *(New teachers) come, and they aren't prepared for the level of poverty, and it is extremely difficult to find a way to make it work. It is hard to find time because it is so demanding. The care that students need is not always there because these young teachers are struggling themselves.*

Many teachers who teach economically disadvantaged students would talk about the kind of professional learning they need to effectively teach school content to students. But in high-poverty schools, teachers first would talk about what they needed to do to "parent, barber, and (even) clothe" their students. One Northampton teacher said she had spent more than $1,000 of her own money this past year, plus donations from her parents and friends, so her students would have "basics like pencils, notebooks, food, and posters" for her classroom.

Another teacher, also from a rural community, pointed to food insecurity and the hunger that her students experience that undermine academic progress. She noted, "We fill up their backpacks for home; we provide food on the weekends and clothing as well."

The 2018 TWC survey asked teachers to describe their students' relationship with hunger in their school. The teachers' responses, especially the differences among those in low- and high-poverty schools, were stark. (See Table 5). Statewide, most teachers said hunger is a problem for their students. Even in a low-poverty school we visited, nearly half (46%) of teachers said hunger was a problem for their students, but most of them said their school was able to use creative strategies for providing meals to combat it. At a high-poverty school we visited, 75% of teachers said hunger was a problem for their students, and 35% did not see effective strategies in their school to combat the problem, creating problems in the classroom as a result.

Table 5: Teacher Reports of Their Students' Relationships With Hunger

Which of the following statements best describes students' relationship with hunger in your school? (Select one.) (% responding to each statement)

	Hunger is a problem for my students, and it causes problems in my classroom/school.	Hunger is a problem for my students, but my school uses creative strategies to combat it (e.g., 2nd Chance Cafeteria, Breakfast After the Bell, etc.).	Hunger is not a problem among my students.	I have not noticed if students struggle with hunger in my classroom/school.
Culbreth (Low-poverty)	12%	34%	29%	25%
Townsend (High-poverty)	35%	40%	10%	15%
All NC schools	15%	41%	23%	21%

As they talked about the out-of-school, social-emotional, and physical health needs of students, teachers were not offering excuses for low test scores or the poor grades their schools received on the North Carolina School Report Card. Instead, they were looking for more comprehensive ways to support and serve the whole child. They also sought more training that was in synch with better in-school and out-of-school supports for the students they teach.

This was especially the case in high-poverty schools. Most teachers interviewed had not heard of the community-school model, which incorporates essential physical, mental, and social health services into the K–12 program, but in essence they were calling for this approach. (The National Coalition of Community Schools estimates there are about 5,000 such schools across the nation.) One teacher from Durham was working with the National Education Association and the North Carolina Association of Educators to advance it in his district in order to be more responsive to students' needs. And in describing the prospects for community schooling, he spoke to how this model of school reform would naturally create the kind of leadership opportunities that teachers are seeking, incentivizing them to remain in the profession.

Part 3. Creating Conditions to Recruit and Retain Teachers for High-Poverty Schools

There is no shortage of research and policy reports on what is needed to recruit and retain teachers for high-poverty schools. Almost 15 years ago, Johnson and colleagues pointed to seven working conditions that can make a difference for recruiting and retaining teachers: (1) *physical features,* such as the suitability of buildings and equipment; (2) *organizational structures* that influence workload, autonomy, and supervisory and collegial arrangements; (3) *sociological components* that influence teachers' roles and status as well as their experiences with students and peers; (4) *political features* that define teachers' power and authority; (5) *cultural dimensions* that frame values, traditions, and norms; (6) *psychological issues* that may support or diminish teachers personally; and (7) *educational policies*, such as those related to teacher education, curriculum, and accountability, that may enhance or constrain what and how teachers can teach.[15]

Our own analyses of North Carolina's TWC survey data, like other investigations, confirm Johnson's conclusions. Using these dimensions, we find that too few schools — particularly among those serving low-income students — provide all, or even most, of the workplace conditions that teachers need to do their jobs well and stay in teaching.

Below we highlight three strategies that our data suggest deserve particular attention. These include improving salaries and respect for teachers, creating incentives for teaching in rural schools, and developing more varied and inclusive opportunities for teachers to lead without leaving the classroom.

Improving Salaries and Respect for Teachers

Salaries mattered, an issue not addressed in the TWC survey, but highlighted by our quantitative findings that salary supplements predict teacher retention. Teachers consistently talked about the need for better teacher salaries — not only as a way to signal respect for the profession, but also as a way to ensure that teaching would allow them to afford to send their own children to college while they were preparing students to be ready for advanced postsecondary education.

Teachers mentioned the large discrepancies between salary supplements that existed and how, depending on the luck of geography, they might leave their home district, drive a short distance, and earn considerably more salary. A teacher from Halifax who later moved to a nearby district said, "We definitely need better pay; our superintendent is great, and he works hard for our schools, but we need to make ends meet." A teacher who began teaching in Alamance later moved to Guilford for a higher teaching supplement as well as "a much better principal."

As this latter comment makes clear, although better salaries matter a great deal, they are not the only element needed to recruit and retain teachers. Leadership was often mentioned. Having a reasonable work-life balance — and being able to focus on teaching — was a major element of the conversation. In each of the focus group interviews, teachers reported that about 50% of their colleagues moonlight, a percentage significantly higher than the national average of 18%.[16] Instead of spending time honing lessons and collaborating with one another, many leave their schools as soon as possible to make it to a second job. We learned of teachers trying to cover more of their living expenses by working after school hours in restaurants and retail stores as well as working in the old and new "gig economies" of Mary Kay and Uber. The need for additional income is making it difficult for teachers to have the time they need to work together to improve their teaching. As noted by one teacher:

> We need a new funding piece not just for smaller classes, but so everyone is able to collaborate. As a special education teacher, I do not have enough time to collaborate with all the regular classroom teachers unless we create time after school to meet. But this is getting more difficult as I still have to work a second job at the Walgreen's to make ends meet.

Teachers talked about how in the past the small raises they received each year to recognize their growing experience in the classroom were important because they would "at least let (them) keep up with the cost of living." They also spoke about respect for the profession. As a teacher from Winston-Salem noted:

> When people do not respect teachers, they (teachers) won't stay. People do not want to stay where they are not valued. Not even for the money. It gets down to what do you think about me as a whole person.

In referring to recent state teaching policies that cut back on teacher scholarships and eliminated extra pay for advanced degrees, another teacher noted:

> Remaining in the classroom is hard when you are constantly the source of the blame (for the ills of public education).

Creating Incentives to Teach in High-Poverty, Rural Schools

Researchers across the nation (and our own studies in North Carolina) continue to document the challenges of recruiting teachers for high-poverty and rural schools — a result of both the decline in enrollments in university teacher education programs as well as consistent turnover from a revolving door of underprepared recruits.

The teachers reported unequivocally that those who are recruited from their school's community are less likely to leave. As one teacher from Robeson told us, "Those who stay here are from here; they know the community." Turnover seems to be most acute for young teachers who move to isolated rural communities. One teacher from one of these communities said:

> *We have teachers coming from New York and New Jersey staying for three years, then going back home and making a lot more money once they have the experience. … They are young, no family here, and they aren't tied to our community.*

Many of these high-poverty, rural schools are proving grounds for newly minted university-trained teachers to develop their pedagogical skills in order to get themselves to districts closer to home with better pay and working conditions. And Teach for America recruits fulfill a service commitment to "good cause" for a few years before moving on to a more prestigious career. As a teacher from Hyde pointed out, his district has very high turnover:

> *Most of the teachers are from up north. They want to get experience for a few years and then go back home. They only will stay if they marry a local.*

Our interviews brought to light a number of the challenges of attracting and retaining teachers for high-poverty, rural schools. For example, teachers from rural school communities — such as Halifax, Hertford, and Northampton — talked about the limited living amenities and lack of affordable, adequate housing. One young teacher from Northampton lamented the distance it took her to drive to the nearest hair salon. Another one talked about the lack of a social life "unless you are an 'outdoorsman.'" Another said, "There is not much for us to do here."

We also learned of other teachers who grew up in some of the state's most rural communities who did not want to return to them. A Pitt County teacher told us:

> *I am from Halifax. I went to East Carolina University. Now, Greenville is not a big city, but it was more than I had ever seen; it was a step up for me. I was student teaching (in Pitt County), and I was hired before I even finished my program. I did not want to go back (to Halifax), and it would take a whole lotta of money for me to return. There is nothing there but farmland.*

However, there are teachers who are committed to staying in rural communities. One teacher informed us of the strengths of so many of these rural communities, including the ethos of family that exudes from almost every word that locals use to describe why they stay in teaching there:

> *Hyde is very small. We have only two campuses. The place is like family. Kids walk to their schools and go home for lunch at 11:30 and then come back (for afternoon classes). I love the place.*

In our interviews, we learned of a special education teacher from a rural school district who began as a teaching assistant and attended a local community college. She is now one of the district's most respected educators and is working on her doctorate. One of her colleagues said, "She is going to be here for us." A young teacher from a neighboring county told us teachers from a community can be the "best recruiters" for future teachers. He is teaching back home because his former band director called him.

As one teacher from Robeson told us, "For many of us, teaching is a calling — and it has to be." Many children come to school hungry and live with violence in their homes and neighborhoods. A teacher from Scotland County noted:

> *I took it as a call from God that I needed to be here. Those that are staying see it that way because the high-need schools need us.*

A Northampton teacher talked about the "divine faith" that it takes to teach in her school district. One of her colleagues talked about how she was connected to the community in which she was reared. There was no other place she would teach. She said:

> *I'm vested here. I tried leaving when I went to college. But I have such rapport with so many teachers and administrators here. My heart is here. As far as me staying for my career, I feel like I need more professional development so my students can get the education I want for my children.*

For those who want to stay, improved salaries and affordable housing are part of the needed solution, along with professional development. One teacher from Hertford, which now has apartments for teachers, talked about the need for additional investments in housing, even in communities that have begun to support new recruits in this way. He bemoaned that his rent was recently "raised to $600 a month," and with his low salary as a beginning teacher and student loans, the apartment has become too expensive for him. He is committed to teaching in his school, but worries about his financial future.

The promise of offering incentives for retired teachers to teach part-time and the power of Grow Your Own programs that tap paraprofessionals and support them through their credentialing programs could offer solutions to some of the challenges of recruitment and retention. However, budget cuts have left fewer teaching assistants from which to develop future teachers. And in some cases, like in Northampton, teaching assistants are needed to drive buses, leaving them with less time and opportunity to enter into a certification program. And in one school district, one teacher, shaking her head as she talked, bewailed the fact that they have been losing teaching assistants to work at Sheetz (a regional convenience store chain) for $12.50 an hour. Stronger salaries for these paraprofessionals could make a difference in their ability to pursue a pipeline to teaching.

Creating Teacher Leadership Opportunities

In 2013, the MetLife teacher survey found that one in four teachers were very interested in serving in hybrid roles that would allow them to both teach and lead.[17] Our interviews with North Carolina teachers revealed similar interests in leadership from the classroom. Several teachers we interviewed taught in districts where teachers could lead a professional development program or participate in a career ladder. But these efforts were not necessarily designed to help teachers share their expertise or solve the problems they saw in serving the needs of their students. As a teacher from Chapel Hill noted of the approach to teacher leadership in many districts:

> *Teacher leadership here in our district is nonexistent. Even when districts in North Carolina try to create these leadership roles for teachers, it becomes: "Here is a whole bunch of stuff that isn't being taken care of and now you have to do it."*

A teacher from a rural, high-poverty school district gave a similar example, stemming from the fact that there are not enough resources and dollars to implement a teacher leadership strategy that works. She said, with exasperation:

> *We do have three teachers who are released to "lead." But in my elementary school, with 374 kids, one principal, and no assistant principal, our lead teacher only does the administrative work of an assistant principal — and for less money.*

Another teacher noted, "There are systems that ask teachers to do more on top of their full-time teaching load, and they call that teacher leadership." Still another described a career ladder approach gone awry:

> *We have this program called Project Advance — it is what our professional development system is now called. It's a royal pain for everybody in our district, and no one — and I mean no one — likes it. It is just a wasteful bureaucratic exercise.*

That said, the interviews also revealed a wide range of areas in which teachers were leading or sought to do so. These included serving as informal mentors for new recruits or student teachers; helping create extended learning opportunities for their high-need students; developing a community-school model; developing curriculum; supporting teaching assistants in becoming fully certified teachers; leading action research; and, for some, advocating for public education. As one teacher from Durham noted:

> *Most teachers would want to be involved in mentoring, curriculum, and coaching … instead of bringing people in for professional development, we create space for teachers to help other folks out, I think in particular in developing other teachers and creating opportunities for more student engagement.*

The interviews made it clear that North Carolina teachers value leadership as a "socially distributed phenomena" that develops over time as they gain efficacy in the context of structured collaboration.[18] They sought help in improving instructional practices and in setting aside the time and space to find the root causes of the problems their students faced and how they could solve them collectively. Their sentiments mirrored other research that has shown that teacher leadership is more about peer influence and problem solving and is rarely "vested in one person who is high up in the hierarchy."[19]

Several years ago, the North Carolina Department of Public Instruction, with support from [Business for Educational Success and Transformation NC](), launched a plan and a pilot of advance roles for teachers in order to recognize them with higher compensation, spur embedded, personalized professional development, extend the leadership capabilities of principals, and improve student outcomes. Ten school districts have pilot programs for master teachers identified to support their peers as instructional coaches.

Teachers in North Carolina are seeking to lead in ways such that they serve as resources for one another and develop a sense of ownership of their professional learning. In some cases, they are beginning to do so. However, our data suggest the importance of developing more inclusive and comprehensive approaches to teacher-leader development in order to accelerate the spread of teaching expertise and collective efficacy among more classroom practitioners.

Part 4. Conclusions and Recommendations

Our research has resulted in more evidence on the importance of school working conditions in improving teacher retention and school performance. We found that collective leadership, from teachers as well as administrators, seems to matter most by involving teachers in decision-making and collaboration in ways that develop collective efficacy among them. Other factors found important to teacher retention and student performance gains are also frequently the result of strong leadership: Student conduct — determined both by the quality of leadership and by the knowledge and skills of educators — matters for both teacher retention and school performance; poor student conduct is often associated with a revolving door of ill-prepared teachers who do not know how to meet the needs of the students. Similarly, the degree of community support and parent engagement are signs of effective leadership and are important because the job of teaching has become bigger than what individual teachers can handle on their own. Professional development, led more by teachers, and the time for PD support collective efficacy, which leads to higher rates of retention.

Our research describes the conditions that enable teachers to do their work more effectively, including wrap-around supports for children that enable them to learn and that reduce trauma in their lives, which involves educators trying to help them. We recommend several policy strategies that can strengthen these conditions:

1. Invest in **principal preparation and professional learning** that enables principals to cultivate collaborative working environments, teacher-led learning, and teacher leaders.

Our research and that of others demonstrates that principals who understand how to create conditions for distributed leadership in their schools and who value and know how to involve teachers in shared decision-making have a strong, positive impact on both teacher effectiveness and teacher retention. Yet other research conducted as part of this project demonstrates that North Carolina faces a declining supply of well-qualified school principals, a relatively inexperienced principal workforce, especially in high-poverty schools, and a principal workforce that does not feel well prepared to recruit and retain teachers or to lead school change efforts. North Carolina currently allocates no state funds to professional development for principals.

Strong models exist in the state for preparing principals, including the North Carolina Principal Fellows program, which has a 25-year track record of success in preparing principals whom research has found to be effective and who are more likely to remain in their positions. The state can:

» Expand and leverage this and other programs — which provide a full-year paid residency or internship working alongside an expert principal — and ensure that both the residency and aligned coursework provide support to principal candidates in learning how to cultivate collaborative working environments that support teacher learning and build teacher leadership, that create community and parent engagement, and that enable students to be well supported in their learning. Policy tools for leveraging these program improvements include licensing and accreditation standards as well as funding for specific program designs.

» Make investments in mentoring, induction, coaching, and other professional learning opportunities for principals, assistant principals, and teacher leaders through a statewide leadership academy (an approach used in more than 20 other states) that trains leaders on how to develop and lead environments that support student and teacher learning.

» Ensure that principal evaluation systems include criteria for building collegial workplaces and cultivating teachers as leaders for school improvement.

2. Build **teacher leadership** and a cadre of expert teachers, especially in high-need schools.

Our research highlighted the strong relationship between teachers' collective efficacy and both teacher retention and student achievement. Our research also highlighted the importance of teacher leadership for developing collective efficacy, and we found that high concentrations of expert teachers in a school (e.g., National Board–certified teachers) are associated with strong student achievement growth. At the same time, teachers told us about the difficulty of building this kind of collective capacity when novice teachers have limited access to mentoring and coaching from expert colleagues.

North Carolina can help build greater capacity in its schools by developing a cadre of teacher leaders across the state who are able to facilitate teacher-led professional learning with their colleagues in person and virtually. This can be accomplished by:

» Providing **incentives for National Board–certified teachers** (NBCTs) to teach in high-poverty schools. North Carolina has long been a leader among states in providing financial incentives for teachers who obtain National Board certification, a policy that has helped the state to distinguish itself in terms of the percentage of NBCTs statewide. However, to address the stark inequities in access to NBCTs between low-poverty and high-poverty schools — a 3:1 difference — the state should consider a multiyear additional stipend for NBCTs who teach in high-poverty schools, a policy that can also serve as a recruitment and retention strategy for these schools. Many other states and districts have adopted such policies, including Alabama, Arkansas, Colorado, Hawaii, Maryland, Mississippi, Montana, Utah, Washington, West Virginia, and Wisconsin.[20] In California, research has suggested that statewide stipend payments of $20,000 (spread over four years) to teachers who had earned National Board certification and worked in low-performing schools expanded access to such teachers in schools serving concentrations of low-income and minority students.[21] The state stipend was paid out over four years only to teachers who stayed in the high-need schools, and many teachers from these schools applied for and were supported in achieving National Board certification by support groups designed to help them reach this goal.

State policy can also better leverage the financial incentives it provides for NBCTs — including additional incentives for NBCTs in high-poverty schools — by linking these incentives to increased opportunities to serve as mentors and instructional leaders. Florida, for example, for a time offered NBCTs both a certification bonus and a mentoring bonus, equivalent to 10% of salary; the mentoring bonus required the NBCT to provide 12 days of mentoring or other support to colleagues.[22]

» Creating and **training statewide cadres of expert mentors and coaches** who can bring mentoring and coaching expertise into schools and districts where they work. North Carolina can grow its cadre of professional learning leaders across the state who are able to facilitate teacher-led professional learning with their colleagues and provide follow-up coaching, which the teachers we interviewed identified as particularly effective. Some states and nations have trained cadres of coaches to assist in implementation of new student standards (e.g., in literacy, mathematics, and science) as well as to address the needs of specific student groups (e.g., English learners, students with disabilities). North Carolina's large contingent of NBCTs, who have had a common professional development experience grounded in deep reflection and are experts in their particular subject area/field as required by the National Board certification process, are one resource for the state to tap in this regard. The state might also build upon current efforts, such as the Advanced Teaching Roles Pilot (see SL 2018-5 Section 7.9), to create new mentoring and coaching roles for teachers and compensation models to support them.

Successful models for this work include Arkansas Math QuEST,[23] a set of sustained professional development institutes with curriculum resources supported by state-trained math coaches and specialists, and California's Instructional Leadership Corps (ILC), a partnership between the National Board Resource Center and the California Teachers Association. This "teachers teaching teachers" model trains teacher leaders to lead ongoing professional learning around the state's new math, science, and English language arts standards within their own districts. In the four years since its inception, the more than 250 teachers and administrators who comprise the ILC have served more than 100,000 California educators in ways that transform practice through school-based learning, develop additional teacher leaders and instructional leadership among administrators, and strengthen the capacity of schools to implement the state standards.[24]

» Rebooting a high-quality statewide **beginning-teacher mentoring program** for all beginning teachers, funded to match the needs of high-poverty schools, which have fewer accomplished teachers in them to support new recruits. Teachers who are better prepared and better mentored stay in teaching at much higher rates and are more successful, especially in high-need environments. Although North Carolina offers mentoring and induction for a limited subset of novice teachers, this type of support is not widely available, a factor repeatedly identified in our interviews and focus groups as negatively impacting collective teacher efficacy. A large cadre of NBCTs and other teacher leaders who can be tapped for mentoring and other leadership roles — particularly in high-poverty schools with large percentages of inexperienced and underprepared teachers — can bolster the state's ability to provide support to all novice teachers.

3. Expand and focus resources on **professional development** in high-need areas.

The once-extensive infrastructure and funding for professional development in North Carolina has been greatly reduced, and many teachers report that what is being offered often fails to meet the standards of high-quality professional development: sustained over time, featuring active learning and collaboration for teachers, and content-focused and job-embedded, with opportunities for developing new practices supported by coaching and reflection.[25]

Meanwhile, the 2018 TWC survey results, as well as our interviews and focus groups, reveal a number of closely related areas in which a majority of North Carolina teachers say they need more professional development, including differentiating instruction, serving students with disabilities in special education, closing the achievement gap, and integrating technology into instruction. Our interviews and other research conducted for this project also suggest that teachers need and want additional professional development in social-emotional learning and restorative practices, as well as in trauma-informed practices and culturally responsive teaching. The latter is particularly important given the demographic mismatch between North Carolina's teaching workforce — 80% White — and its student population, which is 52% students of color and has a rapidly growing immigrant student population.

In addition to developing a leadership cadre to support professional learning in the state's schools, North Carolina can further support these needs by:

» Leveraging P-20 (or preshool through college) partnerships — as well as technology — to develop and support **professional learning for educators** within their subject and grade level to support their curriculum, instruction, and assessment learning. Blended communities of practice within content areas, such as the subject matter projects run in several states, organized and supported by P-20/school-university partnerships on a regional basis, and assisted by technology (especially for isolated rural communities), could meet this need. These partnerships could also reduce siloes between preservice and in-service teacher development.

» Expanding and focusing resources on **professional development in high-need communities** with high-quality models (e.g., strong institutes with expert coaching) where teachers report they need support for:

- Special education and differentiated instruction
- Culturally responsive teaching
- Trauma-informed practices
- Social-emotional learning and restorative practices
- Development of community schools

» Creating a personalized **professional development plan** for new teachers — and potentially all teachers — in North Carolina to guide induction and professional development. Teachers across North Carolina enter teaching through diverse pathways and need more customized learning opportunities, which can be

spurred by the use of data from the state's assessment of student teachers, the edTPA (a well-developed teacher licensing exam), and early teaching evaluations.

4. Invest in **teaching and learning conditions** that influence retention and effectiveness.

Our research findings point to the critical role that community support and parent engagement play in teacher retention and school performance. The overwhelming physical, social, and mental health needs of students, particularly in high-poverty schools — combined with a lack of in-school and out-of-school resources to meet those needs — leave many teachers feeling overwhelmed and ineffective and drive them from the classroom. State investments are needed to make widely available the physical, mental, and social services — including adequate counselors, nurses, and social workers — for students and their families that will enable students to thrive in school. This can be accomplished by:

» Continuing the biennial **Teacher Working Conditions survey** and strengthening systems to use the results of these surveys to inform school, district, and state improvement.

» Creating **community schools** that enable schools to provide resources, opportunities, and supports to address out-of-school barriers to learning.[26] Some North Carolina communities have made a sizable investment in community-school and wraparound programs, which the state can further build on by providing funds and technical assistance to school districts and community partners. It is important to note that the community-school model, whose key features also include collaborative practices and leadership as well as family and community engagement, can help to address some additional drivers of teacher attrition identified in our research.

» Revising the **accountability system** to create a dashboard approach that better informs improvement because it provides evidence about the opportunities and conditions associated with learning that may need to be improved — and does so with less stigma to schools and practitioners, which our research and other studies find increases attrition.

To sum up, teaching and learning conditions matter a great deal for teacher retention and school performance. Our findings mirror those of a wide range of other studies that show strong relationships between the "character" of the workplace and the overall quality of teaching as well as why teachers leave (or stay) and its overall impact on school improvement. Our quantitative analyses point to which conditions seem to matter most for retention and school performance; our qualitative data reveal how they matter.

Our study offers additional insights into how the state of North Carolina can offer a sound, basic education to every student. In order for high-quality teaching to be in place, well-prepared teachers need to work under teaching and learning conditions that enable them to teach effectively. These more nuanced findings should help the state create a comprehensive roadmap for both excellence and equity for every public school student — and the teachers and administrators who serve them every day.

Appendix A: Factors From Teacher Working Conditions Survey

Factor 1: Teacher and School Leadership   **Factor Loading**

Original TWC Domains	Items Loaded as Factor 1	
Teacher Leadership	Teachers are recognized as educational experts.	0.75
Teacher Leadership	Teachers are trusted to make sound professional decisions about instruction.	0.77
Teacher Leadership	Teachers are relied upon to make decisions about educational issues.	0.78
Teacher Leadership	Teachers are encouraged to participate in school leadership roles.	0.70
Teacher Leadership	The faculty has an effective process for making group decisions to solve problems.	0.75
Teacher Leadership	In this school, we take steps to solve problems.	0.76
Teacher Leadership	Teachers are effective leaders in this school.	0.70
School Leadership	There is an atmosphere of trust and mutual respect in this school.	0.81
School Leadership	Teachers feel comfortable raising issues and concerns that are important to them.	0.85
School Leadership	The school leadership consistently supports teachers.	0.82
School Leadership	Teacher performance is assessed objectively.	0.78
School Leadership	Teachers receive feedback that can help them improve teaching.	0.72
School Leadership	The procedures for teacher evaluation are consistent.	0.75
School Leadership	The school improvement team provides effective leadership at this school.	0.67
School Leadership	The faculty are recognized for their accomplishments.	0.70

Factor 2: Professional Learning and Collaboration

Original TWC Domains	Items Loaded as Factor 2	
PD	Sufficient resources are available for PD in my school.	0.79
PD	An appropriate amount of time is provided for PD.	0.78
PD	PD offerings are data driven.	0.76
PD	Professional learning opportunities are aligned with the school's improvement plan.	0.76
PD	PD is differentiated to meet the individual needs of teachers.	0.64
PD	PD deepens teachers' content knowledge.	0.57
PD	Teachers have sufficient training to fully utilize instructional technology.	0.56
PD	Teachers are encouraged to reflect on their own practice.	0.56
PD	In this school, follow-up is provided from PD.	0.71
PD	PD provides ongoing opportunities for teachers to work with colleagues to refine teaching practices.	0.74
PD	PD is evaluated, and results are communicated to teachers.	0.69
PD	PD enhances teachers' ability to implement instructional strategies that meet diverse student learning needs.	0.71
PD	PD enhances teachers' abilities to improve student learning.	0.68

Factor 3: Community Support and Parent Engagement

Original TWC Domains	Items Loaded as Factor 3	
Community Support	Parents/guardians are influential decision makers in this school.	0.86
Community Support	This school maintains clear, two-way communication with the community.	0.64
Community Support	This school does a good job of encouraging parent/guardian involvement.	0.65
Community Support	Teachers provide parents/guardians with useful information about student learning.	0.62
Community Support	Parents/guardians know what is going on in this school.	0.74
Community Support	Parents/guardians support teachers, contributing to their success with students.	0.82
Community Support	Community members support teachers, contributing to their success with students.	0.78
Community Support	The community we serve is supportive of this school.	0.84

Factor 4: Teachers' Collective Efficacy and Instruction

Original TWC Domains	Items Loaded as Factor 4	
Instructional Practices and Support	Teachers believe almost every student has the potential to do well on assignments.	0.62
Instructional Practices and Support	Teachers believe what is taught will make a difference in students' lives.	0.63
Instructional Practices and Support	Teachers require students to work hard.	0.72
Instructional Practices and Support	Teachers collaborate to achieve consistency on how student work is assessed.	0.62
Instructional Practices and Support	Teachers know what students learn in each of their classes.	0.66
Instructional Practices and Support	Teachers have knowledge of the content covered and instructional methods used by other teachers at this school.	0.64

Factor 5: Reliable Instructional Resources

Original TWC Domains	Items Loaded as Factor 5	
Facilities/Resources	Teachers have sufficient access to digital content and resources.	0.56
Facilities/Resources	Teachers have sufficient access to instructional technology.	0.81
Facilities/Resources	Teachers have access to reliable communication technology.	0.85
Facilities/Resources	Teachers have sufficient access to office equipment and supplies.	0.66
Facilities/Resources	The reliability and speed of Internet connections in this school are sufficient to support instructional practices.	0.64
Facilities/Resources	Teachers use digital content and resources in their instruction.	0.59

Factor 6: Time for Teaching

Original TWC Domains	Items Loaded as Factor 6	
Time	Class sizes are reasonable, such that teachers have the time available to meet the needs of all students.	0.67
Time	Teachers have time available to collaborate with colleagues.	0.61
Time	Teachers are allowed to focus on educating students with minimal interruptions.	0.54
Time	The noninstructional time provided for teachers in my school is sufficient.	0.73
Time	Efforts are made to minimize the amount of routine paperwork teachers are required to do.	0.69
Time	Teachers have sufficient instructional time to meet the needs of all students.	0.75
Time	Teachers are protected from duties that interfere with their essential role of educating students.	0.52

Factor 7: Support for Student Conduct

Original TWC Domains	Items Loaded as Factor 7	
Student Conduct	Students at this school understand expectations for their conduct.	0.66
Student Conduct	Students at this school follow rules of conduct.	0.60
Student Conduct	Policies and procedures about student conduct are clearly understood by the faculty.	0.60
Student Conduct	School administrators consistently enforce rules for student conduct.	0.62
Student Conduct	School administrators support teachers' efforts to maintain discipline in the classroom.	0.56
Student Conduct	Teachers consistently enforce rules for student conduct.	0.52
Student Conduct	The faculty work in a school environment that is safe.	0.47

Factor 8: Conducive Teaching and Learning Environment

Original TWC Domains	Items Loaded as Factor 8	
Facilities/Resources	The school environment is clean and well maintained.	0.74
Facilities/Resources	Teachers have adequate space to work productively.	0.79
Facilities/Resources	The physical environment of classrooms in this school supports teaching and learning.	0.75

Factor 9: Useful Student Assessment Data

Original TWC Domains	Items Loaded as Factor 9	
Instructional Practices and Support	State assessment data are available in time to impact instructional practices.	0.83
Instructional Practices and Support	Local assessment data are available in time to impact instructional practices.	0.69
Instructional Practices and Support	State assessments can accurately gauge students' understanding of standards.	0.74

Appendix B: North Carolina's School Performance Model

The North Carolina School Performance Grades are based 80% on the school's achievement score (calculated using a composite method based on the sum of points earned on all of the indicators measured for that school) and 20% on students' academic growth (compares the actual performance of the school's students with their expected performance based on their prior testing performance).

There are several indicators that are used to calculate an elementary or middle school's achievement score. K–8 schools use the following indicators where applicable: (1) End-of-Grade Reading (grades 3–8); (2) End-of-Grade Math (grades 3–8); (2) End-of-Grade Science (grades 5 and 8); (4) End-of-Course Math I; and (5) End-of-Course Biology.

When calculating the achievement score for each indicator, the percentage of students who score at or above Level 3 on each assessment is divided by the total number of students for that indicator. To get the total School Achievement Score, the total number of proficient scores for all indicators are added and then divided by the total number of scores for all indicators.

The school's Growth Score is generated by using the Education Value Added Assessment System (EVAAS). The EVAAS is a value-added growth model that uses end-of-grade and end-of-course assessment data to measure the amount of growth that groups of students make in a year. The EVAAS calculates a composite index of growth, which determines the growth designation for the school: exceeds expected growth, meets expected growth, or does not meet expected growth. For the purposes of the School Performance Grades, the growth composite index also is converted to a 100-point scale so that it can be combined with the School Achievement Score to create the overall School Performance Grade.

The North Carolina State Board of Education uses the EVAAS to calculate student growth values with results from the End-of-Course assessments, the End-of-Grade assessments, the Career and Technical Education state assessments, and the North Carolina Final Exams.

Appendix C: Focus Group Interviews

Between June and August 2018, researchers from the Learning Policy Institute and the Center for Teaching Quality conducted three separate focus group interview sessions with a representative sample of 30 North Carolina teachers from high- and low-poverty schools, located in urban, suburban, and rural communities. The teaching experience of the teachers ranged from one year to more than 30 years. Preparation pathways into teaching also varied greatly (e.g., university-based, lateral entry, Teach for America, international recruits).

Interviews took place in small groups of 8 to 12 each, lasted approximately 90 minutes, and revealed a range of contextual factors that influence how teachers' working conditions affect their retention and school performance. Interviews were coded for themes and analyzed by typology of teachers (age, experience, geography). About one in three of the teachers talked of either leaving teaching or moving to another school in the next academic year, and our analysis reflects the differences between them and those who were not planning to leave their schools at the time of our interviews.

Teacher Interview Protocol

Introduction

Thank you for participating in today's focus group. My name is — — . I work for the Learning Policy Institute (LPI). LPI, in partnership with WestEd, was appointed by the Supreme Court of North Carolina (the Court) as an independent consultant in the *Leandro* litigation to develop an action plan to ensure North Carolina children have an equal opportunity to obtain a sound basic education. Your feedback about your experiences as teachers will be used to inform the development of the action plan.

Confidentiality. What you tell us will be kept confidential in that we will not use your name or the school you work in, and we will not attribute any quotes to individuals. All the data we gather from focus groups will be synthesized and summarized, and you will not be identifiable in our reports. However, we will be taking notes today, and we will record if no one has an objection. The purpose of the recording is to clarify our notes; we will destroy recordings upon completion of our summary.

We promise to not identify you in any summary of these focus groups. We also explicitly ask you as participants not to share what other participants/your colleagues share in this focus group. Please respect the privacy and

confidentiality of this focus group and agree/pledge not to share what you hear in this group with others who are not present.

Process. There are no right or wrong answers; we are seeking your experiences and observations, and we are also seeking your opinions, so please be as candid as possible. This is an informal session; think of it as a conversation among yourselves. My role is to ask questions, listen, take notes, and keep you on track. We have a lot of topics we want to cover, so I may move us along in the conversation — apologies in advance if I cut a topic short. We want to be sure everyone has a chance to contribute, and we don't expect everyone to agree. We welcome all ideas, opinions, and points of view. If you are uncomfortable sharing something or think of something later today or tomorrow that you wish you had shared, please feel free to contact me (hand out business cards). Are there any questions before we begin?

Questions

Ask teachers to introduce themselves. What do they teach and how long have they been teaching at this school?

1. Tell us about your teaching in current district.
   (a) How did you come to teach here? (how recruited; where were you before)
   (b) How might your story be different from other teachers in your building?
   (c) Do you see yourself staying here? Why or why not?
   (d) Where would you go next? If not, is there anything that would convince you to stay?
2. Describe your teaching colleagues.
   (a) What percentage of teachers at your school would you say are new/inexperienced? Not fully trained? Are there enough experienced/expert teachers to mentor the novice teachers? (mix of colleagues)
3. Describe teacher retention and turnover in your school. What would it take to be able to recruit and retain qualified teachers in your district?
4. The research we are conducting will be used to inform an action plan for the Court in the *Leandro* lawsuit, to inform the Court's decisions about what the state must provide to ensure every North Carolina child has access to a sound basic education.
   (a) If there's one thing you could tell the Court that would improve educational opportunities for your students and the students of North Carolina, what would it be?
   (b) If there's one thing you could tell the Court that would improve teacher recruitment and retention in North Carolina, what would it be? (if not covered in Question 3 above)
   (c) What do you need to do or provide in order for your students to succeed that you are currently not able to do/provide? (That is, what unmet needs do you have?)
   (d) What barriers prevent you from meeting these needs?
   (e) What are the bright spots (e.g., schools/programs/services) that are working well and should be expanded?

5. What is it like to teach at your school and in this community?

   (a) Describe the students in your school. (strengths/needs)

   (b) Describe the community that your school serves. (parents/support services)

6. Let's chat about your training for teaching. How has your teacher preparation readied you for teaching here? How hasn't it?

7. What opportunities do you have to collaborate with other teachers/staff at your school? (common planning time; grade-level or department meetings; etc.)

   (a) How often do these collaboration opportunities occur and how long does each typically last?

   (b) Are these collaboration opportunities part of the structure of the school day or are they more informal?

   (c) How, if at all, does this collaboration help you improve your teaching or better meet your students' needs?

8. How would you describe school leadership at your school?

   (a) Tell us about the principalship in your school for the time you have taught in it. (tenure, role, turnover)

   (b) How would you describe the leadership of the principal in your school? How are decisions made?

   (c) How would you describe teacher leadership and opportunities for teacher leadership at your school? Are there formal teacher leadership roles and responsibilities that are paid (e.g., department head, mentor)? Are there informal leadership opportunities? Does your school have established career pathways for teachers?

9. How would you describe professional development for teachers in this school?

   (a) How often do you have professional development in this school?

   (b) What is the focus of your professional development?

   (c) What is the structure of the professional development? (ongoing, one-off after-school workshops, coaching, etc.) Is it connected to the collaboration we just talked about?

   (d) Is the professional development you receive effective in helping you improve or fine-tune your teaching?

10. How does the state's school testing and school accountability system impact you? How does it impact your students?

11. How do teachers receive feedback on their teaching practice?

   (a) How often and from whom do you receive feedback?

   (b) Would you characterize the feedback as meaningful?

   (c) What is the feedback often focused on?

   (d) How do you use feedback?

12. Would you describe this as a safe place to work? Why or why not?

   (a) Are rules consistently enforced in this school?

   (b) What role do principals/administrators play in creating a safe environment?

13. Is there something we haven't asked you about that would be important for us to know?

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