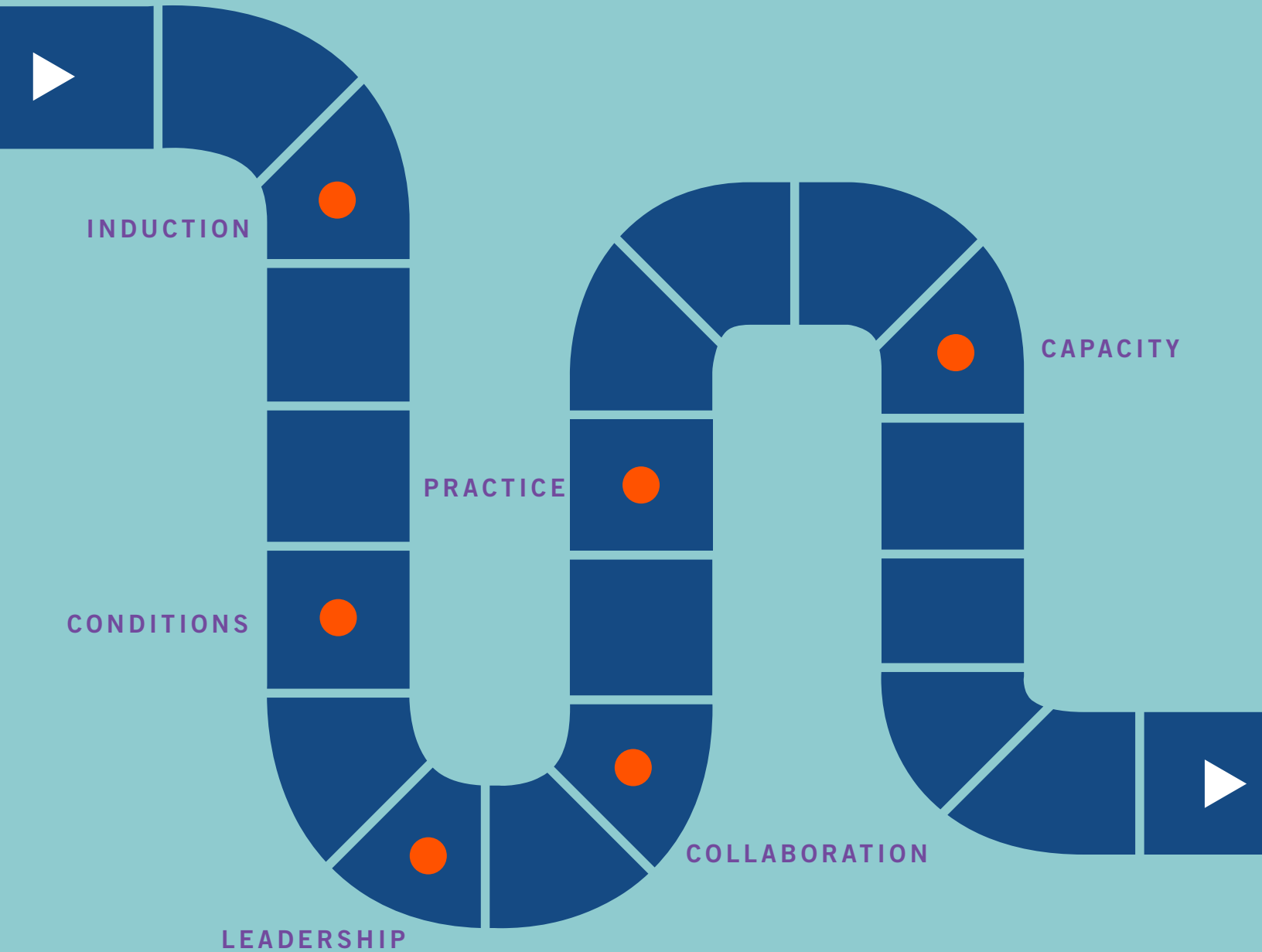


ON THE PATH TO EQUITY: IMPROVING THE EFFECTIVENESS OF BEGINNING TEACHERS

JULY 2014



SUMMARY

A new policy and economic environment promises to upend the twentieth-century blueprint for high schools that has left large numbers of students without diplomas or the advanced skills essential for college and careers. To prepare graduates for a twenty-first-century society and a global workplace, most states adopted the Common Core State Standards or other internationally benchmarked college- and career-ready standards. Long-standing concerns remain, however, about whether states have an educator workforce, or the capacity to produce one, with the training and skills needed to ensure that students achieve the learning outcomes essential to succeed in school and beyond. If the dominant teacher workforce policies and practices remain unchanged, then the aspirations of rigorous state standards will simply continue a legacy of unfulfilled reforms.

The good news is that multiple initiatives are now under way to develop professional standards for beginning teachers, strengthen preparation, and shape strategies to address the developmental needs of teachers throughout their career. This report highlights the work of New Teacher Center (NTC), a national nonprofit organization headquartered in Santa Cruz, California, that has partnered with states, districts, and policymakers to develop programs and policies that accelerate new teacher effectiveness. NTC focuses on hard-to-staff schools that serve low-income students and students of color, where high rates of teacher turnover tend to be more prevalent and a disproportionately high percentage of new teachers are often employed.



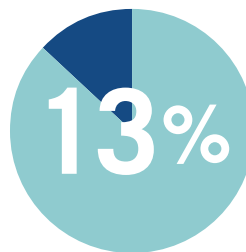
INTRODUCTION

To achieve a fundamental transformation of education and help students meet the higher performance set by the common core standards, the very culture of how teachers are supported must change. This will require coherent incentives and structures to attract, develop, and retain the best teaching talent in high schools serving students with the greatest needs. The challenge of preparing all students for the modern workplace rests with developing the collective capacity of an entire profession to address the needs of all learners. Teaching conducted largely out of the sight and hearing of other teachers must cease to be the norm. A new paradigm is needed for powerful systems of professional learning by which a clear vision of effective teaching informs the entire program and new teachers receive comprehensive induction and access to school-based collaborative learning.

Teaching quality is recognized as the most powerful school-based factor in student learning. It outweighs students' social and economic background in accounting for differences in student achievement.¹ Moreover,

analyses of longitudinal data sets reveal that teachers exert an accumulating influence: a series of superior teachers can overcome the learning deficits between low-income students and their more advantaged peers. Likewise, the residual effects of having ineffective teachers over multiple years are devastating.²

Unfortunately, commitment has rarely existed across state and district lines to ensure all students equitable access to effective teaching. Research shows chronic gaps in disadvantaged students' access to effective teaching both between and within schools. In addition, a recent Institute of Educational Sciences study shows that districts rarely use data on teacher effectiveness to determine students' access to effective teaching throughout the system.³ The variation in teaching quality is most acute in high schools that serve low-income students and students of color. Disparities in the distribution of skilled teachers placed in high-need high schools have persisted despite provisions to ensure teacher equity in the last reauthorization of the Elementary and Secondary Education Act, known as the No Child Left Behind Act. Schools serving urban and poor students are more likely to employ teachers who are on emergency waivers and who are not certified in the subject they teach.⁴ Disadvantaged students have only a 50 percent likelihood of being taught math and science by teachers who hold a degree and a license in the field in which they teach.⁵ Persistent inequities in the distribution of quality teaching lay to waste historic promises of equal education opportunity.



About 13 percent of the American workforce of 3.4 million public school teachers either moves (227, 016) or leaves (230,122) the profession each year.

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Students are not the only ones whose ability to learn suffers in low-performing schools. Too often, teachers in schools serving students from high-need environments lack access to excellent peers and mentors and have fewer opportunities for collaboration and feedback. Moreover, without opportunities to engage with others to examine and improve instructional practices, teachers' performance in high-poverty schools plateaus after a few years.⁶ In these lowest-performing high schools, morale and work environment suffer because hard-to-staff schools become known as places to leave, not places in which to stay.

About 13 percent of the American workforce of 3.4 million public school teachers either moves (227,016) or leaves (230,122) the profession each year.⁷ The high annual turnover rates seriously compromise the nation's capacity to ensure that all students have access to skilled teaching. Researchers estimate that more than one million teachers, including new hires, transition into, between, or out of

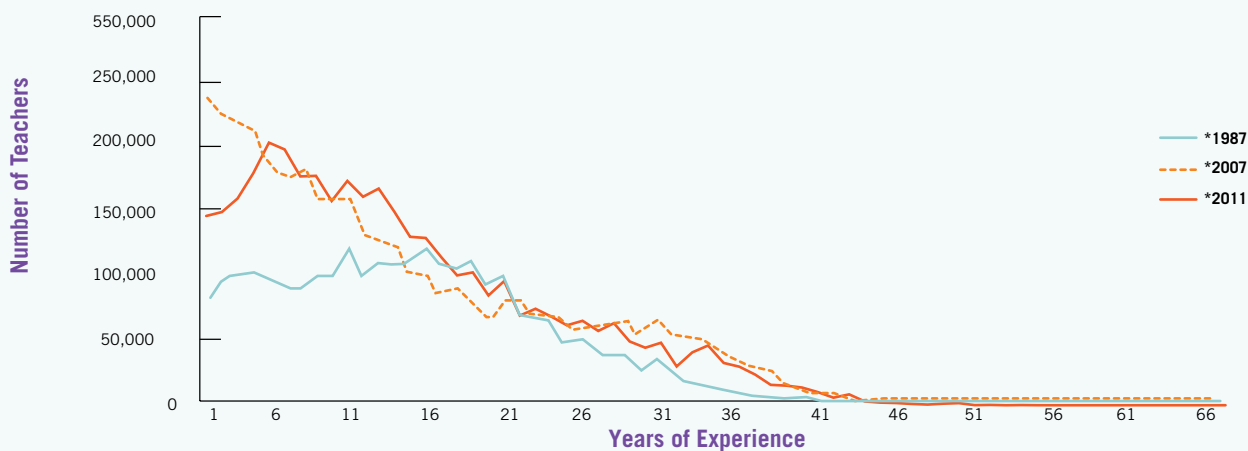
Disparities in the distribution of skilled teachers placed in high-need high schools have persisted despite provisions to ensure teacher equity in the last reauthorization of the Elementary and Secondary Education Act, known as the No Child Left Behind Act.

schools annually.⁸ High-poverty schools experience a teacher turnover rate of about 20 percent per calendar year—roughly 50 percent higher than the rate in more affluent schools.⁹ The estimate of the percentage of new teachers leaving teaching after five years ranges from 40 percent to 50 percent, with the greatest exodus taking place in high-poverty, high-minority, urban, and rural public schools.¹⁰ The cumulative costs of attrition of those leaving teaching altogether are high. Richard Ingersoll, professor of education and sociology at the University of Pennsylvania, estimates that states spend between \$1 billion and \$2.2 billion a year on teacher attrition turnover. (See Appendix A for state-by-state attrition costs.)¹¹ Studies suggest that the price tag for recruitment and replacement seriously underestimates the cumulative costs of eroding the caliber and stability of the teacher workforce, particularly in chronically underperforming schools serving the neediest students.

Since the mid-1980s the significant expansion of the teaching workforce has been accompanied by increased turnover among beginning teachers.

Since the mid-1980s the significant expansion of the teaching workforce has been accompanied by increased turnover among beginning teachers. The annual attrition rate for first-year teachers has increased by more than 40 percent over the past two decades.¹² The influx of new teachers has neither stabilized the teaching workforce nor improved teaching quality. In 1987–88, the modal, or most common experience level, was fifteen years; by 2008, the typical teacher was in his or her first year of teaching.¹³ Because the economic downturn beginning in 2007–08 slowed the rate of increase in the number of beginning teachers, by 2011–12 the modal teacher was someone in his or her fifth year.¹⁴

Teaching Experience of School Teachers, 1987–88, 2007–08, and 2011–12



Source: R. Ingersoll, L. Merrill, and D. Stuckey, *Seven Trends: The Transformation of the Teaching Force*, CPRE Report (#RR-80) (Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania, April 2014).

WHY IS TURNOVER SO HIGH?

Ingersoll and his colleagues found that there is an annual reshuffling of significant numbers of employed teachers from poor to non-poor schools, from high-minority to low-minority schools, and from urban to suburban schools.¹⁵ Teachers departing because of job dissatisfaction link their decision to leave to inadequate administrative support, isolated working conditions, poor student discipline, low salaries, and a lack of collective teacher influence over schoolwide decisions.¹⁶ Ingersoll writes, “In short, the data suggest that school staffing problems are rooted in the way schools are organized and the way the teaching occupation is treated and that lasting improvements in the quality and quantity of the teaching workforce will require improvements in the quality of the teaching job.”¹⁷

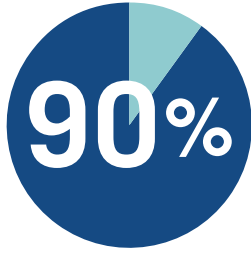
Underscoring these conclusions is a Consortium on Chicago School Research (CCSR) report on teacher mobility in Chicago Public Schools, which shows that many schools serving low-income, minority students turn over half of their teaching staff every three years.¹⁸ Even so, new teacher retention rates vary widely among schools serving similar student populations, suggesting that differences in school climate strongly influence teacher turnover. The CCSR report notes, “Schools with high stability cultivate a strong sense of collaboration among teachers and their principal. Teachers are likely to stay in schools where they view their colleagues as partners with them in the work of improving the whole school and the

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conditions are well-suited for them to have the potential to be effective.”¹⁹

Studies on working conditions and school context indicate that current teacher development and appraisal policies are unlikely to advance the national goals for improving teaching effectiveness and preparing students for the modern workplace if they fail to address these root causes.²⁰ Susan Moore Johnson, the Jerome T. Murphy Professor in Education at Harvard University, writes, “This work suggests that school context matters ... Reformers who seek to increase opportunity and resilience among disadvantaged students would do well to think beyond the individual teacher and address the differences in schools as places for teaching and learning.”²¹ Since the 1990s, studies have identified the benefits of organizational strategies that foster higher levels of teacher collaboration and peer learning.²² This research shows that social capital—the pattern of interactions among teachers and administrators focused on student learning—affects student achievement and school success across all types of schools and grade levels.²³

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Building the collective capacity for strong high school performance requires creating a school climate in which it is assumed that the improvement of teaching is a collective rather than individual enterprise.²⁴ As documented in the 2009 *MetLife Survey of the American Teacher: Collaborating for Student Success*, 90 percent of teachers believe that they share responsibility for student achievement, their success is linked to that of their colleagues, and increased collaboration in schools would have a major positive effect on student achievement.²⁵

Teachers are more likely to change their teaching practices and improve student learning in the presence of effective peers. C. Kirabo Jackson and Elias Bruegmann found that an individual teacher's students have larger achievement gains in math and reading when other teachers in the schools are more effective.²⁶ The authors concluded that the effects were due to peer learning along

with a teacher's decision to invest effort in acquiring new instructional skills. They found that positive spillovers are strongest for less-experienced teachers who are still acquiring "on-the-job" skills, and that both past and current differences in peer quality affect *current* student achievement.²⁷ Because accruing expertise has long-term effects, the cumulative exposure to peers proves to be a powerful predictor of improved student achievement.

Short-term, replacement strategies treat teachers like interchangeable, expendable parts rather than as young professionals meriting sustained investments in their development as part of a community of expert, experienced teachers. Many administrators and teacher educators conclude that the lack of well-supervised clinical training throughout preparation and during the initial years of teaching accounts for many of the problems facing new teachers. Daniel Fallon, professor emeritus of public policy and psychology at the University of Maryland, writes, "The only preparation that most beginning teachers had was the semester-long student-teacher experience. This was not sufficient. Student teachers had not survived a series of instructional failures, experienced students' boredom, discovered a wall of student learning resistance, or felt the isolation of 'teaching forever.'" Teachers need from three to seven years in the field to become highly skilled—with the analytic and flexible thinking needed to engage learners, deepen their conceptual understanding, and respond to how well they are learning.²⁸



IMPACT OF INDUCTION

Over the past two decades, research shows that retention is closely related to the quality of the first teaching experience.²⁹ Analyses of the Schools and Staffing Survey (SASS) and the Teacher Follow-up Survey (TFS), administered by the National Center for Education Statistics, established the correlation between the level of support and training provided to beginning teachers and their likelihood of moving or leaving after their first year.³⁰ In a similar vein, the Project on the Next Generation of Teachers at the Harvard Graduate School of Education found that new teachers' decisions to transfer out of low-income schools were related to the extent to which those schools supported them by providing well-matched mentors, valuable induction programs, and appropriate curricular guidance.³¹

A growing number of states have induction support programs in place for beginning teachers—programs that education researchers have been calling for since the 1970s.³² Beginning teachers reporting that they have a mentor or master teacher working with them during their first year have increased from about 50 percent in 1990 to over 90 percent as of 2008.³³ Even though the number of states that currently require, and in some measure fund, induction programs for new teachers has continued to climb, the overall character and content of these programs vary widely, including duration, intensity, frequency of mentoring, training and criteria for mentor selection, and compensation for mentoring. Although more than half of



states require some kind of induction program, few provide the majority of beginning teachers with all four of the most common components: mentoring, reduced preparation/course load, seminars/workshops, and supportive communication with a principal or department chair.³⁴

Despite the progress states have made in offering induction opportunities, access to induction supports remains inequitable, with teachers in schools with the highest concentrations of poor and minority students reporting significantly lower participation rates in induction and mentoring.³⁵ This troubling support gap for teachers is pervasive in low-income schools, where fewer teachers have mentors than their counterparts in more affluent schools. Those who do have mentors are less likely to be paired with an experienced teacher in the same school, grade, or subject, and mentoring discussions—when they occur—are less likely to focus on issues of classroom teaching.³⁶

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THE CASE FOR COMPREHENSIVE INDUCTION

A review of selected, well-designed empirical studies conducted since the 1980s shows positive effects of induction for beginning teachers.³⁷ As induction has become more widespread, most of the studies have compared teachers according to their degree of participation in one or more induction components.

The induction elements producing the strongest effects include having a mentor from the same field, scheduled collaboration with other teachers, and regular communication with one's principal.³⁸ When the number of support measures increase, attrition rates for beginning teachers decline, they perform better at various aspects of teaching, and, most significantly, their students have higher scores or greater gains on academic achievement tests.³⁹

Overall, teachers receiving a more comprehensive package of these induction components achieve higher levels on all three outcomes:

- teachers' job satisfaction, commitment, and retention;
- teachers' classroom teaching practices and pedagogical methods; and
- student achievement.



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A comprehensive induction program that comprises multiple types of support, such as high-quality mentoring, common planning time, and ongoing support from school leaders, reduced by one-half the turnover rate of those receiving induction in comparison to those receiving none.⁴⁰ However, few beginning teachers currently receive the ongoing training and support that constitutes comprehensive induction. Only about half of novices receive mentoring from a teacher in their teaching field or have common planning time with other teachers.⁴¹

Many questions remain on specific aspects of induction and on the factors that produce differential effects of induction between low- and high-poverty schools. For example, mixed effects for new teacher induction programs in high-poverty schools compared to low-poverty schools may be attributable to substantial differences in the quality of programs, the organizational context, and the nature of instruction and teaching practice. New teachers in high-poverty schools must frequently follow prescriptive district mandates regarding what they teach and how they teach along with extensive requirements for test preparation. Researchers and teacher educators question whether an induction program can simultaneously promote a teacher's skill in engaging students in higher-order inquiry while also emphasizing his or her ability to prepare students for narrowly focused, standardized testing.⁴²

FOSTERING POSITIVE CONDITIONS FOR TEACHING AND LEARNING

While proving increasingly important to teacher retention and quality, induction that is not part of a more systemic approach to professional learning may be insufficient to reduce the high levels of teacher turnover found in many urban, low-income public schools. Overall the quality of professional development has failed to keep pace with the enormous changes in the student population and the diversity of their learning needs. Between 1980 and 2009, the number of school-age children, ages five through seventeen, who spoke a language other than English at home more than doubled, from 4.7 million (10 percent) to 11.2 million (21 percent).⁴³ According to *The MetLife Survey of the American Teacher: Past, Present and Future*, almost half of secondary school teachers say that students' learning abilities have become so mixed in their classrooms that they cannot teach effectively.⁴⁴ Data from multiple sources shows an overall pattern of poorly designed and implemented professional improvement practices even in states where policies on staff development exist.⁴⁵

The good news is that multiple initiatives are now under way to develop professional standards for initial licensure, strengthen preparation, and shape strategies to address the developmental needs of teachers throughout their career. New Teacher Center is one of the most prominent

Almost half of secondary school teachers say that students' learning abilities have become so mixed in their classrooms that they cannot teach effectively.

Comprehensive Induction

The cumulative research on induction offers a strong argument for providing beginning teachers with a comprehensive package of supports.

"Comprehensive induction" combines

- high-quality mentoring with rigorous mentor selection criteria;
- common planning time for regular scheduled interaction with other teachers;
- participation in seminars and intense professional development; and
- ongoing communication and support from school leaders.

Source: R. Ingersoll and M. Strong, "The Impact of Induction and Mentoring Programs for Beginning Teachers: A Critical Review of the Research," *Review of Education Research* 81, no. 2 (2011): 201–33.

examples in the country, and one with which teachers and policymakers should be well acquainted as they work to improve teacher effectiveness. It has established a well-designed, evidence-based induction model for beginning teachers to increase teacher retention, improve classroom effectiveness, and advance student learning.

NTC's teacher induction model—implemented in more than forty states and U.S. territories—provides multi-year, structured mentoring and intensive professional development differentiated to meet beginning teachers' needs.⁴⁶ Since 1998, NTC has partnered with states, districts, and policymakers to develop programs and policies that accelerate new teacher effectiveness. NTC's work is particularly important in hard-to-staff schools that serve low-income and minority students, where

NTC's comprehensive mentor-based teacher induction includes

- multi-year assistance for at least two years, with multi-support design;
- carefully selected, well-prepared, and systematically supported mentors who focus on instruction and student learning;
- ongoing formative assessment of the teacher's practice to guide learning experiences and professional goal setting;
- sanctioned time for targeted professional development activities and for mentors and beginning teachers to work together, observe practice, and analyze student learning data;
- engaged principals who know how to create conditions that support teacher development;
- program leadership collaboratively shared among all stakeholders, including district administration and union/association leaders; and
- strong alignment with other district goals that support teacher learning (e.g., evaluation, tenure, professional learning communities).

teacher turnover tends to be more prevalent and a disproportionately high percentage of new teachers are often employed.

New teacher induction has the greatest impact when it is thoughtfully integrated into a broader vision of how schools, districts, and states define, measure, and improve the performance of all teachers. Principals are responsible for leading the creation of supportive working conditions and have a lead role in teacher development, evaluation, and school improvement. For this reason, NTC partners with districts to provide job-embedded executive coaching and professional development for school leaders. It is designed to support instructional leadership and build a strong connection between new teacher induction and school and district goals.

As NTC's *Review of State Policies on Teacher Induction* shows, most state policies lack a strong commitment to high-quality induction and mentoring.⁴⁷ Too few state policies envision teacher induction as part of a system of teacher development, establish quality program standards, help identify and train effective mentors, or generally offer districts the guidance and resources to provide meaningful new teacher support. NTC works with its district and state partners to build systemic opportunities for new teachers to develop teaching practice and continuously improve. School leadership, teaching conditions (including opportunities for teacher leadership and collaboration), customized development opportunities, and teaching policy all greatly impact new teachers' chances of success and the impact of induction programs designed to accelerate their development.

NTC'S TEACHING AND LEARNING CONDITIONS INITIATIVE

NTC also partners with states and districts to survey teaching and learning conditions to the full population of school-based licensed educators using its Teaching, Empowering, Leading, and Learning (TELL) survey. The TELL survey assesses the perceptions of teachers, principals, and other licensed educators about the presence of supportive teaching and learning conditions that research shows is important to student achievement and teacher retention. All teachers perform better in schools with supportive leadership and a collaborative culture for improving practice and student learning, and where they have sufficient time and resources. The survey captures data regarding the following conditions:

- time;
- facilities and resources;
- professional development;
- school leadership;
- teacher leadership;
- instructional practices and support;
- managing student conduct;
- community support and involvement; and
- new teacher support for teachers in their first three years in the profession.

NTC provides each state and district with TELL survey findings as well as the results for each school that meets the required minimum response rate threshold to ensure confidentiality (generally 50 percent). Working at both the state and district levels, NTC has received over one million survey responses in more than twenty states since 2009.



In addition, NTC conducts an array of analyses based on the TELL results and other data sets customized for each state or district client. These may include analyses of induction programs in persistently low-performing schools, comparisons based on particular factors such as years of experience or differences in perceptions among groups of educators, and/or how survey data correlates with student achievement data. Additionally, NTC provides web-based tools for schools and districts to use in analyzing their TELL results to help identify strategies for improving teaching and learning conditions.

For example, in 2010, with the leadership of Governor Steve Beshear and Commissioner Terry Holliday, the Kentucky state legislature required that the state agency use survey data on teaching conditions as part of the design of school improvement initiatives. The 2011 TELL survey revealed low overall means for persistently low-performing district schools in two areas: community support and involvement, and managing student conduct. These two areas, which showed the greatest connection to student achievement in 2011, became the focus of improvement efforts. Findings from the second TELL administration in 2013 showed that there was consistent improvement among the targeted schools in these two survey areas and that the gain exceeded improvement for non-targeted district schools.⁴⁸

NTC'S CROSS-STATE ANALYSES 2012–13

In 2013, NTC released *Cross-State Analyses of Results 2012–2013: Research Report 2013 TELL Survey* to provide an additional contextual lens for states to better understand and interpret their own survey findings on teacher working conditions. The analysis compares responses from almost 365,000 educators across nine states: Colorado, Delaware, Kentucky, Maryland, Massachusetts, North Carolina, Ohio, Tennessee, and Vermont. Overall findings show that educators from Kentucky, North Carolina, and Tennessee report means consistently at or above a 3.0—higher than the overall average for the nine states—with the exception of the area of time. The lowest means across all states were for three survey areas: instructional practices and support; professional development; and time, which was perceived by educators across all states as the condition with the most constraints. Reports on the TELL survey data for individual states are available through publicly accessible websites dedicated to each state.⁴⁹



NTC encourages states to involve teachers, superintendents, and community and business leaders in working collaboratively to use the survey findings. The goal is to help states use the survey data to develop coherent policies and practices that connect related factors such as school leadership, teaching and learning conditions, and specific educator policies. It integrates the focus on teaching and learning conditions with other teaching effectiveness initiatives and specifically with induction programs designed to accelerate new teacher development.

As a result, state policymakers have begun to use the TELL survey data in various ways to change teaching and learning conditions as part of broader reform efforts that include

- development and adoption of state teaching conditions standards (NC, KY);⁵⁰
- inclusion of TELL data in principal evaluation programs (DE, KY, NC, TN);
- use in principal professional learning (CO, DE, KY, MD, NC, TN);
- integration into the design and evaluation of school and district improvement plans (CO, DE, KY, MD, NC, TN);
- use for evaluation of new teacher support (CO, KY, MD, OR); and
- developing assistance for persistently low-performing schools (KY, NC, MD, TN).

POLICY RECOMMENDATIONS

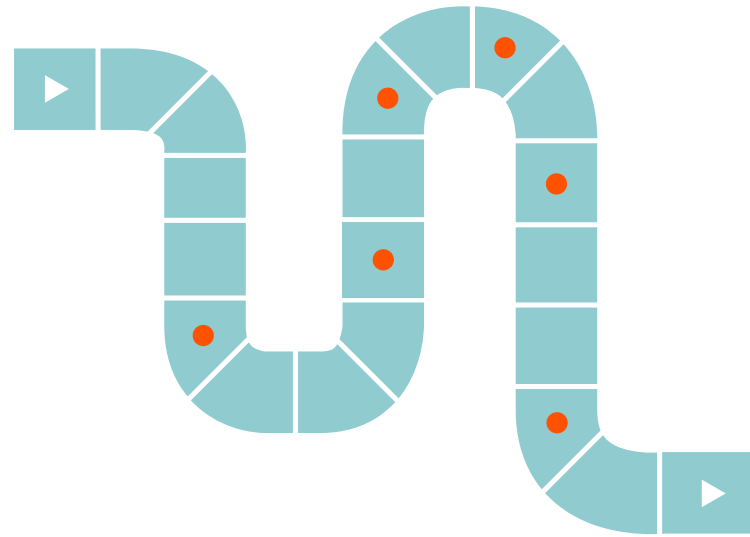
The nation needs a more organized, rational approach to teacher development, grounded in rigorous standards of practice, strong clinical preparation, comprehensive induction, and collaborative professional learning. The unevenness in teaching quality within and among U.S. schools serving high proportions of students of color or low-income students heightens the impact of socioeconomic disadvantage on student achievement. In contrast, high-performing systems around the world produce the greatest gains in student learning by reducing the variation in classroom instruction by creating norms for collaborative planning, reflection on student learning, and peer coaching.⁵¹ Top performers integrate mutually reinforcing elements for teacher development and support as part of a coherent strategy to address the practical challenge of educating all students to higher levels of achievement.

Policies to improve teaching effectiveness are complex and depend on individual teachers' abilities as well as the working conditions within schools. Systemic approaches are needed to reverse the inequities in the distribution of teaching talent and to foster school environments that support the kind of ongoing, intensive professional learning that research shows has a substantial impact on student learning. States and districts should

- **Require regular evaluations of teachers using multiple measures** based on clear standards for effective practice, measures of student achievement growth, and other measures such as observations, video records of teaching, analyses of student learning, and lesson plans or other artifacts of practice. States and districts should deploy a process for evaluating teachers' performance and growth geared primarily toward providing feedback that is useful in improving the teacher's pedagogical capacity and the learning of students specifically in his or her school.
- **Develop coherent systems that encourage high-quality educator development and teaching** by using performance measures based on validated standards of teaching practice for initial and advanced licensure and program improvement. States should build longitudinal data systems to link teachers and K–12 student learning outcomes with key aspects of programs to prepare, induct, and support effective educators. States and districts should be responsible for increasing the number/percentage and equitable distribution of highly effective educators.
- **Require comprehensive induction programs for new teachers** following entry-level licensure, extending for a minimum of two years. Successful completion of a high-quality induction program that provides embedded coaching and feedback by well-trained mentors should be a requirement for professional licensure.
- **Embed analysis and improvement of teaching and learning conditions** in school improvement processes at the state, district, and school levels. States should promote the involvement of educators, school and district leaders, and communities in using data from validated surveys to identify and improve key elements of a positive school environment. Principals require preparation and support in leading teacher development and creating supportive conditions for teaching and learning.
- **Support staff selection and professional growth systems that foster collegial collaboration** in pursuit of high-impact, evidence-based practices consistent with state and district learning goals. High-performing districts create the organizational conditions for structured collaborative learning with peers focused on improving student learning and addressing problems of practice.

CONCLUSION

There is a pressing need to greatly improve teaching quality for students traditionally underserved in the nation's high schools. However, better methods of identifying individual teacher performance must be coupled with organizational structures that foster a relentless focus on improving the quality of instruction through collaboration, observation, and peer feedback. Elaine Allensworth, senior director and chief research officer at the Consortium on Chicago School Research at the University of Chicago, writes, "Schools that struggle with low achievement, especially those serving the most impoverished communities, face extraordinary challenges in developing strong organizations that can maintain a strong teaching staff. But building those organizational supports is what is needed to provide a high-quality instructional environment for all students and improve equity in educational outcomes."⁵²



Acknowledgments

This brief was written by Mariana Haynes, PhD, a senior fellow at the Alliance for Excellent Education, in collaboration with Ann Maddock, senior advisor at New Teacher Center, and Liam Goldrick, director of policy at New Teacher Center.

*The **Alliance for Excellent Education** is a Washington, DC–based national policy and advocacy organization dedicated to ensuring that all students, particularly those traditionally underserved, graduate from high school ready for success in college, work, and citizenship. www.all4ed.org*

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Appendix A: The Cost of Teacher Attrition By State (2008–09)

By Richard Ingersoll, University of Pennsylvania

1	2	3	4	5	
STATE	TEACHER SAMPLE	TOTAL NUMBER OF TEACHERS	NUMBER OF TEACHERS WHO LEFT TEACHING	RANGE OF TEACHER ATTRITION COSTS	
				Low Estimate	High Estimate
Alabama	865	53,241	4,521	\$19,733,946	\$42,953,545
Alaska	616	8,117	786	\$3,431,689	\$7,469,525
Arizona	981	66,517	7,993	\$34,889,103	\$75,940,748
Arkansas	786	35,807	2,192	\$9,566,149	\$20,821,989
California	1,361	310,004	18,777	\$81,960,046	\$178,396,884
Colorado	635	50,091	6,468	\$28,232,683	\$61,452,171
Connecticut	717	50,128	2,659	\$11,605,030	\$25,259,882
Delaware	396	8,283	465	\$2,030,993	\$4,420,726
District of Columbia	260	4,394	664	\$2,898,733	\$6,309,475
Florida	972	177,203	14,065	\$61,392,667	\$133,629,263
Georgia	717	121,896	8,588	\$37,485,313	\$81,591,743
Hawaii	341	12,775	1,428	\$6,233,981	\$13,569,084
Idaho	828	16,214	1,022	\$4,461,008	\$9,709,975
Illinois	785	145,010	7,548	\$32,949,005	\$71,717,868
Indiana	799	68,446	4,767	\$20,807,878	\$45,291,100
Iowa	724	39,635	1,513	\$6,602,826	\$14,371,923
Kansas	778	37,671	3,043	\$13,283,019	\$28,912,249
Kentucky	701	44,438	3,234	\$14,117,157	\$30,727,860
Louisiana	648	48,117	3,437	\$15,003,506	\$32,657,116
Maine	738	17,802	1,150	\$5,018,865	\$10,924,224
Maryland	485	59,878	4,777	\$20,851,981	\$45,387,096
Massachusetts	671	80,402	5,543	\$24,194,591	\$52,662,728
Michigan	760	98,299	6,253	\$27,295,851	\$59,413,032
Minnesota	1,211	63,984	4,286	\$18,706,847	\$40,717,928
Mississippi	841	35,470	3,517	\$15,353,389	\$33,418,682
Missouri	1,003	73,254	4,176	\$18,227,299	\$39,674,128
Montana	880	12,701	931	\$4,065,486	\$8,849,069
Nebraska	808	23,176	1,377	\$6,008,426	\$13,078,135
Nevada	592	23,653	1,915	\$8,356,916	\$18,189,933
New Hampshire	558	17,437	1,267	\$5,531,044	\$12,039,050
New Jersey	553	124,538	6,501	\$28,378,735	\$61,770,070
New Mexico	729	22,691	2,428	\$10,599,099	\$23,070,341
New York	680	228,142	13,024	\$56,850,584	\$123,742,817
North Carolina	672	96,047	6,634	\$28,955,506	\$63,025,491
North Dakota	843	8,921	637	\$2,778,912	\$6,048,670
Ohio	772	134,252	6,605	\$28,832,388	\$62,757,506
Oklahoma	1,663	46,464	3,094	\$13,503,910	\$29,393,047
Oregon	692	31,699	2,031	\$8,866,117	\$19,298,276
Pennsylvania	805	136,852	7,057	\$30,803,221	\$67,047,287
Rhode Island	291	13,234	1,099	\$4,797,847	\$10,443,148
South Carolina	758	49,009	3,872	\$16,901,022	\$36,787,310
South Dakota	703	10,591	797	\$3,479,577	\$7,573,760
Tennessee	704	67,104	5,349	\$23,348,784	\$50,821,716
Texas	1,022	340,429	24,783	\$108,175,888	\$235,459,133
Utah	619	27,220	2,347	\$10,243,496	\$22,296,324
Vermont	511	10,237	510	\$2,224,273	\$4,841,426
Virginia	650	94,044	5,676	\$24,775,603	\$53,927,378
Washington	758	58,108	3,634	\$15,863,595	\$34,529,213
West Virginia	856	22,894	1,123	\$4,903,242	\$10,672,554
Wisconsin	859	70,060	4,030	\$17,591,573	\$38,290,387
Wyoming	643	7,939	530	\$2,315,612	\$5,040,235
US Total	38,240	3,404,519	230,122	\$1,004,484,411	\$2,186,393,217

Source:

Richard Ingersoll, University of Pennsylvania, original analyses of data from the 2007–08 Schools Statistics and Staffing Survey (SASS) and its supplement, the 2008–09 Teacher Follow-up Survey (TFS). For further reading, see R. Ingersoll and D. Perda, *How High Is Teacher Turnover and Is It a Problem?* (Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania, in press).

Notes:

The costs of teacher attrition in the table represent rough approximations for purposes of illustration.

Estimates in table are for public schools only.

Estimates in table are based on random samples and hence subject to slight margins of error.

SASS/TFS is a nationally representative survey of teachers conducted every few years by the National Center for Education of the U.S. Department of Education.

Column 2: Number of public school teachers in random sample for each state in the 2007–08 school year.

Column 3: Estimate of total public school teachers employed in each state in the 2007–08 school year.

Column 4: Estimate of total public school teachers in each state who left teaching between the 2007–08 and 2008–09 school years. Retirees and non-voluntary leavers are included. Movers and transfers between schools, both within district and across district, are excluded.

Column 5: Estimates of the total costs of public school teacher attrition. These equal the total number of teachers who left multiplied by the cost of attrition per teacher. To illustrate an approximate range of costs associated with teacher attrition, the table used two cost estimates drawn from a study of teacher turnover conducted in 2005 by the National Commission on Teaching and America's Future.

The lower cost estimate—\$4,365 per teacher—was gathered from a not-poor, small, rural school district. The higher cost estimate—\$9,501 per teacher—was gathered from a low-income, large, urban school district. See G. Barnes, E. Crowe, and B. Schaefer, *The Cost of Teacher Turnover in Five School Districts* (Washington, DC: National Commission on Teaching and America's Future, 2007).

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