Teacher Working Conditions Are Student Learning Conditions

A Report on the
2006 North Carolina
Teacher Working Conditions Survey

By
Eric Hirsch and Scott Emerick
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CTQ CENTER FOR TEACHING QUALITY

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The Center for Teaching Quality improves student learning through developing teacher leadership, conducting practical research and engaging various communities. To accomplish this mission, the Center for Teaching Quality strives to shape policies that ensure:

- **Students**, no matter what their background or where they go to school, are ready to learn; with
- **Teachers** who are caring, qualified, and competent with vast content knowledge and the ability, through quality preparation and ongoing development and support, to ensure that all children can learn; in
- **Classrooms** that have adequate resources and provide environments conducive to student learning; in
- **Schools** that are designed to provide teachers with sufficient time to learn and work together in collaboration with a principal who respects and understands teaching; in
- **Districts** that have policies and programs that support the recruitment, retention and development of high quality teachers in every school; in
- **States** that have well-funded systems that include rigorous preparation and licensing with evaluation tools that ensure performance based standards are met; in a
- **Region** that works collaboratively, using common teaching quality definitions, sharing data, and working across state lines to recruit, retain and support high quality teachers; in a
- **Nation** that views teaching as a true profession and values teachers as one of its most important resources.

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Most importantly, we would like to extend our sincere appreciation to the approximately 75,000 dedicated educators who were willing to share their time and input while they are striving to ensure that North Carolina students achieve at the highest levels. We hope this data and these findings will help you make your school a great place to work and learn.

Executive Summary

Governor Easley has made a sustained commitment to listening to educators and reforming schools to create the working conditions necessary for student and teacher success. With three iterations of the working conditions survey and about 150,000 responses to critical questions about their workplace, analyses have been consistent and clear. The conditions teachers face in schools and classrooms, though often overlooked, are essential elements to student achievement and teacher retention. As the Governor aptly notes, "teacher working conditions are student learning conditions."

Data from the previous surveys in 2002 and 2004 indicate that improving teacher working conditions—time, professional development, leadership, empowerment, and facilities and resources—will improve student learning conditions and help retain teachers.

In 2006, 66 percent of school-based licensed educators (more than 75,000) responded to the voluntary North Carolina Teacher Working Conditions Survey. More than 85 percent of the state's schools (1,985) reached the minimum response rate (40 percent) necessary to have valid data, providing information needed to gauge the successes and areas of concerns in their own schools and communities.

Findings

1. Teacher Working Conditions are Student Learning Conditions
The overall findings from the analysis regarding the impact of teacher working conditions on student achievement and academic growth provide compelling evidence to support the notion that teacher working conditions are student learning conditions. School leaders that can empower teachers, create safe school environments and develop supportive, trusting climates will be successful in promoting student learning.

2. Teacher Working Conditions Affect Teacher Retention
School leadership and empowerment are essential to retaining teachers. Effective leadership that provides sufficient planning time and empowers teachers in a trusting environment where they feel supportive is the key ingredient to stemming teacher attrition.

3. Teachers and Administrators View Working Conditions Differently
There are considerable gaps between the perceptions of teachers and administrators regarding the degree to which school leadership addresses teacher concerns. While some discrepancies might be expected between administrators and teachers on a measure of leadership effectiveness, the degree of these discrepancies is startling and must be taken into consideration for any working conditions reforms to be successful.

4. **Teacher Working Conditions in North Carolina Have Improved and Are Better Than in Other States**

Improvements between 2004 and 2006 are especially evident when working conditions in North Carolina are compared to other states. Teachers in North Carolina noted more positive working conditions than educators in Kansas, Arizona, Ohio and Clark County, Nevada (Las Vegas), all locales that replicated the North Carolina Working Conditions Initiative.

5. **Working Conditions Results Were More Likely to Improve in Schools Where Teachers Indicated that They Had Used Prior Survey Results**

At the elementary and middle school levels, schools where results were not used saw, on average, sharp declines in the proportion of teachers agreeing that leadership and empowerment conditions were in place.

6. **Schools Vary in the Presence of Teacher Working Conditions**

Schools serving a lower percentage of economically disadvantaged students consistently had more positive working conditions on critical issues such as school safety and trust. But, teachers in high-poverty schools were more likely to note the presence of sufficient class sizes and resources for professional development that provided enhanced knowledge and skills.

More in-depth analyses of each of the five working conditions areas (along with mentoring and induction) are also provided within the body of this report.

Recommendations

From these findings and the domain analyses, recommendations for North Carolina are offered to enhance continued efforts to improve teacher working conditions.

1. Bolster School Improvement Teams (SITs) and Find Other Ways to Appropriately Engage Teachers in Decision Making

   - Conduct a thorough audit of the SIT process across the state.
   - Provide more structured guidance and technical assistance to SITs in engaging in appropriate school-based decision making.
   - Consider areas where teachers can be appropriately engaged in decision making and ensure that they have the knowledge and skills necessary to make the right decisions.

2. Continue Investments in School Leadership and Supportive School Communities

   - Target funding for professional development toward principals and teacher leaders to collaboratively improve working conditions.
   - Ensure that working conditions analysis and reform is a community effort as described in the report.

3. Provide Support for Schools to Reform Teacher Working Conditions

   - Create professional development modules and usable tools for schools to support working conditions data analysis and the creation of data-driven strategies for improving working conditions.
   - Create working conditions assistance teams—comprised of teachers, principals and other educators from schools with positive climates—to assist schools who request help in reforming working conditions.
   - Ensure resources are available to supports schools in implementing data-driven working conditions reform, with priority going to high-needs schools.
   - Develop a working conditions web portal that documents schools with positive working conditions and amasses success reform models.

4. Investigate Principal Working Conditions and Other Local and State Impediments to Creating Positive School Environments

   - Conduct a working conditions survey of principals to better understand their working conditions and the impact of district and state policies on their ability to lead at the school level.
   - Conduct focus groups with school and district leaders about local and state policies that influence teacher working conditions.

Ensuring a qualified teacher for every student is not enough to close the achievement gap. Teachers must have the resources and support they need to serve all students well, and without comprehensive sustained efforts to improve teacher working conditions, much of the states' notable school reform efforts could go unfulfilled.

Introduction

Research has consistently demonstrated that teachers make a greater difference in student achievement than any other single school factor. However, across North Carolina and throughout the nation, many districts struggle to find and keep the quality teachers necessary for all students to learn at high levels. The 2005-2006 state average district-level teacher turnover rate is 12.58 percent, and in many schools, more than 20 percent of teachers consistently leave the school to teach elsewhere or quit the profession altogether.

Turnover comes at great expense, both in the negative cumulative effect on student achievement and as a financial drain to the state and districts that repeatedly prepare, recruit and support teachers for the same position

For virtually any business or organization, the conditions in which employees work drive their satisfaction and productivity. Schools are no different. North Carolina data indicate that improving teacher working conditions—time, professional development, leadership, empowerment, and facilities and resources—will improve student learning conditions and help retain teachers.

National research demonstrates the importance of addressing school conditions to improve teacher retention. Teachers who leave schools cite an opportunity for a better teaching assignment, dissatisfaction with support from administrators and dissatisfaction with workplace conditions as the main reasons why they seek other opportunities.[1] Teachers indicate that a positive, collaborative school climate and support from colleagues and administrators are the most important factors influencing whether they stay in a school. In national surveys, teachers identified excessive workload, lack of time and frustration with reform efforts as areas in need of focus and improvement.[2] Additionally, a recent survey of 2,000 educators from California found that 28 percent of teachers who left before retirement indicated that they would come back if improvements were made to teaching and learning conditions. Monetary incentives were found to be less effective in luring them back.[3]

Findings from the Center for Teaching Quality's analysis of the 2004 North Carolina Teacher Working Conditions Survey demonstrated that supportive school environments where teachers are partners in decision making with school leaders who have a strong instructional emphasis are not just critical to keeping teachers, but improving student learning. The 2004 data showed that schools where teachers agreed that these critical working conditions were in place were more likely to receive a top designation on the state's ABC student performance measure and make Adequate Yearly Progress (AYP) (when controlling for student poverty, school size and other factors).[4]

Addressing these working conditions and building a sense of trust in schools are critical factors in reforming schools, as both have been linked to greater teacher effectiveness.[5] One of the most extensive examinations of working conditions data revealed "a clear but difficult lesson: if we want to improve the quality of our teachers and schools, we need to improve the quality of the teaching job."[6]

Teacher working conditions matter, and districts need to consider and respond to data from those whose perceptions matter most: their own classroom teachers who are intimately aware of the successes and areas of concerns in their own schools and communities. The North Carolina Teacher Working Conditions Survey continues to provide educators, stakeholders, policymakers and the community with this critical understanding of the status of working conditions in schools across North Carolina.

About the Survey

Governor Easley began the North Carolina Teacher Working Conditions Initiative in 2002 with a voluntary 39-question survey instrument to assess whether or not state working conditions standards developed by the North Carolina Professional Teaching Standards Commission were being met. The survey was redesigned and administered online across the state again in 2004.

In 2006, about two-thirds of school-based licensed educators (66 percent, or more than 75,000 educators) responded to the North Carolina Teacher Working Conditions Survey (for a copy of the survey go to www.northcarolinatwc.org). More than 85 percent of the state's schools (1,985) reached the minimum response rate (40 percent) necessary to have valid data, providing them with the information they need to gauge the successes and areas of concerns in their own schools and communities. It also provided the Center for Teaching Quality a rich set of data for conducting analyses on school-level working conditions.

About the Report

This report demonstrates that teaching and learning conditions are critical to increasing student achievement and retaining teachers. Teachers' responses on the North Carolina Teacher Working Conditions Survey helped to explain a significant amount of the differences across schools in student performance on overall achievement and academic growth measures. Teacher working conditions also help to explain teacher retention, particularly the presence of an atmosphere of trust and respect. Six primary findings are documented in the report:

1. Teacher Working Conditions are Student Learning Conditions
2. Teacher Working Conditions Affect Teacher Retention
3. Teachers and Administrators View Working Conditions Differently
4. Teacher Working Conditions in North Carolina Have Improved and Are Better Than in Other States
5. Working Conditions Results Were More Likely to Improve in Schools Where Teachers Indicated that They Had Used Prior Survey Results
6. Schools Vary in the Presence of Teacher Working Conditions

In addition to the general findings, in-depth analysis of each of the five teaching and learning domains is also provided. Teachers' responses are explored, general trends are presented and broad recommendations for reform are offered.

Ultimately, the success of the North Carolina Teacher Working Conditions survey hinges on schools and the district using the findings in this report to prompt discussions with practitioners, stakeholders and the public at large and to ultimately make improvements identified as necessary by their own teaching corp. The recommendations are intended to help develop and implement customized, data-driven reforms integrated with broader school and district improvement plans.

This report indicates the importance of teacher working conditions for improving student learning and teacher retention, consequently making efforts to reform working conditions worthy of considerable time and resources. Teachers must have the resources and supports they need to serve all students well, and without comprehensive and sustained efforts to improve teacher working conditions, much of North Carolina's notable teacher recruitment and school reform efforts could go unfulfilled.

Major Findings

Finding One: Teacher Working Conditions Are Student Learning Conditions

Research from previous initiatives in North and South Carolina and Clark County, Nevada demonstrated clear connections between the conditions of work faced by teachers and their ability to impact student learning. Across these states, aspects of all five teaching and learning conditions domains—time, empowerment, leadership, professional development, and facilities and resources—were connected to improved school level performance on state assessments.[1]

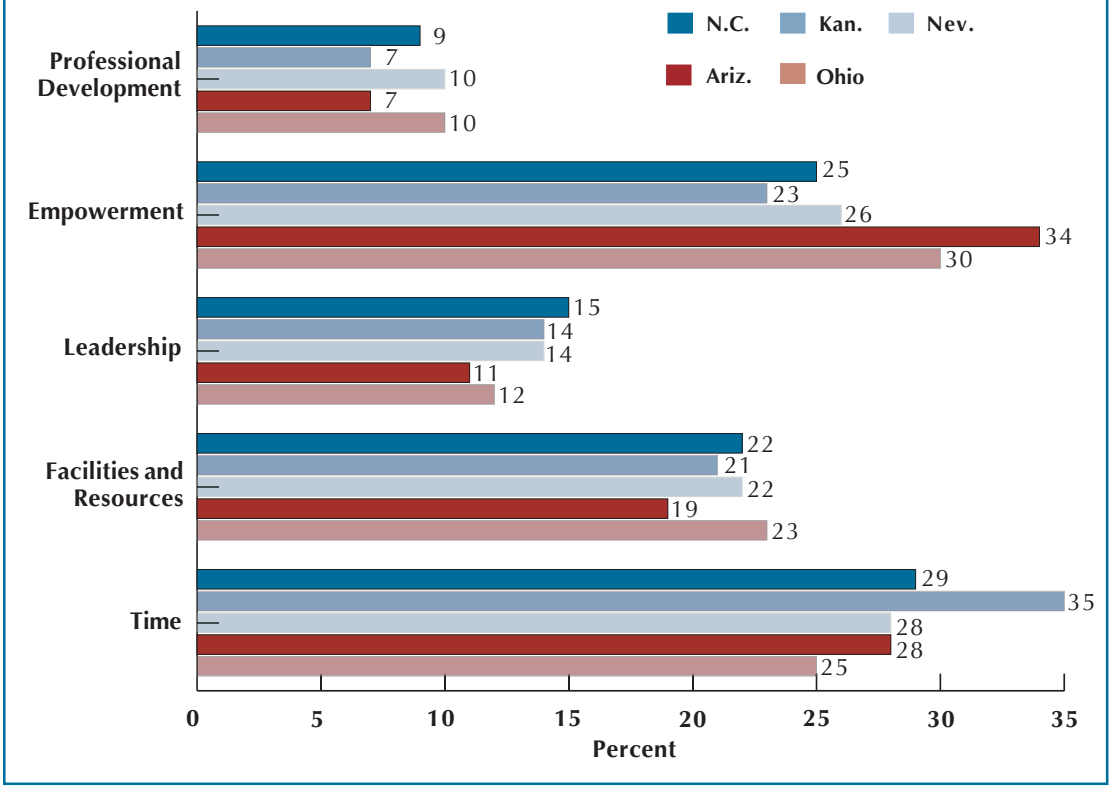
Teachers are clear as to which domains they believe are most critical to improving student learning. In general, teachers in North Carolina and across the nation believe that if they are given sufficient time and control over what they do, their students will learn (Figure 1). North Carolina teachers in particular believe that time is the key to their success with children. Almost one-third (29 percent) believe time—encompassing issues such as class size, non-instructional time available, non-essential duties assigned, interruptions and paperwork—is the most important achievement element and one-quarter indicated empowerment is most critical. North Carolina teachers were slightly more likely than their peers from across the country to indicate that leadership was the most important (15 percent) factor to them in improving student learning.

Several sets of analyses were conducted to better understand the connections between working conditions and student learning. First, an examination of working conditions domains and questions was analyzed by looking at overall performance by quartile and then by investigating student growth measures. Second, correlations between working conditions and overall performance were examined. Finally, statistical models for both overall performance and academic growth were created in order to see the relationship between learning and working conditions while controlling for important student, teacher and school characteristics.

Variation in Working Conditions Relative to Overall Performance and Academic Growth

There are consistent and significant differences in the presence of working conditions in the areas of empowerment, leadership and facilities and resources across all school levels (Table 1). However, few differences are evident in the areas of time (the working condition deemed most critical by teachers in improving student learning) and professional between the highest and lowest performing schools in the state. Some trends can be seen by examining the top five questions with the greatest variance between low and high performing schools at all levels:

Figure 1. Aspect of Working Conditions Teachers Believe Is Most Important to Student Learning



- The impact of several leadership areas can be seen. ***First and foremost, the presence of an atmosphere of trust and mutual respect appears to vary significantly across high and lower performing schools***. Seventeen percent more teachers in the highest-performing schools note a trusting environment than the schools with the lowest student achievement. Additionally, school leadership's ability to shield teachers from interruption and the creation/utilization of a strong School Improvement Team differ between high and low performing schools.

- ***Most important amongst those issues for all schools appears to be the presence of a safe school environment***. Nearly 20 percent more educators in high performing schools agree or strongly agree that their school is safe at all school levels than educators in the lowest performing schools. Access to sufficient instructional materials was also significantly different across the performance quartiles.

- ***The working conditions questions with the greatest variations are relatively consistent across school type.*** Elementary, middle and high schools see noticeable differences across low and high performers on several similar issues.

In general, there are similar findings when looking at whether or not schools met or exceeded student growth targets set for each school by the State Board of Education (Table 2). Academic change is examined by looking at individual student performance on end-of-grade assessments relative to the previous two years and ensuring that he or she made similar gains.[2]

Table 1. Working Conditions by Performance Composite Quartiles

Domain/Question (percent that agree/ strongly agree)	Lowest Quartile	2nd Quartile	3rd Quartile	Highest Quartile	Difference Between Highest and Lowest
Elementary School					
Time Domain	3.10	3.07	3.10	3.13	0.03
Facilities and Resources	3.53	3.61	3.69	3.80	0.28
Empowerment	3.34	3.43	3.47	3.58	0.24
Leadership	3.45	3.55	3.64	3.76	0.30
Professional Development	3.41	3.39	3.41	3.45	0.04
The school environment is safe	73.5%	83.6%	88.5%	91.9%	18.4%
There is an atmosphere of trust and mutual respect	54.6%	62.0%	66.0%	71.8%	17.2%
School leadership shields teachers from interruptions	52.8%	57.6%	63.3%	68.2%	15.5%
Teachers have sufficient access to appropriate instructional materials	65.4%	72.1%	75.0%	79.8%	14.5%
The School Improvement Team is effective	51.3%	56.6%	60.3%	65.1%	13.8%
Middle School Performance Composite					
Time Domain	3.10	3.07	3.07	3.14	0.04
Facilities and Resources	3.52	3.60	3.66	3.79	0.27
Empowerment	3.33	3.41	3.45	3.57	0.24
Leadership	3.44	3.54	3.61	3.74	0.30
Professional Development	3.41	3.39	3.40	3.44	0.03
The school environment is safe	72.1%	82.3%	87.1%	91.4%	19.3%
There is atmosphere of trust and mutual respect	53.6%	61.6%	63.6%	71.4%	17.8%
School leadership shields teachers from interruptions	51.5%	57.4%	61.5%	67.6%	16.1%
Teachers have sufficient access to appropriate instructional materials	64.4%	71.4%	73.8%	79.2%	14.9%
The School Improvement Team provides effective leadership at this school	50.7%	54.7%	57.9%	64.4%	13.7%
High School Performance Composite					
Time Domain	3.11	3.07	3.07	3.13	0.02
Facilities and Resources	3.52	3.58	3.63	3.78	0.26
Empowerment	3.32	3.39	3.44	3.56	0.24
Leadership	3.43	3.52	3.58	3.73	0.30
Professional Development	3.41	3.40	3.39	3.44	0.03
The school environment is safe	71.3%	81.0%	85.8%	90.9%	19.7%
There is an atmosphere of trust and mutual respect	53.1%	60.1%	62.8%	70.5%	17.5%
School leadership shields teachers from interruptions	51.4%	56.2%	59.7%	67.3%	15.9%
Teachers have sufficient access to appropriate instructional materials	63.6%	71.0%	72.5%	78.7%	15.1%
The faculty has a common vision	60.2%	64.9%	68.2%	74.4%	14.1%

Table 2. Working Conditions by Academic Growth Expectations

Domain/Question (percent that agree/ strongly agree)	Less Than Expected	Expected Growth	High Growth	Difference Between Less and High
Elementary School Growth Expectations				
Time Domain	3.00	3.07	3.15	0.16
Facilities and Resources	3.64	3.72	3.83	0.19
Empowerment	3.43	3.54	3.63	0.19
Leadership	3.58	3.71	3.79	0.21
Professional Development	3.45	3.46	3.51	0.06
Teachers have a large or primary role in school improvement planning	41.9%	48.5%	52.1%	10.2%
There is an atmosphere of trust and mutual respect	60.7%	67.5%	70.7%	10.1%
Teachers have sufficient access to office equipment	52.8%	72.7%	77.5%	10.1%
School leadership shields teachers from interruptions	65.4%	66.0%	70.0%	9.8%
School leadership consistently enforces rules for student conduct	58.7%	64.1%	68.3%	9.6%
Middle School Growth Expectations				
Time Domain	3.10	3.17	3.31	0.21
Facilities and Resources	3.53	3.65	3.91	0.38
Empowerment	3.30	3.39	3.53	0.23
Leadership	3.35	3.48	3.64	0.29
Professional Development	3.35	3.38	3.53	0.18
The school environment is clean and well maintained	66.9%	76.4%	86.1%	19.2%
School leadership shields teachers from interruptions	45.6%	54.0%	62.5%	16.8%
Teachers have sufficient access to appropriate instructional materials	65.8%	73.1%	81.8%	16.0%
The school environment is safe	73.1%	82.1%	88.6%	15.5%
School leadership consistently enforce rules for student conduct	55.5%	62.9%	70.3%	14.8%
High School Growth Expectations				
Time Domain	3.16	3.10	3.25	0.09
Facilities and Resources	3.50	3.51	3.57	0.07
Empowerment	3.32	3.29	3.42	0.10
Leadership	3.46	3.43	3.58	0.12
Professional Development	3.33	3.26	3.36	0.03
The School Improvement Team provides effective leadership at this school	47.3%	47.5%	55.5%	8.2%
Teachers have sufficient access to appropriate instructional materials	64.4%	67.1%	71.2%	6.7%
The school leadership communicates clear expectations to parents and students	66.1%	68.2%	72.8%	6.7%
School leadership shields teachers from interruptions	54.0%	52.0%	60.6%	6.5%
The faculty has an effective process for making group decisions and solving problems	58.0%	59.1%	64.4%	6.4%

- ***The most consistent finding across all school levels was the variation between high and low growth schools and their leadership's ability to shield teachers from interruption.*** Safety and trust, as was the case with overall performance, were important, but did not vary as much as other questions across high and low growth schools.

- ***There is much greater variation between schools that did not meet and those that exceeded academic growth expectations in the area of time than was the case in examining the overall performance composite.*** The same variation was not found for professional development, except at the middle school level.[3] While further analyses are necessary, one reason for the variance on measures of growth, but not overall performance, could be the importance of time related to differentiating instruction for all learners. Teachers need more collaborative opportunities, planning time and smaller class sizes to teach differently and ensure that students, particularly those not at grade levels, exceed previous performance levels.

- ***There is far less variation across working conditions areas between high schools that did not meet and those that met or exceed growth expectations.*** In fact, in several instances, high schools that met growth targets were slightly less likely to have critical working conditions in place than those that did not meet expectations. The small variation for high schools in all working conditions areas may be attributed to the inclusion of so many more assessments in the performance composite for high schools than elementary and middle schools, as well as the formula used. Given the strong connections to achievement documented and evidence presented later that shows great variation in working conditions between the lowest performing and reformed high schools, it is likely that many of the issues could be explained by measurement rather than factors specific to high schools themselves.

Correlations Between Working Conditions and Student Achievement

The relationship between working conditions and student achievement becomes clearer by examining the correlations between the five domains and student achievement as measured on the North Carolina performance composite (the percentage of students' at or above achievement level III/proficient).[4] (Table 3)

Again, while teachers indicated that time was the area most critical to improving student learning, it is not correlated with high school performance, and only weakly correlated with the performance composite at the elementary and middle school levels. Professional development was not correlated at any level. Facilities and resources—in particular safety, cleanliness and access to sufficient instructional resources—leadership and empowerment were all significantly correlated with student achievement at all three levels.

As would be expected, student characteristics, in particular the proportion of students eligible for free and reduced lunch was most highly correlated with achievement. Strong, significant and negative correlations with achievement can be found for the proportion of economically disadvantaged and English Language Learners served. Teacher background was also significantly correlated with student achievement. The percentage of teachers on Lateral Entry Licenses and novice teachers are negatively correlated with student success on the state assessment. More investigation needs to be done on the correlations related to teacher race to better understand how other variables are influencing this connection to student achievement (i.e. do minority teachers work in schools serving a greater proportion of poor children?, do they come with different levels of preparation?, etc.).

Table 3. Correlations with Performance Composite

Correlates	Elementary Performance Composite	Middle School Performance Composite	High School Performance Composite
Working Conditions			
Time domain	.097**	.116*	.011
Facilities and Resources Domain	.288***	.269**	.203***
Empowerment Domain	.262***	.116*	.127*
Leadership Domain	.308**	.179***	.203***
Professional Development Domain	.013	.074	-.005
Teacher Background			
Percentage of Teachers on Lateral Entry Licenses	-.369***	-.569***	-.379***
Percentage of White Teachers	.558***	.639***	.627***
Percentage of Novice Teachers	-.256***	-.388***	-.223***
School Characteristics			
Student-Teacher Ratio	.386***	.437***	.392***
School Size (student enrollment)	.298***	.398***	.291***
School Level Teacher Turnover	-.218***	-.277***	-.362***
Student Characteristics			
Percentage Economically Disadvantaged	-.789***	-.795***	-.531***
Percentage Limited English Proficient	-.286***	-.273***	-.117*

Note: Data are correlation coefficients. The closer to 1.0 or -1.0, the stronger the correlation between variables. In social sciences, a .3 is generally accepted as a relatively strong connection

* p < .05 (two-tailed), ** p < .01 (two-tailed), ***p < .001 (two-tailed)

Within the working conditions domains, several individual questions had consistently high correlations with the composite student achievement across all school levels:

- ***The school environment being safe had the highest correlations across all school types*** (.399 at the elementary level, .446 for middle schools, and .441 for high schools).

- Several leadership questions were significantly correlated with student achievement. ***In particular, the presence of an atmosphere of trust, faculty commitment that all students can learn, communication of a shared vision and accountability for high performance standards were correlated to ABCs success.***[5]

- While there was variation in the strength of correlation across empowerment questions, ***teachers playing at least a large role in devising instructional techniques and selecting instructional materials was significantly and positively correlated with student achievement across all school types.***

Statistical Models of Working Conditions Relative to Student Achievement and Academic Growth

The correlations were used to explore different configurations of variables to model against the school-wide percentage of students scoring a level three or above (at grade level/proficient) on the North Carolina performance composite (Appendix A, B, C).

This modeling moves beyond correlation by controlling for various factors to better determine whether there is a direct relationship between working conditions and achievement in light of the multitude of factors that influence student learning.

For student achievement, Ordinary Least Squares (OLS) regression was run with independent variables entered in four blocks: working conditions domain questions, teacher background variables, student variables and school characteristics. Variables were than standardized and converted to a 0-to-100 scale to aid in the interpretation of results. For academic growth, binomial logistic regressions were run analyzing the probabilities of meeting or exceeding growth expectations for working conditions and other student, teacher and school factors.

Various configurations of working condition domains and individual questions were explored in an attempt to create the most robust models that could explain the greatest proportion of variance in achievement performance. A few things to note:

- Modeling is difficult given the strong connections between variables. Separating the working conditions domains was particularly difficult as teachers often view them similarly across schools. The correlation between working conditions domains ranged from a low of .540 between time and facilities and resources to a high of .913 between empowerment and leadership. This "multicolinearity" makes it difficult to find significant connection as the variables often weaken each other in the model. So, many of the questions which were correlated with achievement or varied across performance quartiles were not included in the final model, due in large part to the fact that their "explanatory power" was shared by many factors as teachers' perceptions of these working conditions are so interrelated.

- The amount of variance the blocks explain is dependent on the order in which they are entered for the OLS achievement models. As this analysis is most concerned with the connection between student achievement and working conditions, the teacher working conditions block was entered first.

Elementary School Student Achievement

The statistical model for elementary performance was robust, explaining 68 percent of the variance in school level achievement (Appendix A). The working conditions block explained up to 19 percent of the differences in achievement. Consider the following:

- ***Teachers' role in selecting instructional materials was significantly related to improved achievement.*** For every 10 percent of teachers who indicate they play at least a large role in selecting instructional materials, a 0.5 percent increase in students scoring proficient or above can be estimated.

- ***Teachers' agreement that they are held to high standards was predictive of achievement.*** For every 10 percent increase in the percentage of educators who agree that they are held to high standards, a .6 percent increase in the proportion of students proficient or above on the performance composite could be estimated.

While these gains in overall proficiency sound small, two things are important to note. First, given the complexity of schools and the multitude of factors influencing student learning, no single variable is likely to make a large impact in and of itself. Poverty, the factor research shows consistently has the greatest impact, only had a 3 percent difference on overall performance.

Second, ***if agreement that several of the working conditions factors were in place increased by 20 or 30 percent within a school, larger and more meaningful gains could be expected.***

While working conditions influence overall performance on the state's assessments, student characteristics have a stronger impact. Student variables explain at least one-quarter (27 percent) of the difference in achievement across the schools (and as much as 62 percent), the greatest of the three variable groupings. In particular, the proportion of economically disadvantaged students is significantly and powerfully connected to achievement. For every 10 percent increase in the percentage of students eligible for free or reduced lunch, a three percent decline in overall proficiency could be expected.

Teacher background factors explained 22 percent of the variance in achievement. In particular a greater preponderance of novice teachers had a negative, but small impact on achievement. For every 10 percent increase the proportion of novice teachers—those with three years of experience or less—only a .01 percent decline in achievement would be expected. At the school level, only teacher turnover was found to be statistically significant. But, like years of experience, the expected decline in overall performance was somewhat small, less than the significant working conditions questions.

Elementary School Academic Growth

Working conditions variables are stronger predictors of whether elementary schools met or exceeded growth expectations than the proportions of economically disadvantaged students, novice teachers and teachers on lateral entry.

- ***Schools that have a facilities and resources domain average of 3.90 or greater—encompassing safety, sufficiency of instructional materials, office equipment, communications, technology, etc.—are 1.3 times more likely to meet or exceed growth expectations.***

- ***Schools that have a leadership domain average greater than 3.90 were 1.3 times more likely to meet or exceed growth expectations.***

- ***Elementary schools in which 60 percent or more of the faculty agree that class sizes are reasonable are 1.3 times more likely to meet or exceed growth expectations.***

The strongest predictor of elementary academic growth was the proportion of Limited English Proficient (LEP) students. Schools with at least 15 percent LEP students were 1.5 times more likely to meet or exceed growth expectations. This finding highlights the benefit of looking at student learning in terms of both growth and overall performance. While not statistically significant at the elementary level, the proportion of LEP students had a negative impact on overall performance at the secondary level. While overall achievement levels may be significantly lower with high LEP populations, the odds of meeting or exceeding growth expectations with these students, according to this model, is actually enhanced.

Middle School Student Achievement

The statistical model for middle school performance explained 68 percent of the variance in school level achievement (Appendix B). The working conditions block explained as much as one-fifth (20 percent) of the differences in achievement. Consider the following:

- ***Agreement that the faculty is committed to helping every student learn was significantly related to improved achievement.*** For every 10 percent of teachers who agree that this commitment is present, a 1.1 percent increase in students scoring proficient or above on state assessments can be estimated. This increase was greater than any other variable in the model (including poverty, proportion of Limited English Proficient students, etc.), except the percentage of white educators (discussed previously as needing more in-depth analyses).

- ***Agreement that teachers have sufficient access to appropriate instructional materials was significantly related to overall student achievement levels.***[6]
  For every 10 percent increase in the percentage of educators who agree that they have sufficient instructional resources, a .5 percent increase in the proportion of students proficient or above on the performance composite could be estimated.

- ***Agreement that there is an effective process in the school for making collaborative decisions and problem solving was statistically significant.*** For every 10 percent increase in the proportion of teachers agreeing there is an effective process, a .5 percent increase in the percentage of students at grade level or above across assessments on the performance composite.

Teacher characteristics explained about one-third (32 percent) of the variance in middle school achievement. In particular, the proportion of white and female teachers was statistically significant. As discussed, this finding merits more careful statistical analyses to unpack factors that may be showing up in race and gender (such as preparation, students served at or within the school, etc.). School characteristics explained little of the variance in achievement. Surprisingly, larger (more than 1,100 students) middle schools had greater overall achievement and smaller schools (less than 400 students) had a negative impact. Both the proportions of economically disadvantaged and Limited English Proficient students were statistically and negatively connected to achievement.

Middle School Academic Growth

Working conditions were the strongest predictors of middle schools meeting or exceeding growth expectations. The probability of meeting or exceeding growth expectations are greater with strong teacher agreement that there is an atmosphere of trust and a clean and well-maintained school environment than with student background factors, school size, teacher turnover and other teacher background characteristics.

- ***Middle schools in which 80 percent or more of the faculty agree that there is an atmosphere of trust and mutual respect are 2.2 times more likely to meet or exceed academic growth expectations.***

- ***Middle schools in which 90 percent or more of the faculty agree that the school is clean and well maintained are 2.7 times more likely to meet or exceed growth expectations.***

- ***Schools in which 30 percent or less of the faculty agree that school leadership shields them from interruptions are 61 percent less likely to meet or exceed growth expectations.***

The percentage of high poverty students, white teachers and school size (larger than 800) all affect the probability of meeting or exceeding growth targets at the middle school level.

High School Student Achievement

The statistical model for middle school performance explained almost three-quarters (71 percent) of the variance in school level achievement (Appendix C). The working conditions block explained as much as one-fifth (22 percent) of the differences in achievement. Consider the following:

- ***Educator agreement that class sizes are reasonable was statistically significant to overall achievement.*** For every 10 percent of teachers who agree that class sizes allow them to meet the needs of their students, a .5 percent increase in students scoring proficient or above on state assessments can be estimated.

- ***Agreement that the school leadership clearly communicates expectations to parents and students was significant.*** For every 10 percent increase in the percentage of educators who agree that expectations are clearly communicated, a .5 percent increase in the proportion of students proficient or above on the performance composite could be estimated.

- ***Teachers' role in devising instructional techniques was statistically significant.***[7] For every 10 percent increase in the proportion of teachers agreeing that they are empowered to determine how they teach, a .5 percent increase in the percentage of students at grade level or above across assessments on the performance composite can be estimated.

While school characteristics explained only a small amount of the variance between schools, the proportion of lateral entry teachers was the strongest predictor of overall high school achievement in the model. For every 10 percent increase in the proportion of lateral entry teachers, overall performance could be expected to decline 5 percent. Further, large high schools were found to have a small, yet significant impact on overall performance.

Both teacher background and student characteristics were important. At least 16 percent of the variance (and as much as 55 percent) can be explained by student characteristics, especially with the proportion of economically disadvantaged, but also the percentage of Limited English Proficient students served.

High School Academic Growth

Creating a model that explained academic growth at the high school level was difficult with the data available. As discussed previously, high schools had less variation between schools that did not meet and those that exceeded growth expectations than elementary or middle schools, making modeling difficult.

One model was created in which school leadership was shown to significantly impact growth at the high school level (but at the less rigorous $p < .1$ level). ***High schools with a school leadership domain of greater than 3.90 were 2.2 times more likely to meet or exceed growth expectations.*** In the model no other student, school or teacher background variables had a statistically significant impact on growth.

Overall the findings from this section support the notion that teacher working conditions are student learning conditions. Significant connections were documented between working conditions, student learning and academic growth at all school levels. Providing educators with sufficient instructional materials that they can select and use in devising their own teaching techniques was important. Leadership was also critical. School leaders that can empower

teachers, create safe school environments and develop supportive, trusting climates will be successful in promoting student learning.

Finding Two. Teacher Working Conditions Have an Impact on Teacher Retention

The survey demonstrates what individuals familiar with the schools already know: teacher attrition is a serious problem facing many districts—and working conditions are a potentially powerful lever to help address the issue.

Most teachers in North Carolina are satisfied with their current workplace. Across the state, 78 percent (or almost 60,000 educators) agreed that their school is a good place to work and learn. These feelings are also evident in 87 percent of teachers indicating that they want to "stay" teaching in their school. Thirteen percent want a new job, including 8 percent who are "movers," wanting to stay in teaching but move to another school, and 5 percent who are "leavers," indicating that they will leave teaching altogether.

Evidence throughout the survey indicates that teachers with positive perceptions about their working conditions are much more likely to stay at their current school than educators who are more negative about their conditions of work, particularly in the areas of leadership and empowerment (Table 4). Leavers are more positive than movers, most likely because those who are leaving teaching do so not just due to dissatisfaction, but other non-teaching related causes (retirement, personal reasons, etc.).

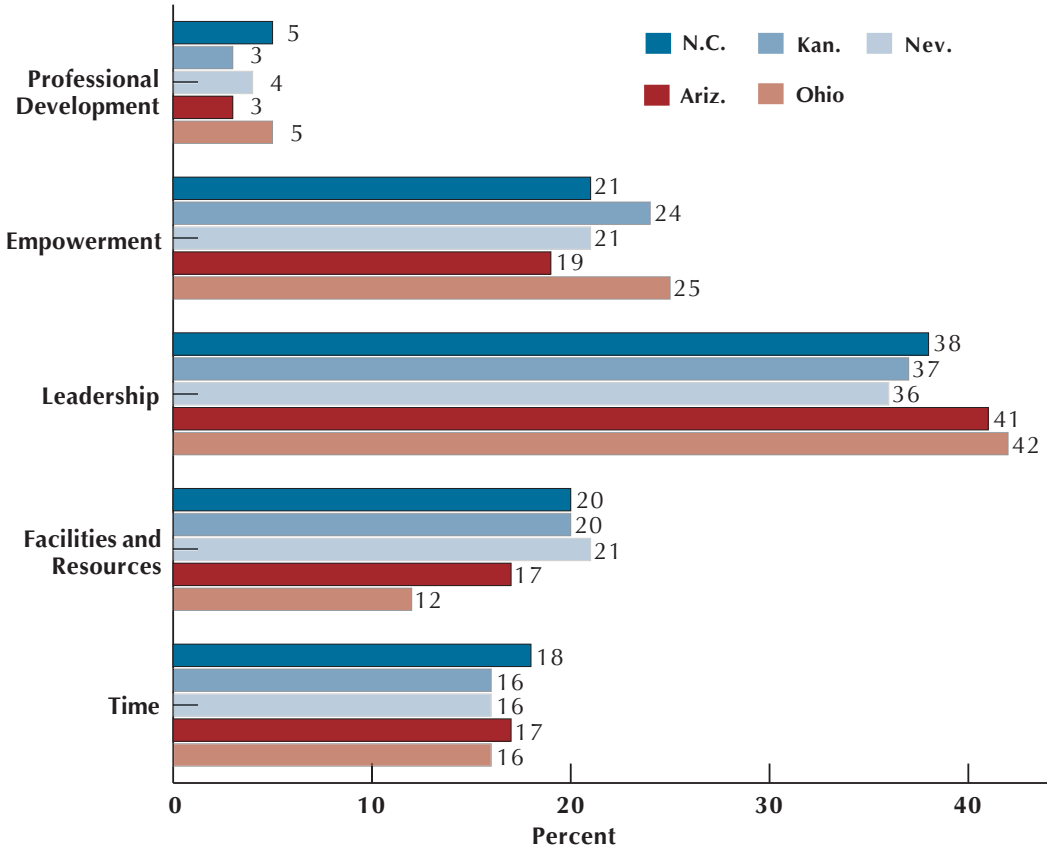
Table 4. Differences in the Perceptions of Stayers, Movers and Leavers on Teacher Working Conditions Questions

Teaching and Learning Survey Question	Percent of Teachers Who Agree		
	Stayers	Movers	Leavers
There is an atmosphere of trust and mutual respect in this school.	66%	22%	44%
The faculty and staff have a shared vision.	70%	31%	49%
In this school we take steps to solve problems.	67%	28%	47%
Opportunities are available for members of the community to contribute actively to this school's success.	79%	54%	66%
The School Improvement Team provides effective leadership in this school.	60%	23%	39%
Professional development provides teachers with the knowledge and skills most needed to teach effectively.	67%	40%	47%

These disparities are not just evident in whether positive working conditions are present, but in whether or not school leadership makes efforts to improve them. Teachers who want to stay in their school are far more likely than those who want to move to believe that school leadership is working to improve conditions. While about two-thirds of teachers who want to stay believe that leadership is addressing empowerment (62.5 percent) and leadership issues (61.6 percent), less than one-quarter of movers believe the same statement to be true (23.0 percent and 22.9 percent respectively.)

This connection to school leadership—its presence in communicating vision and creating a positive and supportive atmosphere, as well as in addressing teacher concerns about climate—is critical. When asked to select which of the working conditions studied most influenced retention decisions, leadership was by far the most important (Figure 2). Almost double the proportion of North Carolina educators listed leadership (38 percent) as any other working condition. While time (18 percent), empowerment (21 percent), and facilities and resources (20 percent) were all indicated as important by about one-fifth of teachers, only five percent of North Carolina educators listed professional development as the most critical working condition influencing retention decisions.

Figure 2. Aspect of Working Conditions Teachers Believe Is Most Important to Continued Teaching in Their School



Evidence was found to support this emphasis on leadership. ***While all working conditions were significantly correlated with teachers' future employment plans, leadership had the strongest correlations with whether or not teachers intended to stay in their current schools at all school levels*** (Table 5). The correlations for both leadership and empowerment were strong and significant for elementary, middle and high schools.

Table 5. Correlations Between Working Conditions and Future Employment Intentions

Working Conditions and School Level	Intent to Stay	Intent to Move	Intent to Leave
Elementary time	.326	-.258	-.236
Elementary facilities and resources	.303	-.277	-.153
Elementary empowerment	.564	-.549	-.228
Elementary leadership	.572	-.567	-.214
Elementary professional development	.294	-.253	-.177
Middle school time	.536	-.447	-.326
Middle school facilities and resources	.367	-.299	-.236
Middle school empowerment	.542	-.519	-.205
Middle school leadership	.617	-.589	-.236
Middle school professional development	.451	-.412	-.209
High school time	.315	-.320	-.130
High school facilities and resources	.315	-.308	-.145
High school empowerment	.504	-.468	-.268
High school leadership	.515	-.500	-.243
High school professional development	.355	-304	-226

Note: Data are correlation coefficients. The closer to 1.0 or -1.0, the stronger the correlation between variables. In social sciences, a .3 is generally accepted as a relatively strong connection. All correlations are statistically significant at $p < .01$ level (two-tailed).

The connections between actual school level turnover rate for 2005-2006 and working conditions appears to be weaker in the areas of time and empowerment (Table 6). Little variation is evident in the areas of time and professional development between low turnover and high turnover schools. Other turnover factors of note include:

- Leadership and empowerment had the greatest variation between low and high turnover schools at all levels. In particular, ***the creation of an atmosphere of trust and mutual respect was the question where the greatest differences on turnover were documented for elementary, middle and high schools.***

- The top five questions with the greatest variation were consistent across levels and primarily in the area of leadership. ***Low-turnover schools have educators who agree that leadership creates a trusting environment where teachers feel supported and protected from interruptions that interfere with teaching.***

- There is some evidence ***that the School Improvement Team has an effect on teacher retention as there was significant variation at both the middle and high school levels between high and low turnover schools.***

These variations across low and high turnover yielded expected correlations. School level turnover from 2005-2006 was significantly correlated with both leadership and empowerment at the elementary level. Middle schools yielded significant correlations with three working conditions: leadership, empowerment, and facilities and resources. At the high school level, only leadership was significant (and at the weaker $p < .1$ significance threshold). At all levels, the correlation coefficient with all domains was below .200.

Table 6. Working Conditions by Teacher Turnover Quartiles

Domain/Question (percent that agree/ strongly agree)	Lowest Turnover Quartile	2nd Quartile	3rd Quartile	Highest Turnover Quartile	Difference Between Highest and Lowest
Elementary School					
Time Domain	3.10	3.08	3.08	3.04	0.06
Facilities and Resources	3.66	3.64	3.62	3.57	0.09
Empowerment	3.51	3.44	3.39	3.32	0.20
Leadership	3.45	3.55	3.64	3.76	0.30
Professional Development	3.43	3.40	3.37	3.34	0.09
There is an atmosphere of trust and mutual respect	68.1%	63.6%	60.4%	55.3%	12.8%
School leadership shields teachers from interruptions	65.2%	59.9%	56.7%	53.6%	11.6%
School leadership consistently supports teachers	72.5%	68.5%	64.4%	60.9%	11.6%
Overall the school leadership in my school is effective	68.3%	65.5%	62.0%	57.3%	11.1%
The faculty and staff have a shared vision	72.7%	68.6%	64.9%	61.9%	10.8%
Middle School Performance Composite					
Time Domain	3.11	3.07	3.06	3.05	0.06
Facilities and Resources	3.66	3.63	3.61	3.57	0.09
Empowerment	3.50	3.42	3.37	3.30	0.20
Leadership	3.67	3.56	3.49	3.42	0.25
Professional Development	3.43	3.38	3.36	3.34	0.09
There is an atmosphere of trust and mutual respect	67.1%	62.1%	58.7%	54.6%	12.5%
Overall the school leadership in my school is effective	67.9%	63.8%	60.6%	56.4%	11.5%
School leadership consistently supports teachers	71.7%	66.3%	63.5%	60.4%	11.3%
School leadership shields teachers from interruptions	64.0%	58.3%	55.9%	53.0%	11.0%
The School Improvement Team provides effective leadership at this school	61.3%	57.1%	54.1%	50.4%	10.9%
High School Performance Composite					
Time Domain	3.12	3.06	3.09	3.04	0.08
Facilities and Resources	3.66	3.64	3.62	3.57	0.09
Empowerment	3.50	3.44	3.39	3.31	0.19
Leadership	3.67	3.59	3.52	3.43	0.24
Professional Development	3.43	3.40	3.36	3.34	0.10
There is an atmosphere of trust and mutual respect	67.4%	63.3%	60.2%	55.4%	12.0%
School leadership shields teachers from interruptions	64.6%	59.3%	56.8%	53.5%	11.1%
School leadership consistently supports teachers	72.0%	67.8%	64.4%	60.9%	11.1%
Overall the school leadership in my school is effective	67.8%	65.3%	61.8%	57.2%	10.6%
The School Improvement Team provides effective leadership at this school	61.4%	58.1%	55.5%	51.1%	10.3%

Statistical Models Examining Working Conditions and Teacher Turnover

To better understand the connection between working conditions and teacher turnover, statistical models were created at the elementary, middle and high school levels. Ordinary Least Squares regressions were run examining influences on the school level teacher turnover rate in North Carolina for the 2005-06 school year.[8] Independent variables were entered in two blocks: working conditions domain questions and other control variables, including student, teacher and school characteristics. Variables were than standardized and converted to a 0 to 100 scale to aid in the interpretation of results.

A Quick Look at Trust

Trust was found to significantly impact academic growth expectations for middle schools and was strongly correlated with overall student performance at all levels. It also had the greatest variations across high and low turnover schools and the strongest correlations with turnover rates. This critical question, however, could not be included in most of the statistical modeling for both achievement and turnover, as it was "multicolinear" with so many other factors. In other words, it shared so much explanatory power with other working conditions, the models did not recognize its importance and it was dropped.

Knowing the importance of this critical factor, both from research and our own conversations with educators about working conditions, analyses were conducted to better understand the factors that explain trust. The analyses revealed these results:

- Trust was highly correlated with several critical factors including communicating clear expectations to parents and students (.797-.807 correlation depending on level), faculty commitment to the learning of all students (.732 elementary level correlation) and the consistent enforcement of student conduct (.725 elementary level).

- A regression was created that explained 80 percent of the variance in agreement that trust and mutual respect was present at the elementary school level. The only non-working conditions factor influencing trust was the proportion of high poverty students. It had a negative impact, but only weakly. The strongest factors explaining trust while controlling for working conditions and other influences were:

    1. The faculty having a shared vision,
    2. School leadership consistently supporting teachers, and
    3. The presence of an effective group decision making and problem solving process

A combination of eight questions across empowerment, leadership and time all were statistically significant in explaining the presence of an atmosphere of trust and mutual respect.

Elementary School Teacher Turnover

The statistical model explained only about one-third (32.6 percent) of the variance in the school level teacher turnover rate. Working conditions explained up to 8 percent of that variance.

- ***Teacher agreement that the teacher performance evaluation process is consistent had a significant effect on elementary turnover.*** For every 10 percent increase in teachers agreeing evaluations are consistent a .6 percent decline in teacher turnover could be estimated.

- ***Teachers playing a large or primary role in the selection of instructional materials was significantly connected to elementary turnover.*** For every 10 percent increase in the percentage of teachers noting a significant role, a .5 percent decrease in retention could be expected.

Teachers playing a significant role in implementing policies about student discipline had a significant impact on turnover, but negatively. A ten percent increase in the proportion of teachers indicating they playing a large role would be expected to have a .3 percent increase in turnover. This finding could be explained by the interplay between teacher empowerment to devise and implementing student discipline policies and actual discipline issues. Schools where teachers are empowered to create policies have worse student discipline problems, influencing perceptions of safety and decisions to stay. Further analysis of this negative trend is merited as empowering teachers in all other areas had a positive impact on teacher retention.

Teacher background characteristics were also predictive of teacher turnover. New teachers, white and female educators were more likely to leave. Additionally teachers were more likely to leave schools serving a student body comprised of at least half economically disadvantaged students. Finally, school characteristics were important. There were significant connections between turnover and both school size and student achievement. Teachers were more likely to stay in smaller schools with higher student achievement levels.

Middle School Teacher Turnover

The statistical model explained 40 percent of the variance in the school level teacher turnover rate across North Carolina middle schools. Working conditions explained up to 34 percent of that variance.

- ***Teacher agreement that the non-instructional time they receive is sufficient is significantly related to turnover.*** For every 10 percent increase in teachers agreeing they have sufficient time without student contact a .8 percent decline in teacher turnover could be estimated.

- ***Agreement that leadership addresses teacher concern about new teacher support has a significant effect on turnover***, leading to a .6 percent decrease in turnover rates for every 10 percent of teachers agreeing that efforts are made.

This connection to new teacher support is not surprising as the percentage of novice teachers was most significantly tied to middle school turnover. A ten percent decline in the proportion of novice teachers would be expected to yield a 3.3 percent decrease in school level turnover. The proportion of lateral entry teachers was also negatively connected to retaining teachers. No student characteristics or school characteristics—including a high proportion of economically disadvantaged and LEP students, school size and student achievement—were statistically significant. Again, a significant and negative effect between the role teachers play in establishing and implementing student discipline policies and turnover was documented. An increase of 10 percent of teachers playing a large or primary role in implementing discipline policies would be expected to lead to a 1.2 percent increase in turnover.

High School Teacher Turnover

The statistical model explained 43 percent of the variance in school level teacher turnover at the high school level. As much as 12 percent of that difference can be explained by working conditions (versus 23 percent by teacher characteristics).

- ***Teacher agreement that the non-instructional time they receive is sufficient is significantly related to turnover.*** For every ten percent increase in teachers agreeing they have sufficient time without student contact a .6 percent decline in teacher turnover could be estimated.

- ***Agreement that the school leadership is effective was significant.*** A .6 percent decrease in turnover rates could be expected for every 10 percent of teachers agreeing that school leadership is effective.

The role teachers play in establishing and implementing student discipline policies has a significant and negative impact on turnover. Teacher background characteristics explained the greatest amount of variation in high school turnover rates. A high proportion of novice teachers could be expected to increase teacher turnover while the proportion of female teachers within high schools have a positive impact on retention. Teachers were more likely to leave low per-

forming high schools as well as those serving a high proportion of economically disadvantaged children.

Ultimately, the many models and correlations paint a consistent picture. School leadership and empowerment are essential to retaining teachers. Effective leadership that provides sufficient planning time and empowers teachers in a trusting environment where they feel supportive is the key ingredient to lowering teacher turnover and creating climates where all students can succeed.

Finding Three. Teachers and Administrators View Working Conditions Differently

As was the case in 2004, teachers and administrators view teacher working conditions differently. ***On all questions, the roughly 1,400 principals responding to the survey were significantly more likely to note that positive working conditions are in place, and that leadership was making efforts to address them*** (Table 7).

Similar gaps in perception exist between teachers and other school-based licensed educators, but these differences are significantly smaller than the difference between teachers and principals. The gap in perception is greatest in the area of time (1.04 gap on a 1 to 5 scale), the working condition most important to teachers in maximizing student achievement and the area where teachers are least likely to note the presence of working conditions. Similar gaps are evident in the areas of leadership (.93 and empowerment .91), critical, according to teachers, in calculating their future employment plans.

Principals, in aggregate, believe they are engaging teachers, through an effective process, in collaborative decision making. Further, principals uniformly believe their schools are trusting, respectful environments while more than one-third of teachers do not. Given how critical these issues are to teacher retention, schools and districts should take note of these findings. It is not necessarily that principals do not want to address these issues, but that they do not perceive they are issues to the same extent as teachers.

Principals are not only far more likely to believe that positive working conditions are present, but also that school leadership—a concept that includes, but is not limited entirely to the principal—makes sustained efforts to address any teacher concerns that exist (Table 8).

Table 7. Teacher and Principal Perceptions of Select Teacher Working Conditions Questions

Agreement on Select Working Conditions Questions and Domain Averages	Teachers Agreeing	Principals Agreeing
The non-instructional time provided for teachers in my school is sufficient	45%	76%
Teachers and staff work in a school environment that is safe	65%	79%
Teachers are centrally involved in decision-making about educational issues	51%	96%
There is an atmosphere of trust and mutual respect within the school	62%	95%
The faculty has an effective process for making group decisions and solving problems	56%	95%
Professional development provides teachers with the knowledge and skills most needed to teach effectively	63%	91%
Overall this school is a good place to work and learn	77%	92%
Time Domain	3.06	4.10
Facilities and Resources Domain	3.61	4.26
Empowerment Domain	3.40	4.31
Leadership Domain	3.54	4.47
Professional Development Domain	3.38	4.00

Table 8. Perceptions of Teachers and Principals about School Leadership Addressing Working Conditions Concerns

School leadership makes a sustained effort to address teacher concerns about	Teachers Agreeing	Principals Agreeing
The use of time in my school	60%	98%
Facilities and resources	68%	99%
Empowering teachers	58%	98%
Leadership issues	57%	97%
Professional development	62%	97%

These wide disparities between the perceptions of principals and teachers were present in North Carolina in 2002 and 2004, and have been found in other studies in Arizona, Clark County, Ohio and Kansas. It is an important finding—a finding that calls for school-based, data-driven working conditions conversations and professional development for both principals and teacher leaders. Until all educators can agree on the relative presence of working conditions, sustained reforms to improve school climate will not be prioritized.

Finding Four: Teacher Working Conditions Have Improved and Are Better than in Other States

While it is difficult to compare findings in working conditions across iterations of the survey due to changes in the survey instrument and number of respondents, it is clear that educators were more positive about many aspects of their conditions of work than in 2004.

- Teachers were more likely to note that they are protected from duties that interfere with teaching (40 percent in 2004 versus 47 percent in 2006) and that efforts are made to reduce routine paperwork (47 percent versus 53 percent).

- While most responses to facilities and resources questions were similar, a greater proportion of educators noted that they have access to sufficient instructional materials (64 percent in 2004 versus 73 percent in 2006).

- Teachers were more likely to receive at least ten hours of professional development in three important areas: their content area (from 44 percent to 51 percent), methods of teaching (36 percent to 43 percent), and reading strategies (53 percent to 60 percent).

There were a number of questions, however, where educators indicated a decline in working conditions. Teachers were slightly less likely to agree that they are centrally involved in educational decision making (57 percent in 2004 versus 54 percent in 2006) and that they are trusted to make sound decision about instruction (78 percent versus 72 percent).

Improvements between 2004 and 2006 are especially evident when working conditions in North Carolina are compared to other states who have replicated the North Carolina Teacher Working Conditions Initiative (Table 9—see www.teachingquality.org for more information on other state initiatives). On most questions on the survey, teachers in North Carolina noted more positive working conditions than educators in Kansas, Arizona, Ohio and Clark County, Nevada (Las Vegas).

Table 9. Percentage of Teachers Agreeing with Working Conditions Questions

Teacher Working Conditions Questions	N.C.	Kan.	Ariz.	Ohio	Clark County
There is an atmosphere of trust and mutual respect within the school	64%	62%	62%	50%	58%
Teachers are trusted to make sound professional decisions about instruction	72%	61%	62%	56%	52%
The school leadership communicates clear expectations to students and parents	72%	63%	67%	56%	65%
The faculty are committed to helping every student learn	85%	87%	72%	82%	82%
Overall, the school leadership in my school is effective	64%	59%	62%	NA	58%
Teachers have sufficient access to instructional technology	74%	64%	62%	56%	70%
Teachers are centrally involved in educational decision making	53%	44%	38%	36%	35%

In virtually all areas, the proportion of North Carolina educators agreeing that working conditions are in place is higher than other states. Of particular note is the disparity in teachers' perceptions of feeling trusted to make sound instructional decisions and being engaged in educational decision making. While only half (53 percent) of North Carolina teachers believe they are centrally involved in decision making, only about one-third of educators in Las Vegas, Ohio and Arizona believe they are engaged at this level.

Finding Five: Working Conditions Results Were More Likely to Improve in Schools Where Teachers Indicated that They Had Used Prior Survey Results

Comparisons were made on questions worded identically between schools with available working conditions data in both 2004 and 2006. Schools were divided into two categories: "high" users of working conditions data (at least 50 percent of the faculty agreed that working conditions results from 2004 were utilized "as a tool for improvement" on the 2006 survey) and "low users" (25 percent or fewer educators indicated data has been used).[9] The aggregate school level average was created and then compiled for schools in both the high and low categories for both years of the survey and compared (Table 10).[10]

Table 10. Comparison of Changes Between 2004 and 2006 on Select Working Conditions Questions Based on Schools' Use of Data as an Improvement Tool

		Elementary School		Middle School		High School	
Working Conditions Question	**Year Asked**	**Low**	**High**	**Low**	**High**	**Low**	**High**
School leadership tries to minimize the amount of routine paperwork required of teachers	2004	38.9%	54.6%	38.6%	55.5%	44.9%	58.1%
	2006	36.9%	62.3%	40.0%	63.6%	48.3%	67.6%
	Difference	-2.0%	7.7%	1.3%	8.1%	3.4%	9.5%
Teachers are centrally involved in decision making about educational issues	2004	55.1%	71.4%	51.4%	67.7%	46.5%	70.1%
	2006	37.7%	72.1%	34.0%	67.3%	38.8%	62.0%
	Difference	-17.4%	0.7%	-17.4%	-0.4%	-7.7%	-8.1%
There is an atmosphere of trust and mutual respect within the school	2004	62.5%	76.4%	55.5%	72.2%	52.2%	73.4%
	2006	42.2%	78.6%	44.7%	75.2%	45.4%	71.8%
	Difference	-20.3%	2.2%	-10.8%	3.0%	-6.9%	-1.6%
Teachers are trusted to make sound decisions about instruction	2004	77.5%	85.3%	75.8%	86.1%	70.2%	85.5%
	2006	56.7%	84.3%	63.7%	85.1%	65.8%	80.7%
	Difference	-20.8%	-1.0%	-12.1%	-1.0%	-5.1%	-4.8%
School leadership makes a sustained effort to address teacher concerns about leadership issues	2004	48.3%	66.0%	46.5%	66.9%	42.7%	66.0%
	2006	39.9%	77.0%	40.0%	72.8%	43.1%	69.3%
	Difference	-8.4%	11.0%	-6.5%	5.9%	0.4%	3.3%

A few important trends are evident in the table and analyses of other questions

- ***Schools where a majority of teachers indicate that they use the data as a tool for improvement were already likely to have better working conditions in place.*** Comparisons across the low and high data usage schools both in 2004 and 2006 were notable.

- ***The area where working conditions were most likely to improve (or go down less in the case of some questions) through working conditions discussions appears to be in the areas empowerment, and especially leadership.*** At the elementary and middle school levels, schools where results were not used saw, on average, sharp declines in the proportion of teachers agreeing that leadership and empowerment conditions were in place. It can be expected that leaders who encourage working conditions conversation and reform will see more positive results.

- ***High schools were less likely than elementary and middle schools to see immediate gains from using working conditions results.*** While more analyses are needed, this may have implications for both the nature and time expected to see results from reforming working conditions policies and practices in high schools. The greatest gains were evident at the elementary level.

Finding Six: Schools Vary in the Presence of Teacher Working Conditions

Few differences between individual teachers appear to make a difference in how educators perceive working conditions. As was documented in 2004, North Carolina teachers, regardless of gender, education, race, ethnicity and route into the profession view working conditions similarly. There are slight variations in perceptions of working conditions based on years of experience in both the school and the profession. The newest (first year in particular and second or third) and most veteran educators (twenty years or more) are slightly more positive about their conditions of work in all five areas.

While there is little variation in perceptions based on individual teacher background and demographics, there are consistent differences between schools. Not all schools have the types of teaching and learning environments necessary to keep teachers and ensure student success. The following analyses were conducted to better understand differences across schools.

School Level

As has been the case in analyses in 2002 and 2004, there are differences in the perceptions of working conditions across different school types. ***Elementary educators are more likely than their peers at the secondary level to note positive working conditions, especially in the areas of empowerment and leadership*** (the areas teachers say are most important to them in deciding whether or not to stay in their current school) (Table 11)

Table 11. Working Conditions Domain Averages by School Level

Domain Averages	School Level			
	Elementary	Middle	High School	Total
Time	3.09	3.19	3.19	3.15
Facilities & Resources	3.71	3.64	3.53	3.66
Empowerment	3.52	3.38	3.36	3.46
Leadership	3.68	3.47	3.50	3.61
Professional Development	3.46	3.39	3.33	3.42

The one notable exception is the perceptions of time, largely driven by elementary educators' frustration at not having sufficient non-instructional time to plan and collaborate (discussed in the time section of the paper). Only 37 percent of elementary teachers believe the non-instructional time they receive is sufficient versus 57 percent of middle school and 60 percent of high school teachers. Both elementary and high school teachers are far less likely to agree that they have time available to collaborate.

The difference between elementary educators' perceptions of working conditions and those of middle and high school teachers were also notable in the following areas:

- ***Elementary educators are much more likely to agree that their schools are safe (88 percent), that student conduct rules are consistently enforced (64 percent) and that parents and the community contributed to school success (85 percent)*** versus middle (79 percent, 50 percent, 71 percent respectively) and high schools (78 percent, 68 percent, 49 percent respectively).

- ***Elementary educators are more likely to note that professional development provides them with the knowledge and skills to be effective (70 percent), than middle (62 percent) and high school colleagues (57 percent).***

- ***More than four-fifths (81 percent) of elementary educators say their school is a good place to work and learn compared to three-quarters (74 percent) at both the middle and high school levels.***

Schools Serving High Poverty Populations

Research has demonstrated that students attending high-poverty schools in North Carolina have less qualified teachers than their peers in schools serving more affluent populations. Schools serving high poverty students consistently have less experienced educators who attained lower teacher licensure test scores, went to less competitive institutions for preparation, are more likely to have lateral entry and provisional licenses, and less likely to have a National Board Certification. These differences have been documented not just as they relate to teacher quality, but to principal quality as well.[11]

Similar disparities are evident in some working conditions areas, but not others. ***Schools serving a high proportion of economically disadvantaged students consistently had more negative working conditions on critical issues such as school safety and trust. However, teachers in high poverty schools were more likely to note the presence of sufficient class sizes and resources for professional development that provided enhanced knowledge and skills*** (Table 12).[12]

Table 12. Elementary School Working Conditions and Other Factors by Proportion of Economically Disadvantaged Students

Working Conditions (Domain and Percent Agree/Strongly Agree)	Percentage Economically Disadvantaged				
	Low poverty 0–25%	25.1-50%	50.1-75%	High poverty 75.1%-100%	Difference between high and low poverty
Time Domain	3.04	3.04	3.07	3.05	-0.10
Empowerment Domain	3.39	3.40	3.39	3.35	0.13
Facilities and Resources Domain	3.69	3.61	3.60	3.56	0.04
Leadership Domain	3.58	3.53	3.53	3.47	0.11
Professional Development Domain	3.33	3.34	3.40	3.44	-0.11
Teachers have reasonable class sizes	47.3%	49.8%	53.8%	58.4%	-11.1%
Non-instructional time is sufficient	46.8%	46.5%	44.2%	38.7%	8.2%
Teachers have sufficient instructional materials	76.3%.	72.2%.	70.7%	69.3%.	7.0%
Teachers are centrally involved in educational decision making	49.8%	51.1%	50.9%	50.1%	-0.3%
The school environment is safe	88.4%	83.1%	81.2%	77.3%	11.1%
The school leadership consistently supports teachers	67.1%	65.7%	65.0%	62.7%%	4.4%
There is an atmosphere of trust and mutual respect	66.8%	63.2%	60.0.%	54.8%	11.9%
Sufficient funds and resources are available to allow teachers to take advantage of professional development opportunities	47.0%	47.2%	50.0%	52.5%	-5.5%
Professional development provides teachers with the knowledge and skills most needed to teach effectively	57.4%	61.4%	65.5%	67.8%	-10.4%

These findings are somewhat surprising. A similar working conditions survey in Clark County, Nevada, saw far greater and consistent disparities between high and low poverty schools.[13] But while one study examining 2002 working conditions data from North Carolina argued there were consistent differences for hard-to-staff schools, these findings are consistent with data from 2004.[14]

Two hypotheses are offered to explain these inconsistencies:

- More resources for high poverty schools through the state's Disadvantaged Supplemental Student Funding (discussed later in this section) and federal funds are available. A study by the U.S. Department of Education recently showed that No Child Left Behind, Title II Teaching Quality funds (weighted to provide additional assistance to high poverty schools) have gone primarily to class size reduction (almost half of the funding) and professional development (more than one-quarter of the funding).

- Teachers in high-poverty schools, having never experienced the resources, support and opportunities of their peers in more affluent settings are more likely to have positive perceptions of substandard working conditions.

These findings are important. While more research is necessary to understand the relationship between poverty and working conditions, it shows that schools, regardless of the students they serve, can be great places to work and learn. The qualities of school leadership, time and support are more important ingredients to positive working conditions than the student body.

Districts Originally Receiving Disadvantaged Student Supplemental Funding

There were some similarities in the examination of the 16 districts that originally received Disadvantaged Student Supplemental Funding (DSSF)—due largely to their high poverty rates—and non-DSSF schools.[15]

- ***The greatest disparity between DSSF and non-DSSF districts was in facilities and resources*** (3.54 vs. 3.66 domain average respectively). Leadership and empowerment was similar with only a .05 difference between the two sets of districts in empowerment and .07 in leadership.

- As was the case in schools serving a high proportion of economically disadvantaged students, ***teachers in DSSF districts were more likely to note the presence of working conditions in the areas of time*** (3.15 in DSSF versus 3.11 in non-DSSF) ***and professional development*** (3.48 versus 3.40 respectively).

These findings are similar to analyses of the 2004 working conditions survey data. The DSSF finding on use of time and relevance of professional development should be examined in greater detail. The state has invested significantly in these districts, in particular by providing $2 million annually to the North Carolina Teacher Academy to work on these issues in DSSF districts, and it appears there may be some benefit to these investments. A better understanding of actual spending and offerings provided through professional development, as well as how these districts ensure these opportunities meet teacher needs should be forged.

There are notable differences on key issues, however, when individual questions are examined (Table 13).

- ***Safety is an important issue in DSSF districts***. Significant differences are present on perceptions of the safety of school environments.

- While leadership and empowerment, in general, are similar across DSSF and non-DSSF districts, some issues around trust and support are evident. In particular, ***DSSF educators were less likely to note the presence of an atmosphere of trust and mutual respect***, a critical question in explaining teacher turnover.

Table 13. Teacher Working Conditions in DSSF Districts

Percentage of Educators Agreeing with Teacher Working Conditions Question	DSSF Respondents	Non-DSSF Respondents
Teachers have reasonable class sizes, affording them time to meet the educational needs of all students	59.3%	53.3%
Teachers are protected from duties that interfere with their essential role of educating students	46.9%	46.2%
Teachers have sufficient access to appropriate instructional materials and resources	69.7%	73.3%
Teachers and staff work in a school environment that is safe	76.6%	83.8%
The reliability and speed of internet connections in this school are sufficient to support instructional practices	66.1%	74.7%
Teachers are trusted to make sound professional decisions about instruction	68.9%	72.4%
Teachers are centrally involved in decision making about educational issues	51.2%	53.7%
There is an atmosphere of trust and mutual respect within the school	56.9%	63.7%
Opportunities are available for the members of the community to contribute actively to this school's success	72.9%	78.0%
Overall, the school leadership in my school is effective	60.2%	64.6%
Sufficient funds and resources are available to allow teachers to take advantage of professional development activities	55.6%	49.4%
Professional development provides teachers with the knowledge and skills most needed to teach effectively	67.6%	64.4%

The Center for Teaching Quality has written customized briefs for all 16 of the original DSSF districts to help provide more specific information on their unique working conditions challenges and potential recommendations. There are notable differences across the DSSF districts. Some struggle while others are at or above the state average in virtually all working conditions areas. These briefs have been issued to the State Board of Education and shared with the districts in an effort to more strategically target state policies and drive local conversations about appropriate working conditions reforms.

Turnaround Team High Schools

In hearings held as part of the Leandro rulings in 2005, 44 high schools were identified as chronically low performing. The list was further refined to 19 high-priority schools in March 2006. In order to better understand current working conditions in both the 44 Turnaround Team high schools and the subset of 19 high-priority high schools, survey results for these schools are discussed relative to all other high schools in the state.[16]

While teachers in the high-priority schools—all with less than 60 percent meeting standards for five years—are much less likely to note the presence of positive working conditions in all areas studied in the survey, three areas were found to be of particular concern given the gaps between Turnaround Team and other high schools: time, empowerment and leadership. In particular, several concerns are raised by examining educator responses to specific questions on the survey (Table 14):

- ***Educators in the Turnaround Team high schools do not feel trusted.*** Research has shown the importance of trust as a critical factor in school improvement and student learning. Educators in Turnaround Team high schools are much less likely to note an atmosphere of trust in their school (one-third in the high priority schools vs. almost two-thirds in other high schools) and do not believe they are trusted to make good decisions about instruction (about one-half vs. three-quarters respectively).

- ***Turnaround Team high schools face safety and discipline concerns.*** Far fewer educators in Turnaround Team high schools believe that their school environment is safe and that they are supported in maintaining discipline in their classrooms.

- ***More time is needed for planning and instruction in high-priority Turnaround Team high schools.*** Teachers in the 19 high-priority schools noted the need for more time to plan and collaborate and were more likely to cite duties that distract them from instruction.

- ***School leadership in Turnaround Team high schools is not providing teachers opportunities to impact their school.*** Teachers in the high priority Turnaround Team schools are less likely to feel involved in making important education decisions and are less likely to rate school leadership as effective.

The end result of these differences is teachers looking to leave their positions in the Turnaround Team high schools, perpetuating already existing staffing difficulties. Teachers in the Turnaround Team high schools were more likely to indicate a desire to move from their current school and leave teaching altogether. While 8 percent of high school teachers noted on the survey a desire to move from their current school and 6 percent wanted to quit teaching, a full 19 percent of teachers in the original 19 high-priority Turnaround Team high schools want to move to a new school (15 percent for the other Turnaround Team high schools) and 9 percent express a desire to leave teaching.

Table 14. Teacher Agreement on Select Teacher Working Conditions Questions in Turnaround Team and other High Schools

Percent of Educators Agreeing with Teacher Working Conditions Question	19 High-Priority Turnaround Team high schools	Other Turnaround Team high schools	All Other high schools
The non-instructional time provided for teachers in my school is sufficient.	40%**	57%	61%
Teachers are protected from duties that interfere with their essential role of educating students.	25%**	44%	44%
Teachers and staff work in a school environment that is safe.	53%**	67%*	80%
Teachers are trusted to make sound professional decisions about instruction.	47%**	60%*	73%
Teachers are centrally involved in decision making about educational issues.	31%**	40%	49%
There is an atmosphere of trust and mutual respect within the school.	35%**	50%*	63%
Opportunities are available for the members of the community to contribute actively to this school's success.	41%*	55%*	67%
The school leadership supports teachers' efforts to maintain discipline in the classroom.	42%*	54%*	68%
Overall, the school leadership in my school is effective.	40%*	52%*	64%

* = statistically significant difference between schools in this category and other high schools using ANOVA analyses at the .05 level.
** = statistically significant difference between 19 high-priority schools AND other high schools and Turnaround Team schools

Reformed High Schools

Teachers were more positive about every working condition in redesigned high schools—both Learn and Earn and those participating in the New Schools Project redesign efforts—than other high schools (Table 15). Additionally, it was in the working conditions where teachers are the least positive in their responses—time, professional development and empowerment—where the gaps between redesigned high schools and other high schools are the largest.

Several positive trends in these redesigned high schools are evident.

- ***Teachers in redesigned high schools feel trusted and part of a well lead, collaborative educational community.*** Research has shown the importance of trust as a critical factor in school improvement and student learning. Educators in these schools are much more likely to note an atmosphere of trust in their school (two-thirds vs. about four-fifths).

- ***This trust is due in part to schools that embrace teacher leadership and empower teachers with important education decisions.*** Less than half of high school educators believe teachers are centrally involved in education decisions compared to about three-quarters in redesigned high schools. Teachers in redesigned high schools are much more likely to report an effective process for making group decisions, having time to work collaboratively, solving problems and working with effective school improvement teams.

- ***Teachers in redesigned high schools are more likely to believe that leadership addresses their concerns.*** While only half of high school teachers believe school leadership addresses issues related to empowerment (52.0 percent) and professional development (52.9 percent), more than three quarters of teachers in redesigned high schools note sustained efforts (77.8 percent and 81.3 percent respectively).

With these positive working conditions in place, almost half (47 percent) of teachers in redesigned high schools strongly agree that their school is a good place to work and learn (compared to about 25 percent at other high schools). It is not surprising that more than nine out of ten educators indicated a desire to stay in their redesigned high school (92.1 percent).

Table 15. Teacher Agreement on Select Teacher Working Conditions Questions in Redesigned and other High Schools

Percent of Educators Agreeing with Teacher Working Conditions Question	Redesigned High Schools	Other High Schools
Teachers have reasonable class sizes, affording them time to meet the educational needs of all students.	49.2%	75.7%
Teachers are protected from duties that interfere with their essential role of educating students.	73.9%	52.5%
The reliability and speed of internet connections in this school are sufficient to support instructional practices.	87.7%	68.9%
Teachers are trusted to make sound professional decisions about instruction.	84.3%	68.7%
Teachers are centrally involved in decision making about educational issues.	72.4%	44.2%
There is an atmosphere of trust and mutual respect within the school.	85.2%	59.9%
Opportunities are available for the members of the community to contribute actively to this school's success.	83.5%	62.1%
Overall, the school leadership in my school is effective.	84.4%	68.2%
Sufficient funds and resources are available to allow teachers to take advantage of professional development activities.	81.9%	44.9%
Professional development provides teachers with the knowledge and skills most needed to teach effectively.	78.1%	53.9%

Note: All differences statistically significant at the .001 level

Domain Analyses

Analyses are presented in each working conditions area to better understand trends across the state.

Time: Ensuring North Carolina Teachers Have the Opportunity to Work Collaboratively and Reach All Students

Quality teaching is time-dependent. Teachers need time to collaborate with their peers, discuss and observe best practices, and participate in professional development that prepares them for changing curricula and the challenges of teaching a diverse population. Current school schedules demand that teachers spend the vast majority of their time in classroom instruction. Most teachers have little non-instructional time during the school day, and in that time, they must prepare instructional materials, assess students and communicate with parents. Additionally, teachers often must serve on school committees, staff various extracurricular activities or cover hall or lunch duty. Such schedules do not allow adequate time for the continuous professional learning that is necessary for quality teaching.

Time is of particular importance to this analysis because of two significant findings:

- Time was the working condition that educators were most likely to note as most important for improving student learning (29 percent); and

- Time, as was the case in 2002 and 2004, was the working condition that was most problematic to educators across the state.

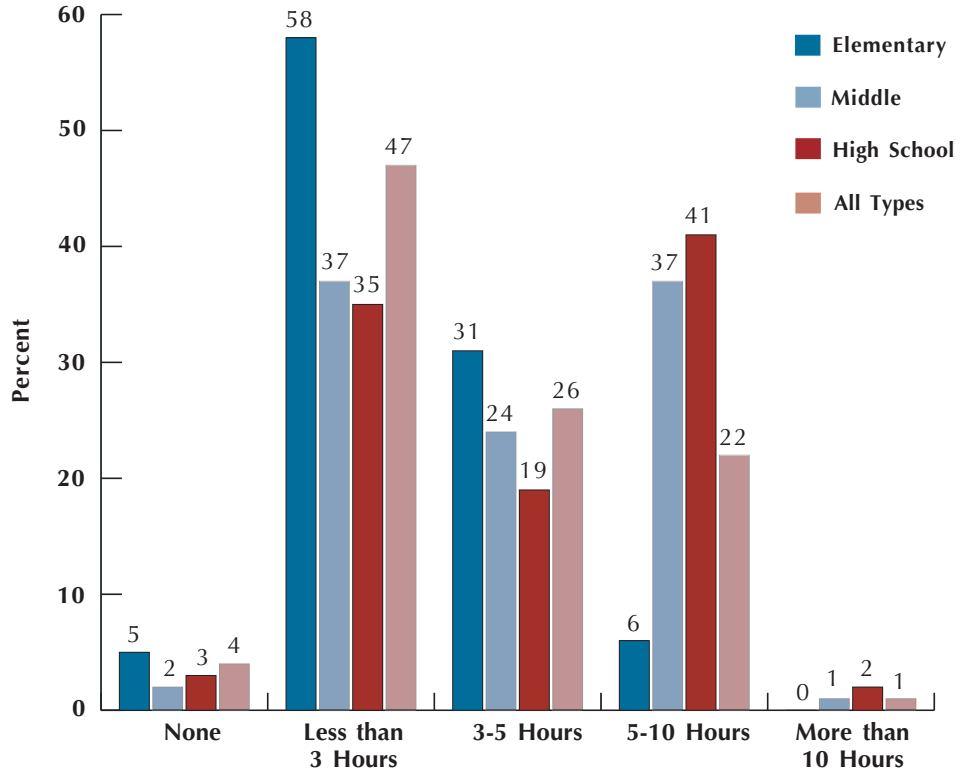
Teachers, particularly elementary educators, report the need for more planning and collaborative time. Less than half (almost 40,000 educators responding to the survey) of North Carolina teachers believe the non-instructional time they receive is sufficient to help them meet the needs of their students and improve instruction. The following trends were noted in analyzing educators' responses in the area of time:

- ***More than half of teachers receive less than three hours per week that could be used for planning during the school day.*** Fifty-one percent of educators report having less than three hours of non-instructional time per week that could be used for planning or collaborative work with colleagues. More than three-quarters (77 percent) receive five hours or less per week.

- ***The problem is worse at the elementary school level.*** While about one-third of elementary educators believe the non-instructional time they have for planning and collaboration is sufficient (37.2 percent), about three-fifths of middle school (57.2 percent) and high school

(59.5 percent) educators agree they have enough time (Figure 3). Elementary teachers are also less likely than middle school educators (50.9 percent vs. 65.6 percent) to report that they have time available to collaborate with colleagues. This perception exists due to the reality of time available (Figure 2). Elementary educators disproportionately report receiving less than an hour per day that could be used for planning (94 percent) compared to middle school (62 percent) and high school (57 percent). Almost two-thirds (63 percent) report receiving less than three hours per week at the elementary level compared to 39 percent at the middle school and 38 percent at the high school levels.

Figure 3. Amount of Time for Planning and Collaboration by School Type



- ***Administrators believe that teachers have more non-instructional time than teachers actually receive.*** When asked to estimate the average amount of non-instructional time teachers receive in a week, principals, assistant principals and other licensed educators estimated a higher proportion of time available than teachers reported receiving. More than half of teachers (38,000 survey respondents) report having less than 3 hours of non-instructional time for planning, but less than one-third (31 percent) of administrators—principals, assistant principals and other licensed educators—believe that to be the case. Almost three-quarters believe that teachers have three hours or more while only half of educators report that much time.

- ***Non-instructional time is more likely to be used for individual planning than collaborative work.*** Teachers reported that the non-instructional time they receive is more likely to be used for individual planning than collaborative work with colleagues. This collaborative time is critical to discussing instructional strategies, students and planning across grades

and content areas. This is particularly true at the high school level, where almost half (44.6 percent) report having no collaborative planning time and 88 percent had three hours or less in an average week, despite receiving significantly more non-instructional time than educators at other levels. One-quarter of elementary educators in North Carolina report having, on average, no time available to them to plan with colleagues (compared with 14 percent at the middle school level) and 92 percent report having less than three hours.

- ***Due in part to this lack of planning time, teachers work on school related activities outside of the school day.*** Fifty-seven percent of educators report working at least five hours a week, on average, on school related activities and almost one-third (29 percent) report averaging ten hours or more (Table 16). Administrators, however, are much less likely to think that teachers are putting forth this extra effort. Only about one-third of administrators (37.8 percent) believe teachers spend an hour per day more outside of the school day on planning, grading, conferences and other school-related activities.

Table 16. Teacher and Principal Reporting of Teacher Time Spent on School-Related Activities Outside of the School Day

In an average week of teaching, how many hours do you/teachers spend on school-related activities outside the regular school day?	None	Less than 3 Hours	3-5 Hours	5-10 Hours	10 Hours or More
Teachers	1.6%	17.3%	23.6%	28.5%	29.0%
Administrators	1.8%	29.4%	31.1%	26.0%	11.8%

Facilities and Resources: Ensuring Teachers Have the Resources to Help All Children Learn

School facilities can have a significant impact on teaching and learning. The condition, location and design of school buildings affect the health, safety and morale of all who work and learn within them, in addition to facilitating the kind of educational experiences (such as hands-on or technology-based learning) necessary for students to succeed in the 21st century. Innovative school designs and uses of space also have the potential to integrate neighborhoods and schools, making the school a center of community activity and engagement.

North Carolina educators were more likely to agree that facilities and resources were in place in their school than other domains within the survey. In general, and across different school levels, between two-thirds and three-quarters of educators reported that they have sufficient resources to do their job (Table 17). While these findings are positive, they also indicate that, in most cases, a significant proportion of teachers do not believe that their resources are sufficient. For example, while 73 percent agree that they have sufficient instructional materials, almost 20,000 survey respondents in the state did not believe their materials were sufficient.

Table 17. Perception of the Presence of Facilities and Resources by School Type

Facilities and Resources Areas	Elementary	Middle School	High School	TOTAL
Teachers have sufficient access to instructional materials and resources.	76%	72%	68%	73%
Teachers have sufficient access to instructional technology.	77%	70%	68%	74%
Teachers have adequate professional space to work productively.	67%	70%	58%	66%
Teachers have sufficient access to communication technology.	76%	74%	70%	75%
Teachers have sufficient access to office equipment and supplies.	71%	72%	68%	71%
The reliability and speed of Internet connections are sufficient to support instructional practices.	76%	73%	70%	74%
Teachers and staff work in a school environment that is safe.	88%	79%	78%	84%

More than four-fifths (83 percent) of educators agree that teachers and staff work in a school environment that is safe (with expected differences between elementary and secondary schools) and 74 percent agree that the school environment is clean and well-maintained. The only facilities and resources measure with less than 70 percent of North Carolina educators expressing positive agreement relates to professional space. Only 65 percent of educators agree that they have adequate professional space to work productively, and only 15 percent strongly agree with this statement.

Empowerment: Ensuring Those Who Are Closest to Students Are Involved in Making Decisions that Affect Them

Treating teachers as professionals, by entrusting them to make decisions about classroom instruction and offering opportunities for advancement throughout the teaching career, makes teaching more attractive to prospective teachers and encourages current teachers to stay in the profession.

North Carolina educators appear to be more involved in decisions related to their own teaching than the school as a whole (Table 18). Teachers feel positive about being recognized as education experts and trusted to make decisions regarding instruction in their own classroom, but much less empowered to influence important school decisions outside their classroom door. Of particular importance is the lack of influence educators have on their own continued development and learning. Almost half (44 percent) of educators indicate that teachers play a small role or no role at all in selecting in-service professional development opportunities available to them.

Table 18. Teachers' Role in School Decision Making

Please indicate how large a role teachers have at your school in each of the following areas:	Role Indicated by North Carolina Educators				
	No role at all	Small role	Moderate role	Large role	Primary role
Selecting instructional materials and resources	3%	14%	31%	38%	14%
Devising teaching techniques	2%	9%	24%	43%	22%
Setting grading and student assessment practices	6%	15%	27%	36%	16%
Determining the content of in-service professional development	16%	28%	33%	20%	3%
Establishing and implementing policies for student discipline	18%	28%	29%	21%	3%
Deciding how the school budget will be spent	36%	32%	22%	10%	1%
School improvement planning	6%	19%	31%	35%	8%
Hiring new teachers	48%	28%	17%	7%	1%

- ***This lack of influence over school level decisions such as hiring and budget may explain why half of educators in the state do not feel empowered.*** Overall, slightly more than half of North Carolina educators (53 percent) agree that teachers are centrally involved in decision making, but only 9 percent strongly agree with this statement.

- ***Absent empowerment measures may also be caused by the lack of an effective process for making collaborative decisions and solving problems.*** A similar, but slightly higher percentage (57 percent), report that there is an effective process for making group decisions and solving problems in their school. Only one in ten teachers in the state (11 percent) strongly agree that this process exists—a statistically significant factor in explaining middle school student achievement levels.

- ***The process in place as one of the primary mechanisms intended to help empower teachers seems to miss the intended mark in many schools across the state.*** While North Carolina law requires the election of School Improvement Team (SIT) members, only 40 percent of educators say the team is elected, 33 percent say they are not elected, and 27 percent do no know if members are elected. Further, only 58 percent of educators agreed that their School Improvement Team provides effective leadership (only 14 percent strongly agree), a critical finding given the connections found between perceptions of SIT effectiveness and teacher turnover at the secondary level.

Leadership: Ensuring Schools Have Strong Leaders Who Support Teaching and Learning

School improvement is not possible without skilled, knowledgeable leadership that is responsive to the needs of all teachers and students. A report from the Wallace Foundation (2004) revealed that leadership is second only to classroom instruction among all school-related factors that contribute to what students learn at school and that leadership effects are usually largest where and when they are needed most. Effective leadership is also essential for retaining quality teachers. Across states that have conducted a Teacher Working Conditions survey, educators consistently rank leadership as the most important factor affecting their willingness to remain teaching at their school.

North Carolina educators were generally positive about the concept of leadership in their respective schools. The domain average for leadership was 3.60 (on a one-five scale of satisfaction), ranking as the second highest of five working conditions, behind only facilities and resources.

Teachers were most positive about leadership on issues related to communicating clear expectations, holding teachers to high professional standards and handling teacher performance evaluations effectively. Consider the following:

- About two-thirds (64 percent) of North Carolina educators agreed that school leadership was effective overall;
- Approximately 85 percent of educators agree that teachers are held to high professional standards for delivering instruction;
- More than three-quarters (78 percent) of educators agree that teacher performance evaluations are handled in an appropriate manner; and
- Almost three-quarters (72.5 percent) of educators agree that school leadership communicates clear expectations to students and parents.

It is also important to note that questions in this section of the survey focused on school leadership, not necessarily the principal. In fact, less than half (45 percent) of educators identified the principal as the person who most often provides instructional leadership. A full 15 percent of survey respondents said other teachers were the people most often providing instructional leadership. While the principal is essential, many other educators play critical roles in different aspects of school leadership.

Teachers were less positive in some areas of leadership, particularly related to consistent enforcement of conduct and shielding teachers from interruptions.

- Only 57.5 percent of educators agree that the School Improvement Team provides effective leadership in their school.
- A similarly low percentage of educators (57.2 percent) agree that school leadership consistently enforces rules for student conduct.

- And only 60.2 percent of teachers agree that school leadership shields teachers from interruptions.

The importance of leadership and its connection to retention and student learning was documented throughout the main findings.

Professional Development: Ensuring Teachers Can Continually Enhance Their Knowledge and Skills

Given the complexity of teaching and learning in today's schools, high-quality professional development is necessary to ensure that all teachers are able to meet the needs of diverse student populations, effectively use data to guide reform and become active agents in their own professional growth.

- ***When teachers did receive professional development, they were relatively pleased with the results.*** About two-thirds of educators agree (64 percent) that professional development provides teachers with the knowledge and skills most needed to teach effectively. Teachers were much more positive about specific opportunities for which they received at least 10 hours of development over the past two years. In all areas of professional development provided, at least three-quarters of educators believe that the opportunity provided them with new instructional strategies and helped to improve student learning.

- ***A remaining challenge may be the amount of funding and resources for professional development.*** Only half of teachers (50 percent) agree that sufficient funds and resources are available to allow teachers to take advantage of professional development activities and only 10 percent strongly agree with this statement.

- ***Teachers in North Carolina want and need more professional development to reach diverse learners.*** Of all professional development areas, educators most often indicated special education for students with disabilities as the area they need additional support (50 percent), followed by Limited English Proficiency (43 percent) and closing the achievement gap (41 percent). Unfortunately, serious problems remain across the state with the alignment between what educators say they most need in terms of professional development and what they ultimately receive. There are significant gaps between the percentages of teachers reporting a need for some aspects of professional development relative to the percentage receiving more than 10 hours of professional development in the areas of greatest need (Table 19).

This disparity in the areas where teachers say they need additional support and the opportunities they receive could be due to the previously noted lack of influence teachers have on giving input into professional development opportunities made available to them. Few teachers indicate that they are involved in determining the content of in-service programs. Approximately 44 percent reported they played little or no role at all in determining the content of their professional development.

Table 19. Differences in the Percent of Educators Who Report Needing Versus Receiving Professional Development Support

Professional Development Area	Need Additional Support	10+ Hours Over Past Two Years
Special Education – disabilities	50%	17%
Special Education – gifted	23%	8%
Limited English Proficiency	43%	9%
Closing the Achievement Gap	41%	21%
Your Content Area	12%	51%
Methods of Teaching	15%	43%
Student Assessment	17%	26%
Classroom Management Techniques	23%	24%
Reading Strategies	29%	60%

Additionally, trends in professional develop vary in several ways:

- New teachers were more likely than veteran educators to indicate a need for additional support across virtually several areas (working with special education and LEP students as well as closing the achievement gap were notable exceptions). In particular, more than double the proportion of new teachers (47.1 percent) and those with one-three years experience (34.5 percent) want additional support in classroom management and methods of teaching (29.7 percent and 22.2 percent respectively) than those with 11-20 years experience (18.4 percent management and 12.2 percent on teaching methods) and 20+ (16.1 percent and 9.6 percent respectively).

- There were few differences across school levels in terms of identified professional development needs. But as would be expected, high school and middle school educators were more likely to have received content area professional development (58.5 percent and 55.4 percent respectively) than elementary teachers (45.4 percent). While three-quarters of elementary educators received support in reading strategies (74.0 percent) and almost two-thirds of middle school teachers (61.2 percent), only one-third of high school educators had at least ten hours over the past two years. Elementary teachers received more professional development on student assessment than secondary educators and fewer had at least ten hours in classroom management.

Induction and Mentoring: Ensuring that New Teachers Receive Sufficient Support to Be Successful and Stay in Teaching

Mentoring questions were only asked of those North Carolina educators who indicated that they had served as a mentor or were new educators (three years of experience or less in the profession). Roughly 10,000 new teachers responded to these questions and over 18,000 educators serving as mentors responded. Several common questions about the frequency and

effectiveness of induction were asked of both groups. As these questions were more centered on actual mentoring experiences rather than perceptions and few were on the same measurement scale, no domain average was created.

New teachers indicate that mentoring was effective in several areas (Table 20). In particular, mentors provided helpful general encouragement and social support (71 percent indicated it helped a lot or was critical). Also, 64 percent indicated mentors helped a lot or were critical for completing products or documentation. ***On most measures, about half of new teachers believed their mentors helped a lot or were critical.***

However, a substantial proportion of new teachers believe that mentors are providing little or no help, particularly in curriculum and subject area taught (30 percent) and classroom management (24 percent). In general, it appears that mentoring is helping a significant number of new teachers, but that roughly one-quarter of new educators are not finding the assistance helpful to them.

Table 20. New Teacher Perceptions of Mentoring Effectiveness

My mentor was effective in providing support in the following areas	No help at all	Helped a little	Helped some	Helped a lot	Help was critical
Instructional strategies	9%	13%	23%	41%	14%
Curriculum and the subject content I teach	15%	15%	22%	34%	13%
Classroom management/ discipline strategies	10%	14%	23%	38%	15%
School and/or district procedures	9%	12%	21%	40%	17%
Completing products or documentation required	8%	10%	17%	41%	23%
Completing other school or district paperwork	11%	11%	19%	39%	20%
Social support and general encouragement	6%	8%	14%	42%	29%

While more could be done to better support and prepare mentors themselves for their work with novice teachers, there are some positive data trends for mentor preparation. Slightly more than three-quarters (76 percent) of formally assigned mentors report receiving specific training as a mentor, 39 percent report having release time to observe their mentee(s), and 29 percent report having common planning time with mentee(s). While the numbers could be higher, they are a point of strength relative to other states.

As was the case with principals and teachers, mentors and mentees appear to have vastly different perceptions of their respective induction experience (Table 21). Mentors report that they are able to provide more frequent support to teachers in many areas that new teachers do not indicate receiving. While these data should be examined with some caution as one mentor may have several mentees so they are not direct one to one comparisons, the gaps are large and telling.

Table 21. Differences in the Perceptions of Mentees and Mentors Regarding Frequency of Mentoring Activities

Mentoring Activity	Mentees			Mentors		
	Never	Less than once per month to Several times per month	At least once per week	Less than once per month	Less than once per month to Several times per month	At least once per week
Planning during the school day	31%	40%	29%	15%	42%	43%
Mentor observing mentee	21%	70%	8%	7%	80%	13%
Mentee observing mentor	49%	44%	6%	29%	61%	9%
Planning instruction	34%	45%	22%	9%	56%	35%
Having discussions about teaching	6%	47%	47%	1%	32%	67%

The inconsistencies in the quality of mentoring efforts across the state are reflected in the split of data relative to the effectiveness of induction for retaining teachers. ***While 43 percent of new teachers who experience mentoring in North Carolina say it was important or very important in their decision to continue teaching in their school, almost as many teachers (42 percent) reported it was only slightly important or made no difference in their decision.***

Conclusion

Governor Easley has made a sustained commitment to listening to educators and reforming schools in order to create the working conditions necessary for student and teacher success. With three iterations of the working conditions survey and about 150,000 total responses to critical questions about their workplace, analyses have been consistent and clear. The conditions teachers face in schools and classrooms, though often overlooked, are essential elements to student achievement and teacher retention. As the Governor aptly notes, "teacher working conditions are student learning conditions."

Armed with data and research from the initiative, many schools and districts across the state have made significant efforts to improve working conditions. The state, too, has made notable efforts to address working conditions based on results from the 2004 initiative.

- ***Working conditions is now a permanent part of the North Carolina education reform process***, by funding the survey every two years and creating the North Carolina Teacher Working Conditions Advisory Board.

- ***The state has increased the level of rigor expected of school principals in creating positive working conditions and provided needed support.*** The state has rewritten principal standards to incorporate teacher recruitment, retention and administration. All Masters of School Administration programs will be evaluated based on these standards and a new evaluation instrument is being created which will, amongst other things, assess whether principals establish positive working conditions. Additionally, all new principals are required to take professional development funded by the state and offered through the Principals Executive Program on creating positive working conditions.

- ***Investments have been made to support the use of data and spreading of best practice.*** The NC Network received funding to create a blueprint for School Improvement Teams in integrating working conditions results into school improvement planning, and conducting the state's Real DEAL (Dedicated Educators, Administrators and Learners) conference to share best practices in schools with positive working conditions and high student achievement. The Teacher Academy receives $2 million annually to provide professional development in the original DSSF districts to improve teaching quality with a focus on working conditions reform. Additional analyses have been conducted by the Center for Teaching Quality for DSSF districts and low performing high schools. Turnaround plans are being analyzed in low performing high schools to ensure working conditions data is incorporated and reform strategies address teacher concerns.

These efforts are noteworthy and represent a level of investment and data driven decision making that is unprecedented. Other states are now following North Carolina's leadership in conducting working conditions initiatives and looking at similar reforms. But schools and communities can and should do considerably more to improve teaching and learning conditions. This report found that successful undertakings to improve these conditions could improve student achievement and help to stem teacher turnover. Given the overwhelming teacher recruitment and retention challenges facing many North Carolina school districts, systemic and sustained effort to improve teacher working conditions is a necessity.

Recommendation 1: Bolster School Improvement Teams and Find Other Ways to Appropriately Engage Teachers in Decision Making

Analyses demonstrated that the presence of a School Improvement Team (SIT) that provides effective leadership at the school had a significant impact on teacher turnover at the secondary level. However, only 58 percent agreed that this is true in their school. Further, only 40 percent of teachers noted that members of the SIT are elected (currently required by state statute). Improving the SIT is not only critical to addressing teacher concerns about empowerment, but meeting the new requirements of HB 1151 to create a duty free lunch and planning period in all North Carolina schools (submitted by the SIT).

- ***Conduct a thorough audit of the SIT process across the state.*** More needs to be done to ensure the current statutory requirements for the formation and operations of SITs are met. If violations are found, school and district leaders should be held accountable for following these requirements.

- ***Provide more structured guidance and technical assistance to SITs in engaging in appropriate school based decision making*** (including hiring, budgeting, professional development planning, etc.). NC Network, DPI and other organizations and entities should provide necessary support to SITs in fully engaging and communicating with school faculty. The first area to invest in should be scheduling and collaborative planning to ensure that SITs make positive contributions not just to the quantity, but quality of non-instructional time made available to North Carolina teachers.

- ***Consider areas where teachers can be appropriately engaged in decision making and ensure they have the knowledge and skills necessary to write the decisions.*** Professional development should be created and delivered by accomplished teacher leaders that help all educators understand how to create efficient and effective distributed leadership models.

Recommendation 2: Continue Investments in School Leadership and Supportive School Communities

By revising standards and investing in the preparation and professional development of school principals, North Carolina has the opportunity to quickly and significantly improve working conditions. School leadership—including, but not exclusive to the principal—was found to significantly impact both student learning and teacher retention. Further investment that provides school leaders with the support they need to create a trusting supportive school environment is essential. Principals cannot create these environments themselves. They need help from teachers, parents, businesses, higher education and other community partners.

- ***Target funding for professional development targeted toward principals and teacher leaders to collaboratively improve working conditions.*** North Carolina has an abundance of high-quality resources for principals, including the Principals Executive Program, the Triangle Leadership Academy, Institutions of Higher Education, etc. Assistance from these providers should be coordinated and opportunities clearly communicated to new and veteran educators on creating supportive, trusting, professional learning communities.

- ***Ensure that working conditions analysis and reform is a community effort.*** Professional development and training should not just be targeted educators, but at the community at large. The business community, higher education and parents are all integral to the success of schools and can be strong, stable partners in long-term working conditions reform. Communication about how working conditions data can be used by each of these audiences (business to promote local schools, universities to make more strategic placement of teacher candidates in supportive clinical settings, etc.) and how they can help schools address concerns should be developed and disseminated.

Recommendation 3: Provide Support for Schools to Reform Teacher Working Conditions

The benefit of surveying every educator in North Carolina is the ability to provide any school with a sufficient response rate with their own unique data, representing the perceptions of their own teaching corps. With two-thirds of educators responding and data for almost 2,000 of the state's 2,200 schools, virtually all school communities now have the information they need to consider the state of their school's working conditions. The challenge now lies in making the data more accessible and providing schools with more tools and incentives to incorporate this data into the school improvement planning process.

- ***Create professional development modules and more usable tools for schools to support working conditions data analysis and the creation of data-driven strategies for improving working conditions.*** The NC Network SIT blueprint and the Center for Teaching Quality's web based toolkit at www.teacherworkingconditions.org are initial steps. Additional user-friendly options must be developed if schools are going to be expected to understand and act on their data.

- ***Create working conditions assistance teams—comprised of teachers, principals and other educators from schools with positive climates—to assist schools who request help in reforming working conditions.*** Lessons may be learned from Clark County, Nevada (Las Vegas) where the district has paid for the release of four teachers and brought back several retired principals all trained in interest-based problem solving by the Federal Mediation and Conciliation Services to work with schools on a long-term, team-based, data-driven process to identify appropriate school-based working conditions reform.

- ***Ensure resources are available to support schools in implementing data-driven working conditions reform.*** Knowing resources are available to support reform will help facilitate data use and the creation of quality improvement plans. Both private and state funding could be raised to assist schools.

- ***Develop a working conditions web portal that documents schools with positive working conditions and student achievement and amasses success reform models.*** The state should invest more strategically in monitoring and documenting sites with positive working conditions and successful reform efforts to improve schools that may be struggling. The strategies of successful schools should be written and shared more systematically.

Recommendation 4: Investigate Principal Working Conditions and Other Local and State Impediments to Creating Positive School Environments

While working conditions reform needs to start at the school level, it should not end there. Many of the challenges schools face are beyond their control, a part of district or state policies and practices (intended or unintended). To better understand these influences, data—through additional survey items and focus groups—must be gathered and analyzed.

- ***Conduct a working conditions survey of principals to better understand their working conditions and the impact of district and state policies on their ability to lead at the school level.*** This survey could be administered as part of the North Carolina Teacher Working Conditions Survey by adding questions for principals that ask questions specific to their ability to lead and create positive school climates. Emphasis should be placed on identifying areas where principals are empowered to make decisions and where they perceive impediments exist to designing and implementing data-driven, effective school policies.

- ***Conduct focus groups with school and district leaders about local and state policies that influence teacher working conditions.*** Superintendents, school boards, principals and other administrators and teacher leaders sit in advantageous positions to understand how state policy may make it difficult for schools and districts to improve working conditions (i.e. funding and transportation on school scheduling). These conversations should be conducted and impediments, if they exist, should be identified and shared with the State Board of Education for their consideration.

Ensuring a qualified teacher for every student is not enough to close the achievement gap. Teachers must have the resources and support they need to serve all students well, and without comprehensive sustained efforts to improve teacher working conditions, much of the state's notable school reform efforts could go unfulfilled.

Appendix A. Statistical Models for Elementary School Student Achievement

Statistical Model Explaining Elementary School Performance
Composite Achievement

Model		Unstandard Coefficients B	Unstandard Coefficients Std. Error	Standardized Coefficients Beta	t	Stat. Sig.
1	Constant	0.721	0.047		15.278	0.000
	Economically disadvantaged	-0.290	0.011	-0.651	-26.906	**0.000**
	Percentage of white teachers	0.052	0.014	0.092	3.702	**0.000**
	Percentage of female teachers	0.036	0.040	0.018	0.895	0.371
	Percentage of novice teachers	-0.001	0.000	-0.072	-3.268	**0.001**
	Greater than 5 percent of teachers on lateral entry licenses	-0.008	0.006	-0.029	-1.338	0.181
	School enrollment (less than 200)	0.017	0.011	0.033	1.640	0.101
	Teacher turnover rate	-0.001	0.000	-0.073	-3.169	**0.002**
	Teachers play a large or primary role in selecting instructional materials	0.047	0.012	0.084	3.856	**0.000**
	Agreement that the faculty is committed to helping every student learn	0.053	0.029	0.050	1.821	0.069
	Agreement that teachers are held to high standards for delivering instruction	0.064	0.027	0.064	2.377	**0.018**

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Student characteristics	0.789	0.623	0.622	0.066	0.622
2	Teacher characteristics	0.811	0.658	0.656	0.063	0.036
3	School characteristics	0.817	0.667	0.664	0.062	0.009
4	Working conditions	0.829	0.687	0.683	0.060	0.020

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Working conditions	0.442	0.196	0.193	0.096	0.193
2	Teacher characteristics	0.643	0.413	0.409	0.082	0.218
3	School characteristics	0.648	0.420	0.414	0.082	0.007
4	Student characteristics	0.829	0.687	0.683	0.060	0.267

Statistical Model Explaining Elementary School Academic Growth

Logistic Regression on Whether or Not Elementary Schools Did Not Meet or Met/Exceeded Growth Expectations

		B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1(a)	**Percentage economically disadvantaged (75 percent or greater)**	-0.774	0.175	19.642	1.000	**0.000**	**0.461**
	Greater than 10 percent of teachers on lateral entry license	-0.252	0.133	3.594	1.000	**0.058**	**0.777**
	Percentage of white teachers (greater than 80 percent)	0.360	0.165	4.773	1.000	**0.029**	**1.433**
	15 percent or more of Limited English Proficient students	0.415	0.221	3.526	1.000	**0.060**	**1.514**
	School size (greater than 800)	-0.122	0.240	0.258	1.000	0.612	0.885
	Percentage of novice teachers (greater than 25 percent)	-0.238	0.134	3.149	1.000	**0.076**	**0.789**
	Facilities and resources domain average (greater than 3.9)	0.292	0.150	3.759	1.000	**0.053**	**1.338**
	Leadership domain average (greater than 3.9)	0.258	0.150	2.960	1.000	**0.085**	**1.294**
	Agreement that class sizes are reasonable (greater than 60 percent)	0.292	0.134	4.754	1.000	**0.029**	**1.339**
		-0.028	0.195	0.021	1.000	0.886	0.972

Appendix B. Statistical Models for Middle School Student Achievement

Statistical Model Explaining Middle School Performance Composite Achievement

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Statistical Significance Sig.
1	**Constant**	0.396	0.045		8.766	**0.000**
	Percentage of Limited English Proficient students (greater than 15 percent)	-0.050	0.021	-0.075	-2.407	**0.017**
	Percentage of economically disadvantaged students (greater than 50 percent)	-0.090	0.008	-0.387	-10.734	**0.000**
	Percentage of white teachers	0.184	0.021	0.339	8.867	**0.000**
	Percentage of female teachers	0.079	0.038	0.065	2.064	**0.040**
	Percentage of novice teachers	-0.032	0.044	-0.028	-0.720	0.472
	10 percent or more teachers on lateral entry licenses	-0.013	0.009	-0.053	-1.392	0.165
	Teacher turnover rate	0.000	0.000	-0.011	-0.296	0.767
	School size (less than 400 students)	-0.031	0.011	-0.092	-2.840	**0.005**
	School size (greater than 1100 students)	0.048	0.016	0.096	3.056	**0.002**
	Agreement that the faculty is committed to helping every student learn	0.115	0.036	0.119	3.181	**0.002**
	Agreement that there is an effective process for making group decisions and solving problems	0.048	0.024	0.067	1.950	**0.052**
	Agreement that teachers have sufficient access to appropriate instructional materials	0.054	0.028	0.071	1.942	**0.053**

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Student characteristics	0.690	0.476	0.473	0.084	0.476
2	Teacher characteristics	0.803	0.645	0.638	0.070	0.165
3	School characteristics	0.811	0.658	0.650	0.069	0.011
4	Working conditions	0.832	0.693	0.682	0.065	0.033

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Working conditions	0.454	0.206	0.199	0.104	0.199
2	Teacher characteristics	0.725	0.526	0.517	0.081	0.320
3	School characteristics	0.760	0.578	0.566	0.076	0.052
4	Student characteristics	0.832	0.693	0.682	0.065	0.115

Statistical Model Explaining Elementary School Academic Growth

Logistic Regression on Whether or Not Middle Schools Did Not Meet or Met/Exceeded Growth Expectations

	B	S.E.	Wald	df	Sig.	Exp(B)
Percentage economically disadvantaged (greater than 75 percent)	-0.901	0.425	4.487	1.000	**0.034**	**0.406**
Greater than 10 percent on lateral entry licenses	-0.097	0.449	0.047	1.000	0.829	0.908
Percentage of white teachers (greater than 80 percent)	0.607	0.265	5.248	1.000	**0.022**	**1.834**
Percentage Limited English Proficient (greater than 15 percent)	0.653	0.820	0.635	1.000	0.425	1.922
Teacher turnover rate (greater than 30 percent)	-0.421	0.304	1.923	1.000	0.166	0.656
School size (greater than 800 students)	0.633	0.295	4.602	1.000	**0.032**	**1.883**
School size (less than 500 students)	-0.599	0.322	3.458	1.000	**0.063**	**0.549**
Agreement that there is an atmosphere of trust and mutual respect (greater than 80 percent)	0.787	0.364	4.681	1.000	**0.031**	**2.197**
Agreement that the school is clean and well maintained (greater than 90 percent)	1.004	0.300	11.181	1.000	**0.001**	**2.730**
Agreement that teachers are shielded from interruptions (less than 30 percent)	-0.943	0.347	7.369	1.000	**0.007**	**0.389**
	-0.032	0.522	0.004	1.000	0.952	0.969

Appendix C. Statistical Models for High School Student Achievement

Statistical Model Explaining High School Performance Composite Achievement

Model		Unstandard Coefficients B	Unstandard Coefficients Std. Error	Standardized Coefficients Beta	t	Stat. Sig.
1	Constant	0.713	0.037		19.089	0.000
	Percentage of economically disadvantaged students	-0.295	0.025	-0.511	-12.049	**0.000**
	Percentage of Limited English Proficient students (greater than 15 percent)	-0.020	0.033	-0.020	-0.610	0.543
	Percentage of white teachers (greater than 80 percent)	0.038	0.009	0.175	4.316	**0.000**
	Percentage of female teachers	0.015	0.040	0.013	0.379	0.705
	Percentage of novice teachers	0.001	0.001	0.097	2.071	**0.039**
	Percentage of teachers on lateral entry licenses	-0.495	0.083	-0.282	-5.940	**0.000**
	School size (greater than 1500 students)	0.026	0.009	0.107	2.952	**0.003**
	Teacher turnover rate	-0.140	0.058	-0.094	-2.429	**0.016**
	Agreement that class sizes are reasonable	0.054	0.023	0.090	2.350	**0.020**
	Agreement that leadership communicates clear expectations to parents and students	0.050	0.021	0.094	2.427	**0.016**
	Teachers play a large or primary role in devising instructional techniques	0.053	0.030	0.075	1.799	0.073

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Student characteristics	0.746	0.557	0.553	0.069	0.553
2	Teacher characteristics	0.822	0.675	0.668	0.059	0.115
3	School characteristics	0.830	0.689	0.680	0.058	0.012
4	Working conditions	0.850	0.723	0.711	0.055	0.031

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Working conditions	0.479	0.230	0.221	0.091	0.221
2	Teacher characteristics	0.715	0.511	0.498	0.073	0.277
3	School characteristics	0.753	0.567	0.552	0.069	0.054
4	Student characteristics	0.850	0.723	0.711	0.055	0.159

Statistical Model Explaining High School Academic Growth

Logistic Regression on Whether or Not High Schools Did Not Meet or Met/Exceeded Growth Expectations

	B	S.E.	Wald	df	Sig.	Exp(B)
Percentage of economically disadvantaged (greater than 50 percent)	0.228	0.315	0.525	1.000	0.469	1.257
Greater than 10 percent of teachers on lateral entry licenses	-0.136	0.490	0.077	1.000	0.782	0.873
Percentage of white teachers (greater than 80 percent)	0.158	0.295	0.287	1.000	0.592	1.171
Percentage of Limited English Proficient students (greater than 15 percent)	0.136	1.254	0.012	1.000	0.914	1.145
Teacher turnover rate (greater than 30 percent)	0.220	0.405	0.296	1.000	0.586	1.246
School size (less than 600 students)	-0.417	0.336	1.541	1.000	0.214	0.659
Leadership domain average (greater than 3.9)	0.779	0.470	2.755	1.000	0.097	2.180
Agreement that the school is clean and well maintained (greater than 90 percent)	-0.379	0.323	1.382	1.000	0.240	0.684
	0.465	0.561	0.685	1.000	0.408	1.591

Appendix D. Statistical Models Explaining Teacher Turnover

Statistical Model of Teacher Turnover at the Elementary School Level

Model		Unstandard Coefficients B	Unstandard Coefficients Std. Err.	Standardized Coefficients Beta	T	Statistical Significance
1	Constant	0.444	0.056		7.887	**0.000**
	Percentage of Limited English Proficient students (greater than 15 percent)	-0.010	0.008	-0.038	-1.251	0.211
	Percentage of economically disadvantaged students (greater than 50 percent)	-0.042	0.018	-0.123	-2.344	**0.019**
	Percentage of white teachers	-0.073	0.016	-0.169	-4.636	**0.000**
	Percentage of female teachers	-0.113	0.045	-0.072	-2.506	**0.012**
	Percentage of novice teachers	0.003	0.000	0.407	13.291	**0.000**
	Percentage of teachers on lateral entry license	0.001	0.001	0.034	1.034	0.301
	Performance Composite (greater than 60 percent proficient/at grade level)	-0.150	0.037	-0.198	-4.055	**0.000**
	School Size	0.000	0.000	-0.117	-3.553	**0.000**
4	Constant	0.495	0.056		8.788	**0.000**
	Percentage of Limited English Proficient students (greater than 15 percent)	-0.010	0.008	-0.037	-1.235	0.217
	Percentage of economically disadvantaged students (greater than 50 percent)	-0.036	0.018	-0.106	-2.044	**0.041**
3	**Percentage of white teachers**	-0.064	0.016	-0.149	-4.097	**0.000**
	Percentage of female teachers	-0.125	0.044	-0.080	-2.819	**0.005**
	Percentage of novice teachers	0.003	0.000	0.383	12.518	**0.000**
	Percentage of teachers on lateral entry license	0.001	0.001	0.028	0.851	0.395
2	**Performance Composite (greater than 60 percent proficient/ at grade level)**	-0.120	0.037	-0.158	-3.220	**0.001**
	School Size	0.000	0.000	-0.141	-4.154	**0.000**
1	**Teachers play a large or primary role in selecting instructional materials**	-0.046	0.016	-0.108	-2.848	**0.005**
	Teachers play a large or primary role in implementing policies about student discipline	0.039	0.019	0.077	2.102	**0.036**
	Agreement that teacher performance evaluations are consistent	-0.064	0.016	-0.127	-4.013	**0.000**

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of Estimate	Change: Adj R Square
1	Control Variables	0.558	0.312	0.305	0.068	0.305
2	Working Conditions	0.578	0.334	0.326	0.067	0.021

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of Estimate	Change: Adj R Square
1	Working Conditions	0.295	0.087	0.084	0.078	0.084
2	School Characteristics	0.421	0.177	0.172	0.074	0.088
3	Teacher Characteristics	0.573	0.329	0.322	0.067	0.150
4	Student Characteristics	0.578	0.334	0.326	0.067	0.004

Statistical Model of Teacher Turnover at the Middle School Level

Model		Unstandard Coefficients B	Unstandard Coefficients Std. Err.	Standardized Coefficients Beta	t	Statistical Significance
1	Constant	0.056	0.046		1.208	0.228
	Percentage of Limited English Proficient (greater than 15 percent)	0.036	0.025	0.066	1.427	0.154
	Percentage of economically disadvantaged (greater than 50 percent)	0.003	0.012	0.018	0.278	0.781
	Percentage of white teachers	-0.007	0.028	-0.016	-0.255	0.799
	Percentage of female teachers	0.075	0.046	0.076	1.604	0.110
	Percentage of novice teachers	0.355	0.051	0.390	7.011	**0.000**
	Percentage of teachers on lateral entry license	0.208	0.077	0.176	2.713	**0.007**
	Performance Composite (greater than 60 percent proficient/above grade level)	-0.009	0.013	-0.048	-0.708	0.479
	School Size	0.000	0.000	0.059	1.168	0.244
2	Constant	0.146	0.052		2.813	0.005
	Percentage of Limited English Proficient (greater than 15 percent)	0.021	0.025	0.038	0.841	0.401
	Percentage of economically disadvantaged (greater than 50 percent)	0.008	0.012	0.041	0.648	0.518
	Percentage of white teachers	-0.010	0.027	-0.022	-0.351	0.726
	Percentage of female teachers	0.082	0.045	0.084	1.796	**0.073**
	Percentage of novice teachers	0.326	0.050	0.359	6.569	**0.000**
	Percentage of teachers on lateral entry license	0.206	0.075	0.175	2.763	**0.006**
	Performance Composite (greater than 60 percent proficient/above grade level)	-0.006	0.012	-0.032	-0.491	0.624
	School Size	0.000	0.000	0.032	0.641	0.522
	Agreement that non-instructional time is sufficient	-0.078	0.027	-0.148	-2.899	**0.004**
	Teachers play a large or primary role in implementing policies about student discipline	0.129	0.037	0.190	3.475	**0.001**
	Agreement that is opportunity for advancement in the teaching profession	-0.052	0.038	-0.074	-1.368	0.172
	Agreement that school leadership addresses concerns about new teacher support	-0.065	0.032	-0.123	-2.051	**0.041**

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Control Variables	0.548	0.300	0.284	7.924	0.284
2	Working Conditions	0.591	0.349	0.326	7.688	0.042

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Working Conditions	0.588	0.346	0.340	0.079	0.340
2	School Characteristics	0.616	0.380	0.371	0.077	0.031
3	Teacher Characteristics	0.634	0.402	0.389	0.076	0.017
4	Student Characteristics	0.646	0.417	0.401	0.075	0.012

Statistical Model of Teacher Turnover at the High School Level

Model		Unstandard Coefficients B	Unstandard Coefficients Std. Error	Standardized Coefficients Beta	t	Stat. Sig.
1	(Constant)	0.188	0.027		6.827	**0.000**
	Percentage economically disadvantaged students	0.034	0.011	0.195	3.202	**0.002**
	Percentage of Limited English Proficient students (greater than 15 percent)	-0.013	0.007	-0.092	-1.720	0.087
	Percentage of white teachers (greater than 90 percent)	-0.013	0.023	-0.036	-0.582	0.561
	Percentage of female teachers	-0.130	0.037	-0.170	-3.482	**0.001**
	Percentage of novice teachers	0.004	0.000	0.496	9.648	**0.000**
	Performance Composite (greater than 60 percent proficient/at grade level)	0.023	0.010	0.119	2.339	**0.020**
	School size (less than 600 students)	0.001	0.031	0.002	0.039	0.969
	(Constant)	0.238	0.029		8.252	**0.000**
4	Percentage economically disadvantaged students	0.027	0.011	0.153	2.574	**0.011**
	Percentage of Limited English Proficient students (greater than 15 percent)	-0.003	0.007	-0.025	-0.458	0.647
	Percentage of white teachers (greater than 90					
3	percent)	0.003	0.022	0.007	0.116	0.908
	Percentage of female teachers	-0.128	0.036	-0.168	-3.545	**0.000**
	Percentage of novice teachers	0.004	0.000	0.474	9.520	**0.000**
	Performance Composite (greater than 60					
2	**percent proficient/at grade level)**	0.024	0.010	0.123	2.462	**0.014**
	School size (less than 600 students)	-0.009	0.030	-0.014	-0.286	0.775
	Agreement that the non-instructional time					
1	**provided is sufficient**	-0.062	0.024	-0.146	-2.584	**0.010**
	Teachers play a large or primary role in implement policies about student discipline	0.126	0.041	0.174	3.082	**0.002**
	Overall, the school leadership in my school is effective	-0.064	0.022	-0.184	-2.950	**0.003**

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change: Adj R Square
1	Control Variables	0.631	0.398	0.381	0.053	0.381
2	Working Conditions	0.671	0.450	0.429	0.051	0.048

Model	Model Name	R	R Square	Adjusted R Square	Std. Error of Estimate	Change: Adj R Square
1	Working Conditions	0.363	0.132	0.122	0.063	0.122
2	School Characteristics	0.469	0.220	0.205	0.060	0.083
3	Teacher Characteristics	0.671	0.450	0.433	0.051	0.229
4	Student Characteristics	0.671	0.450	0.429	0.051	-0.004

Notes

Introduction

1. National Center for Education Statistics. *Teacher Attrition and Mobility: Results for the Teacher Follow-up Survey, 2000-01.* Washington, D.C.: NCES 2004-301, August 2004.

2. Loeb, Hillary, Ana Elfers, Michael Knapp and Marge Plecki with Beth Boatright. *Preparation and Support for Teaching: Working Conditions of Teachers Working Paper #2.* Seattle, Wash.: Center for the Study of Teaching Policy at the University of Washington, May 2004.

3. Futernick, Ken. *A Possible Dream: Retaining California Teachers So All Students Learn.* Sacramento: California State University.

4. Hirsch, Eric. *Teacher Working Conditions Are Student Learning Conditions: A Report to Governor Mike Easley on the 2004 North Carolina Teacher Working Conditions Survey.* Chapel Hill, N.C.: Southeast Center for Teaching Quality, 2005.

5. For example, see Rosenholtz, S. J. (1989). *Teachers' workplace: The social organization of schools*. New York, N.Y.: Longman; Talbert, J., McLaughlin, M., & Rowan, B. (1993). "Understanding context effects on secondary school teaching." *Teachers College Record, 95(1)*, 45-68, and Bryk, A.S. and Schneider, B. (2002). *Trust in Schools: A Core Resource for Improvement.* New York. Russell Sage Foundation.

6. Ingersoll, Richard M. *Who Controls Teachers' Work?: Power and Accountability in America's Schools.* Cambridge, Mass.: Harvard University Press, 2003.

Major Findings

1. Hirsch, Eric. *Teacher Working Conditions are Student Learning Conditions: A Report of Governor Easley's 2004 Working Conditions Initiative.* Chapel Hill: Southeast Center for Teaching Quality, 2005 and Hirsch, Eric. *Listening to the Experts: A Report on South Carolina's 2004 Teacher Working Conditions Initiative.* Chapel Hill, N.C.: SECTQ, 2005.

2. Formulas are created and revisited and look at performance on the end-of-grade assessment relative to the previous two years of performance. The expectation is seen by place students' scores on the c-scale (the change scale to which a student's development scale score is converted). The formula factors in an adjustment for regression to the mean. For more information see "ABCs 2006 Accountability Report Background Packet." Available online at www.ncpublicschools.org
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3. This finding is not surprising. In the 2004 analyses, professional development was found to significantly improve the odds of meeting or exceeding growth expectations only at the middle school level. For more information see Hirsch, Eric *Teacher Working Conditions are Student Learning Conditions: A Report of Governor Easley's 2004 Working Conditions Initiative.*

4. North Carolina at the K-8 level has end-of-grade tests in reading and math in grades 3-8, writing assessment in grades 4 and 7, computer skills in grade 8 as well as End-of-Course results for students taking EOC as part of the composite. At the high school level, student performance on ten mandated end-of-course tests: algebra I, algebra II, biology, chemistry, English I, geometry, physical science, physics, US History and Civics and economics are factored into the composite. The performance composite is the percentage of test scores in the school at or above Achievement Level III (referred to as at grade level or proficient). For the specific formula to determine the performance composite for 2005-2006 see www.ncpublicschools.org\NCDPI\Accountability\Reporting\CIC.

5. All questions had a correlation of coefficient of .300 or greater and was statistically significant at the $p < .001$ level (two-tailed).

6. Significance was $p < .053$ for this and .052 for agreement that there is an effective process for group decision making. The authors chose to round and use the p is less than or equal to .05 significance standard.

7. At the $p < .10$ level (two-tailed)

8. Similar regressions were run based on teachers' intention to stay teaching in their current school at all levels. These regressions yielded similar results and had similar abilities to explain variation of the dependent variable.

9. On the 2006 Teacher Working Conditions Survey, educators were asked "At this school, we utilize results from the Teacher Working Conditions survey as a tool for improvement." With a one to five likert agreement scale.

10. While schools in the low and high usage categories are the same in the 2004 and 2006 groupings, due to response rate differences from 2004 to 2006, there may be some changes due to the number or type of responder (no analysis here is possible as it is an anonymous survey). So, while the school sets are the same longitudinally, the respondents within those schools may not be. Our hope is, since the questions on the survey ask about conditions for teachers at the school, these disparities will have a minimal effect on the findings.

11. Ladd, Helen F. Charles Clotfelter, Jacob Vigdor, and Justin Wheeler, *High Poverty Schools and the Distribution of Teachers and Principals.* Paper prepared for the UNC Conference on High Poverty School in America. October 1, 2006.

12. All working conditions, except time, had a statistically significant correlation with the percentage of students eligible for free and reduced lunch: time (.029), facilities and resources (.202), empowerment (.137), leadership (.178), professional development (.083).

13. Hirsch, Eric and Scott Emerick with Keri Church and Ed Fuller. *Teaching and Learning Conditions are Critical to the Success of Students and the Retention of Teachers: Final Report on the 2006 Clark County Teaching and Learning Conditions Survey.* Hillsborough, N.C.: Center for Teaching Quality. December 2006.

14. For the analysis on 2002 data see Glennie, Elizabeth, Charles Coble and Michael Allen, *Teacher Perceptions of the Work Environment in Hard-to-Staff Schools.* Denver, Colo.: Education Commission of the States. November 2004.

15. DSSF dollars were originated to address the disparities in high poverty districts that came from the state's Leandro lawsuit. These dollars were apportioned through to 16 districts based through an indexed formula based on several poverty characteristics in 2005-06 including: proportion living in a single family home, proportion of children below the poverty line, educational attainment of parents. DSSF dollars as of the 2006-2007 school year are available to all North Carolina districts. The original districts include: Edgecombe, Franklin, Halifax, Hertford, Hoke, Hyde, Lexington City, Montgomery, Northampton, Elizabeth-City Pasquotank, Robeson, Thomasville City, Vance, Warren, Washington, Weldon City.

16. Data were available for all but four of the 44 Turnaround schools. Hugh M. Cummings High School (Alamance), Westover High School (Cumberland), Southern Guilford High (Guilford) and Olympic High School (Charlotte-Mecklenburg) did not have sufficient response rates to allow for analyses. Data were compared to an additional 243 high schools.