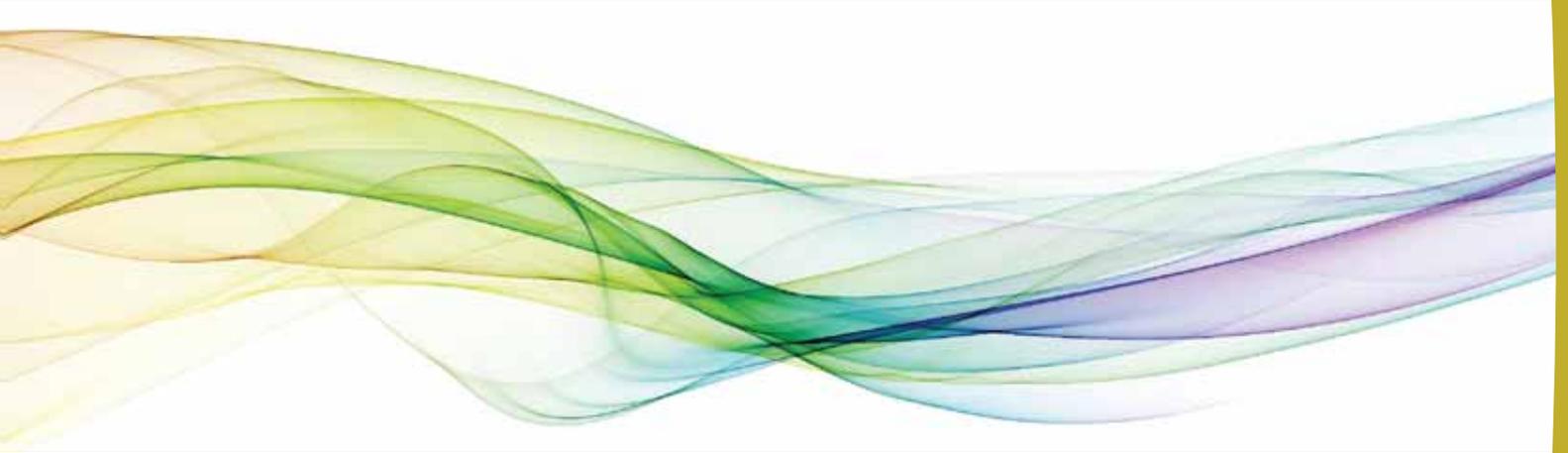


BEGINNERS IN THE CLASSROOM

WHAT THE CHANGING DEMOGRAPHICS OF TEACHING
MEAN FOR SCHOOLS, STUDENTS, AND SOCIETY

BY SUSAN HEADDEN



Carnegie Foundation
for the Advancement of Teaching



Carnegie Foundation
for the Advancement of Teaching

Carnegie Foundation for the Advancement of Teaching
51 Vista Lane
Stanford, California 94305
650-566-5100

www.carnegiefoundation.org

BEGINNERS IN THE CLASSROOM

WHAT THE CHANGING DEMOGRAPHICS OF TEACHING
MEAN FOR SCHOOLS, STUDENTS, AND SOCIETY

BY SUSAN HEADDEN

“I don’t know why everybody isn’t talking about this. Everybody, everywhere, is single-mindedly focused on the achievement gap, and nobody is spending any time talking about what potentially could be one of the biggest underliers of why we have one.”

-Gail McGee, Houston Independent School District

PUBLIC SCHOOL TEACHING is a profession in transition. Already the largest occupation in the United States, it is expanding faster than the nation's student population. Teachers of color are entering the profession at twice the rate of white teachers, reversing an exodus after civil rights victories opened many other doors to African Americans. And women are again entering the profession in greater numbers after years of bypassing the field for other opportunities.¹

But what may be most significant—to students, schools, and the nation—is that teachers today are younger and markedly less experienced than a generation ago.² Experts consider teachers with five or fewer years of experience to be still learning their craft.³ By the end of the last decade, more than a quarter of the nation's 3.2 million teachers were in that category, compared to only about 17 percent in the late 1980s. Back then, the most common teacher in America was a 15-year veteran; two decades later, she was a first-year neophyte.⁴ “The flow of new teachers,” says Richard Ingersoll, a professor at the University of Pennsylvania's Graduate School of Education who studies teacher trends, “has become a flood.”⁵

Although the recent recession pushed back the tide somewhat, and has likely raised the level of experience, the sheer number of novices in public school teaching has serious financial, structural, and educational consequences for public education—straining budgets, disrupting school cultures

and, most significantly, depressing student achievement. Yet there has been scant discussion of the phenomenon by education policymakers. “I don't know why everybody isn't talking about this,” says Gail McGee, manager of new teacher induction for the Houston Independent School District. “It overwhelms me. Everybody, everywhere, is single-mindedly focused on the achievement gap, and nobody is spending any time talking about what potentially could be one of the biggest underliers of why we have one.”⁶

This report explores the causes, conditions, and consequences of what may be a permanent shift towards a less-experienced profession. It examines escalating levels of teacher attrition in public schools, a major source of the beginning teacher challenge. And it points to promising solutions, especially teacher induction strategies that provide the sort of targeted training and intensive support that recognizes the first years of teaching as the make-or-break opportunities they are.

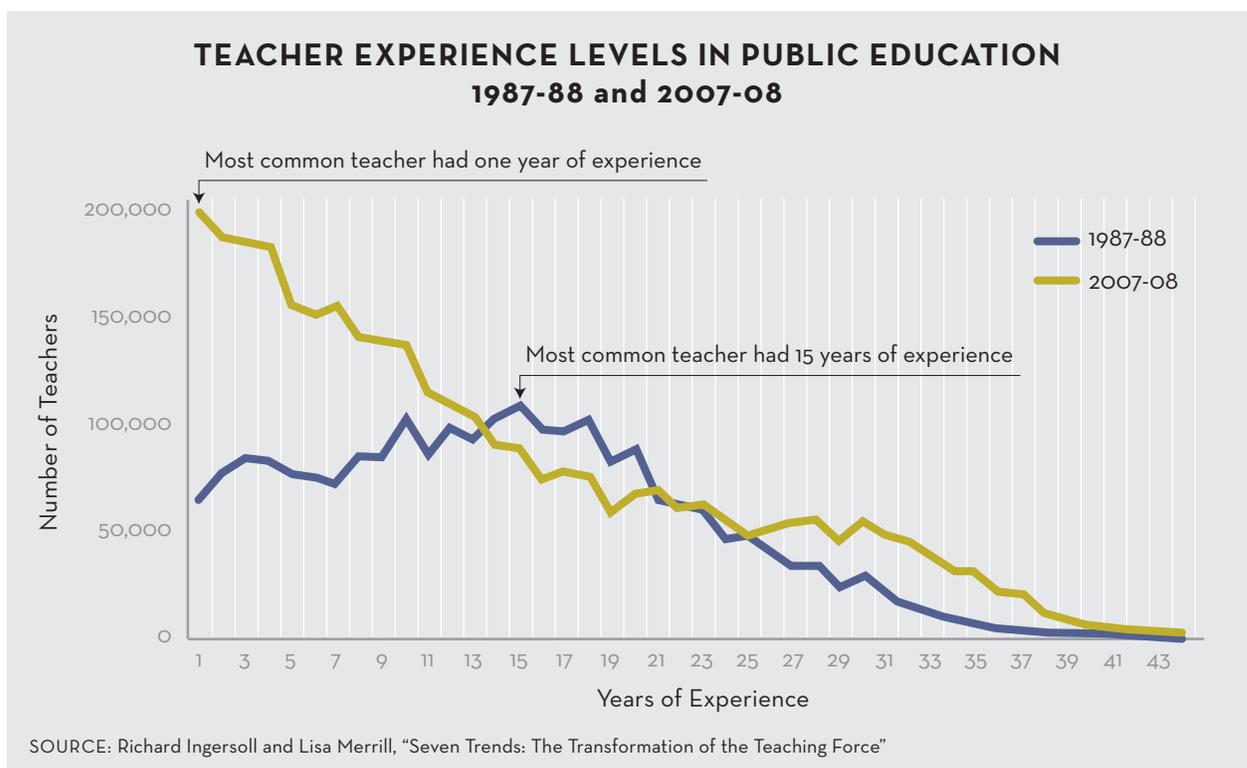
TALENT DRAIN

There are several reasons for the influx of beginners to America’s classrooms. One is a higher demand for teachers prompted by reforms such as smaller class sizes, expansions in special education, and a greater emphasis on math and science instruction. But, mainly, so many classrooms are led by rookies because teacher turnover is at unprecedented levels; teachers simply are not sticking around. Although the recession slowed the exodus by prompting hiring freezes and layoffs, the long-term trend has been clear: From 1988 to 2008, annual teacher attrition rose by 41 percent, and now nearly a third of teachers leave the profession within the first three years of their careers. In many urban school systems, despite attempts to retain teachers through incentives such as higher salaries, the problem is even more severe, with more than half of all teachers routinely turning over within five years.⁷

Of course, new teachers bring energy and fresh perspective to their schools, and students

clearly benefit when strong teachers replace weak ones. But studies show that teachers simply are not as effective in their first years in the classroom as they are with more experience. And there is evidence that the best beginning teachers make up a substantial proportion of the early leavers. In a 2013 study of teacher attrition in four large urban systems, TNTP, a teacher recruitment and training organization, found that nearly one-third of highly effective teachers left within two years, and almost half left within five.⁸ The result, writes the National Commission on Teaching and America’s Future (NCTAF), is that “students are too often left with a passing parade of inexperienced teachers who leave before they become accomplished educators.”⁹ Hardest hit are students in tough-to-staff schools in low-income neighborhoods—the very students who are in greatest need of outstanding educators. Studies have found attrition in high-poverty schools to be 50 percent greater than it is in other schools.¹⁰

The statistics are hardly news to McGee, who is among the teachers and administrators charged



with reversing damaging churn in Houston. “We have a 61 percent attrition rate five years out. So if you are a kid in any HISD school, what are the chances you are going to get a new teacher?” McGee asks. “The learning curve for new teachers is steep, and for teachers who are alternatively certified you can increase the slope some more. Why aren’t we talking about the fact that for three years in a row you are going to get a new teacher? The data says that you are almost to the point where you can’t make up for that.” Research by Stanford University economist Eric Hanushek shows that an ineffective teacher can cost a student as much as six months of learning every year.¹¹

Along with steep turnover in high-poverty communities, researchers have found increased rates of attrition in urban, rural and low-performing schools and among special education teachers. Turnover is greater among secondary teachers than among elementary teachers, and teachers of color leave at much higher rates than do white teachers.¹²

Teachers abandon charter schools at especially high rates—a problem of no small consequence as charters play an expanding role in public education, especially in urban districts. For a 2010 study of charter school turnover in Wisconsin, Betheny Gross and Michael DeArmond of the Center for Reinventing Public Education (CRPE) tracked 956 newly hired charter teachers and 19,695 new traditional public school teachers from 1998 to 2006 and found that charter teachers were 40 percent more likely to leave their schools for another school and 52 percent more likely to leave the teaching profession altogether than were teachers in district-run schools. In Los Angeles, the nation’s second largest public school system, no less than 45 per-

cent of charter high school and middle school teachers hired in 2007-08 left their classrooms after a single year.¹³

WHY THEY LEAVE

For years, school reformers have been pushing for teacher performance pay on the grounds that greater compensation would encourage stronger teachers to stay in the profession. But it’s increasingly clear that it’s not money, or a lack of it, that’s causing most teachers to leave. Rather, the primary driver of the exodus of early-career teachers is a lack of administrative and professional support.

It’s not money, or lack of it, that’s causing most teachers to leave. The primary driver of the exodus of early career teachers is a lack of administrative and professional support.

The problem takes many forms, including the feeling of being isolated from colleagues, scant feedback on performance, poor professional development, and insufficient emotional backing by administrators. Quite simply, teachers don’t think the people they work for care about them or their efforts to improve.

A raft of research points to the problem. Early career teachers in North Carolina reported in a 2011 study by New Teacher Center (NTC), a Santa Cruz-based non-profit that helps train new teachers, that too few principals spend time in classrooms, support teachers in their dealings with parents, and do other things large and small that buttress teacher morale.¹⁴

A survey of 4,000 teachers by the Research Alliance for New York City Schools revealed lack of support from administrators as a key factor in teachers’ consideration of leaving their school.¹⁵ And TNTF found in a 2012 study entitled “The Irreplaceables” that even outstanding teachers—educators who annually generate the equivalent

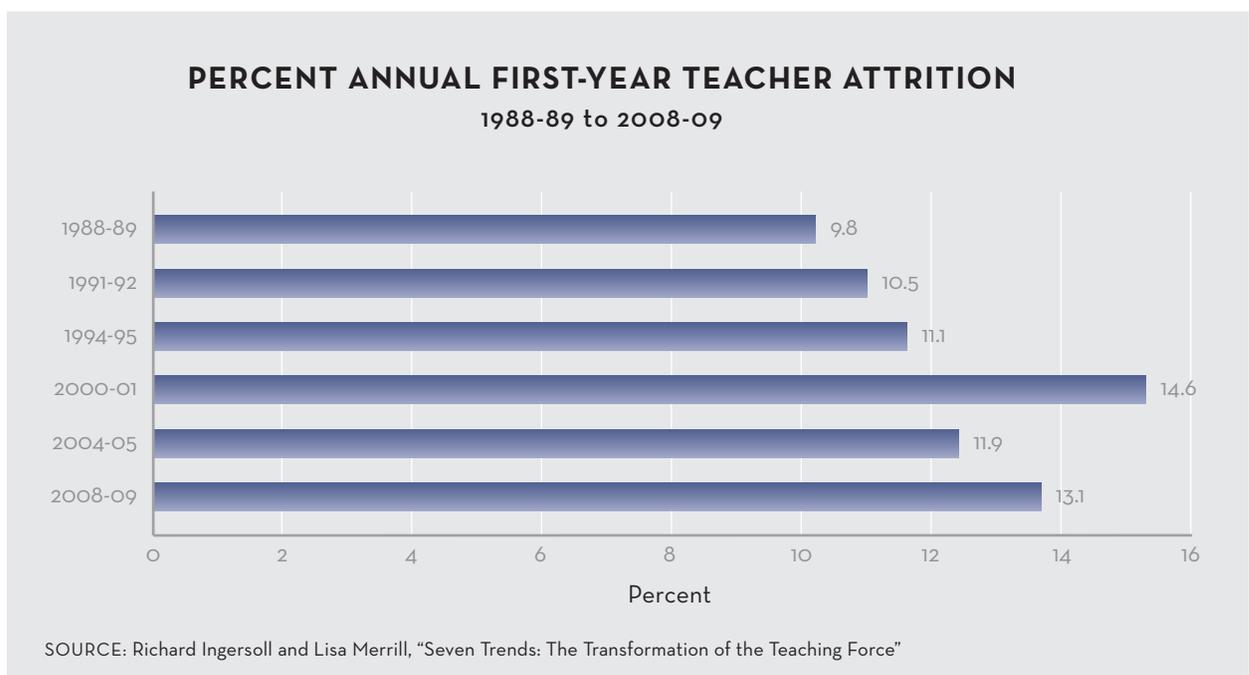
of five to six more months of learning than poor performers—often throw in the towel out of sheer neglect. Upwards of 75 percent of such teachers that TNTP surveyed in five major urban school systems said they would have stayed if they hadn't so rarely been made to feel important.¹⁶ "We often overlook that schools are all about relationships, and relationships take work," says Candace Crawford, executive director of Teach Plus D.C.¹⁷

More recently, the Carnegie Foundation for the Advancement of Teaching found that teachers' connectedness to their schools strongly influenced their retention rates. The Foundation surveyed 580 early career teachers in the Baltimore City Public Schools as part of a partnership with the Austin, Texas school system to improve teacher induction and retention called Building a Teaching Effectiveness Network. The survey revealed that the 25 percent of teachers who felt most loyal to their schools and believed most strongly that their work contributed to their schools' successes had an 89 percent likelihood of staying in their schools the following year, compared to 53 percent for the quarter of teachers who felt least en-

gaged, least satisfied, and least confident about their classroom contributions.¹⁸

Amanda Meyer, who taught English as a second language in a low-performing San Antonio, Texas, high school, is typical. A 2011 Teach for America recruit, she loved her work and planned to stick with it well beyond her two-year commitment to the program. But she craved guidance and support that she only rarely received. Her busy supervisor, a highly regarded administrator, had only enough time to give her a few model lessons, Meyer says. Her designated mentor spent only 40 minutes in her class over the course of two years, and an instructional coach never came, despite Meyer's requests. Meanwhile, Meyer's principal based his year-end evaluation on a single observation of Meyer he made back in January. She says: "The principal said, 'Don't expect to hear from us if you are doing your job.'" After just two years, Meyer left teaching for a research position at the Carnegie Foundation.¹⁹

"Teachers never say they are leaving because of the kids," observes Jesse Solomon, executive



director of the non-profit BPE, formerly the Boston Plan for Excellence. “The biggest reason teachers leave is because they are working in a dysfunctional structure. If you put good people in a bad system the system is going to win every time.”²⁰

That is not to say that students can’t be challenging, especially in impoverished neighborhoods where they often bring substantial social and emotional problems to the classroom. But educators point to a lack of support from the top in this regard, too. Kelly Manard, formerly of the Office of Teacher Support and Development for Baltimore City Public Schools, says that new teachers in particular confront daunting problems with student behavior; they fault school leaders for failing to support their attempts to discipline their students.²¹ The teachers also want far more help differentiating instruction for special-needs students: new teachers are not only learning how to align their instruction with curricular goals, they are required to make progress with students of widely different abilities and learning styles.

New teachers in charter schools often have an even rougher go of things. Many charters have extended the school day, and because they are autonomous, they must recruit students, draft curricula, and take on other time-consuming tasks themselves.

All of these responsibilities make teachers’ jobs much harder; in some charters, the official school day is two hours longer than it is in traditional public schools and the school year two months longer. The CRPE study found that lack of administrative backing is no less of a problem for those who leave charter schools than for those who leave traditional public schools. But the in-

creased demands on many charter teachers factor in substantially, as well. Says Emily Lawson, the founder of DC Prep, a high-achieving charter network in Washington, D.C.: “For those who go that we don’t want to go, it’s usually a question of culture fit. Some don’t want to work that hard.”²²

NEW GENERATION, NEW ATTITUDES

Time was when teachers entered the profession, worked for a few years, then maybe took a couple of years off to raise a family or follow a spouse. But overall, teachers looked at the job as a long-term proposition. Today, there is increasing evidence that this scenario is no longer the case. Over half the participants in a national survey of teachers of all experience levels conducted by the research organizations Learning Point and Public Agenda in 2011 reported that they planned to leave the

profession. Others expected to stay in education but to move out of the classroom for opportunities that are growing along with entrepreneurial enterprises in the field.²³ Says Sarah Coon, a former classroom teacher who is now an education consultant and the staff development director at the charter school network Achievement First: “I didn’t want to retire from the job I

“Teachers never say they are leaving because of the kids. The biggest reason teachers leave is because they are working in a dysfunctional structure.”

had at age 22.”²⁴

That sentiment is particularly strong among the increasing numbers of new teachers entering the profession through non-traditional routes like Teach for America, many of whom are the products of the nation’s most competitive colleges and who gravitate to new roles and responsibilities. The TFA model, which requires teachers to

commit to the classroom for only two years, may also be prompting traditionally trained teachers to think differently about the duration of their careers. And certainly the broader labor market is sending teachers a signal that shorter, or at least more varied, careers are increasingly the norm. The U.S. Bureau of Labor Statistics reports that Americans born at the end of the baby boom in the mid-1960s have held an average of over 11 jobs.²⁵

At the same time, new teachers are encountering a professional climate much different from that of a generation ago—one of stricter accountability, a related focus on standardized testing and, in the wake of the recent recession, severe budget cuts. All of these combine to make a teaching career less secure than it once was. And some teachers chafe under a system with extensive external accountability driven by standardized tests. Says Rob Weil, director of field programs, educational issues, for the American Federation of Teachers: “When I was a teacher we weren’t having meetings about test scores. And these are meetings about numbers that careers and livelihoods are based on. A lot of people think these [new teachers] are different. And that could be. But the system is also different today.”²⁶

MYTHS ABOUT MONEY

New teachers are paid slightly less than those starting in comparable occupations, when teachers’ shorter work year is included in the calculation. The average new teacher earns \$30,377 under a typical nine-month contract, compared to an average of \$43,635 for beginning computer programmers and \$44,668 for starting public ac-

countants working 12 months a year.²⁷ Even so, some school districts have raised salaries substantially to attract and keep teachers. New York recently raised salaries at all experience levels by as much as 43 percent; Baltimore established career ladders that boosted some teacher salaries by as much as \$20,000 a year.

“When I was a teacher we weren’t having meetings about test scores. And these are meetings about numbers that careers and livelihoods are based on.”

Yet while surveys suggest that financial compensation does matter to new teachers, it does so only to a point—and not nearly as much as less tangible rewards do. Forty percent of respondents to a 2007 survey of over 600 teachers by Public Agenda and The National Comprehensive Center for Teacher Quality said that low

compensation was a drawback to a career in education, but factors like “unreasonable pressure to raise achievement” troubled them a lot more. And while 60 percent of the teachers proposed salary as something to fix, they ranked it low on a list of things they would do to improve the profession, beneath factors like reducing class sizes and helping teachers engage students with different needs.²⁸

In the 2012 MetLife Survey of the American Teacher (of teachers of all experience levels), 65 percent of teachers said that public school salaries were not fair for the work they do.²⁹ But the Public Agenda study found that given the choice between two identical schools, 76 percent of secondary and 81 percent of elementary teachers said they would rather work at a school where administrators strongly supported them than at a school that paid significantly higher salaries.³⁰

Karolyn Belcher, executive vice president of New Teacher Effectiveness for TNTF, says that her organization’s research suggests that money matters only when it increases teachers’ compen-

sation by more than \$10,000 a year.³¹ A recent study for the U.S. Department of Education by Mathematica Policy Research supports TNTP's research. Mathematica researchers found a 93 percent retention rate after two years among teachers receiving \$20,000 in bonuses over two years to teach in high-needs schools, compared to a 71 percent retention rate among teachers who didn't receive the bonus money. After the payments ran out, most of the bonus-paid teachers were still at the schools.³²

The weekly paycheck is only part of a teacher's remuneration, of course. A big chunk of compensation comes in the form of the employer's contribution to a pension. Compared to retirement benefits in the private sector, these payments can be quite generous. But in many districts, pension formulas discriminate against early career teachers in favor of those who stay in one place for decades. They are structured so that teachers accumulate very little pension wealth in the first 20 years or so, then enjoy ballooning employer contributions as they approach retirement age.³³ In Philadelphia, for instance, where employer contributions are 21.4 percent of salary, new teachers won't earn their pensions until they have been in the district for a decade.³⁴ (They can, however, receive a refund of their own contributions, with interest.)

One could argue that longer vesting periods encourage teachers to stay, and faced with soaring unfunded pension liabilities, states and districts have to cut back somewhere. But extending vesting periods in systems that are already back-loaded in favor of older teachers also can discourage new ones from moving to new districts or entering the profession in the first place. More attractive to new teachers, many

have suggested, would be for their employers to treat them more as workers are in the private sector and make fixed contributions to 401ks. One study found that younger teachers would rather earn 17 cents more now than have \$1 added to their pension fund for later.³⁵ "Such a finding," says Marguerite Roza, director of the Edunomics Lab at Georgetown University, "suggests that if some of the current spending on pensions was relocated, perhaps to salary, it would be easier to recruit and retain younger teachers."³⁶

THE TOLL OF TEACHER TURNOVER

Teacher turnover takes an enormous toll on American education. NCTAF reports that teacher attrition costs school districts over \$7 billion a year in teacher recruitment and induction expenses alone—from \$4,366 per teacher-leaver in rural Jemez Valley, N.M. to \$17,892 in Chicago.³⁷ In 2007 alone, teacher turnover cost New York City \$115 million.³⁸

Attrition is costly in other ways, as well. Jarrod Bolte, a director of Reading Partners and a former administrator with Baltimore City Schools, says that the district's 50 percent (over five years) turnover rate prevents some schools from implementing long-term programs. "We were constantly having to train people," he says. "We were always going back to the basics."³⁹

"Students develop relationships with teachers and see them as role models. But I've seen cases where those teachers leave and students get kind of lost."

At DC Prep, where turnover can range from just 5 percent in a good year to 35 percent in a bad one, Lawson says: "If 90 percent [of teachers] would stay after three years, we would need fewer instructional coaches, we'd have fewer discipline

problems. We could grow faster and open new campuses. Just having a stable base helps the other teachers. When [teacher] retention improves, student test scores go up.”

The Carnegie Foundation survey of new teachers in Baltimore supports Lawson’s conclusion. It found that 66 percent of the city’s third-year teachers scored proficient under the city’s 2013 teacher-evaluation system, compared to 28 percent of first-year teachers.⁴⁰

High turnover breaks down the coherence of school communities by disrupting relationships among teachers and between teachers and students. “Students develop relationships with teachers and see them as role models,” Bolte says. “It keeps them motivated. But I’ve seen cases where those teachers leave and students get kind of lost.” Turnover also erodes collegiality, along with trust among teachers, and cuts into valuable institutional knowledge about procedures, curriculum, and culture. Without trust, research suggests, teachers are less likely to take on leadership roles, to collaborate, or to form learning communities.⁴¹

Moreover, teachers who stay must bear more of the burden for mentoring teachers who arrive. “New teachers need stable, ongoing support from veterans, but churn makes it difficult to have that stability,” says teacher expert Susan Moore Johnson of the Harvard Graduate School of Education. “Turnover, we know, is bad for kids, but it’s also bad for teachers.”⁴² Bolte says that Baltimore has found that one common factor behind improvements in high-poverty schools was low turnover of teachers, which correlated with strong school leadership. “It was amazing to see the relationship,” he says. “If you have consistent teach-

ers, banded together, they will help that principal be effective.”

As to whether high turnover *directly* affects student achievement, the findings are mixed. But there is emerging evidence that it does. On the one hand, in a 2010 study of the effects of turnover on disadvantaged students, Stanford’s Hanushek started with the assumption that turnover harmed the quality of instruction. But when he simulated

the replacement of existing teachers by rookies, he found no decline in student achievement.⁴³ In contrast, researchers Matthew Ronfeldt of the University of Michigan, Susanna Loeb of Stanford University, and James Wyckoff of the University of Virginia conclude in a new study of 850,000 fourth- and fifth- graders in New York City that teacher turnover has a significant negative impact on student achievement in mathematics and English.

They found that turnover is especially harmful to students in high-minority and low-achieving schools, and that it has a “harmful influence” on students throughout a school, not just on those whose teachers have left.⁴⁴

“New teachers need stable, ongoing support from veterans, but churn makes it difficult to have that stability. Turnover, we know, is bad for kids, but it’s also bad for teachers.”

HOW MUCH TURNOVER IS TOO MUCH?

Despite turnover’s high toll, most school districts don’t track their attrition patterns in any detail, NCTAF reports. They don’t know if they’re losing good teachers or bad ones, or how much money attrition is costing them. More than a few school leaders don’t think it’s even their job to monitor such information.⁴⁵ “Principals don’t see themselves as responsible for [turnover],” says

Crawford. The lack of incentive is at least partly financial. Says Johnson: “If a district doesn’t invest much in new teachers, turnover doesn’t really matter, financially speaking.” Principals are further discouraged by traditional policies such as centralized hiring, uniform compensation and what have traditionally been inconsequential teacher evaluation systems. All of these factors reduce their incentive to care about teacher attrition. “Some of it is ‘Do I have the power to convince them to stay?’ You need a high belief in your own sense of efficacy,” Crawford says, to make the retention of top teachers a priority.

Not all turnover is bad. The departure of poor or marginally effective teachers is a welcome occurrence, especially when it is accompanied by the arrival of more able replacements. TNTP’s research shows that schools have a three-in-four chance of replacing a low-performing teacher with a new hire who will be more effective right out of college and who is more likely to improve over time.⁴⁶ (However, finding quality replacements is often challenging for remote school systems paying modest salaries.) “[Administrators] see turnover as something expected,” says Bolte. “It’s ‘we’re O.K. with it.’”

New teachers are also cheaper than more experienced ones, and some school leaders say that turning over teachers saves them money by lowering average salaries. Ingersoll recalls Paul Vallas, the superintendent in Bridgeport, Conn. and a former superintendent of the Recovery School District of Louisiana, crediting new teachers for helping him balance the budget in New Orleans. But such savings are often offset by the combination of replacement costs (Bolte notes that Balti-

more spends \$600,000 for a one-week institute for new teachers, along with \$500,000 a year to TFA for recruiting), a diminished sense of school community, and lower productivity in the classroom. Whatever the costs and benefits, TNTP says the real problem is indiscriminate turnover: just as principals aren’t getting good teachers to stay, they aren’t very good at getting bad ones to leave.

The real problem is indiscriminate turnover: just as principals aren’t getting good teachers to stay, they aren’t very good at getting bad ones to leave.

What is a reasonable level of turnover? That is the threshold question, and researchers like Ingersoll say there is no right answer. Attrition among teachers is less than attrition among child-care workers, secretaries, and paralegals, but similar to that of police officers. It is higher than for nurses and far higher than for lawyers, architects, and academics.⁴⁷ “All I know,” Ingersoll says, “is that the numbers are too big.”

Ingersoll recalls citing the current level of teacher attrition in a speech to stunned Proctor and Gamble executives who said that such turnover would be completely unacceptable at their company. Kafi Payne, manager of Teacher Support, Retention and Development for the Oakland Unified School District, says, “We [educators in general] don’t really know the answer. In the past, we’ve just picked a number that’s lower than our current rate and assumed that’s better.”⁴⁸ Johnson, noting that the current generation of teachers is not going to stay for 30 years, says “good retention would be keeping them for as long as they planned to stay. If six or seven years is their plan, then keeping them for that length is a good thing. If they plan to stay for six and leave at two, then that is a bad thing.”

To help standardize such targets, some experts have suggested that a school’s turnover aim should be the turnover rate of the district’s highest per-

forming school. Whatever the ideal number, experts say the bottom line is that districts should manage turnover strategically, rather than reacting to it as a random series of events.

SUPPORTING A TEACHER’S FIRST YEARS

Keeping new teachers in the classroom is a challenge with a number of possible solutions, all of which can work together or on their own. They start with making careful hiring decisions at the outset, then recognizing that new teachers have unique needs and providing them with the targeted support and real-world training they require. Increasingly, the problem also seems to call for fundamental changes in the profession, changes that would give classroom teachers more ownership of their careers and greater opportunities for leadership and advancement. Research shows that initial teaching performance is a meaningful pre-

dictor of future effectiveness—far more so than factors like academic credentials. Teachers who perform poorly the first year rarely show dramatic improvement the next. By contrast, if they make a strong start, they are more likely to be effective over a long period.⁴⁹ “If you can grab that teacher in the first six months you will have better teachers faster,” says Ingersoll. The evidence argues for treating the first year as the crucial opportunity it is—a time to give new teachers immediate, concentrated and meaningful support. And yet, historically, we have treated the first year of teaching like a warm-up.

Almost all new teachers struggle in one way or another. Most commonly, they wrestle with classroom management, student behavior, and teaching a prescribed curriculum without adequate guidance. Researchers Tom Dee of Stanford University and James Wyckoff of the University of Virginia have found that Washington, D.C. teachers in their first two years score significantly lower under the city’s evaluation system than

THE ANNUAL COST OF TEACHER TURNOVER IN FOUR DISTRICTS

School District	Number of Teachers	Cost Per Teacher Leaver
Chicago, Ill.	25,300	\$17,872
Granville County, N.C.	532	\$ 9,875
Jemez Valley, N.M.	41	\$ 4,366
Milwaukee, Wisc.	6,139	\$15,325

Calculating the Cost of Teacher Leavers

This study calculated the cost of teacher leavers using district data on turnover and resources allocated to turnover. Teachers who left the district altogether were considered leavers. Districts, along with a small subset of schools in each district, were asked to report time and money spent on activities associated with teacher leavers including recruitment, hiring, administrative processing, professional development, and separation.

SOURCE: National Commission on Teaching and America’s Future

those with three or more years—the difference, for instance, between performing at the 50th percentile among all the city’s teachers and then moving up to the 65th percentile.⁵⁰ TNTP, which is highly selective, reports that that 17 percent of the heavily vetted new teachers it placed in seven states and the District of Columbia in 2011-12 were either fired after their first year or faced dismissal if they didn’t improve.⁵¹

The important point here is that the growth curve for new teachers is steep: teachers have a lot to learn their first few years, and when they do, their effectiveness increases substantially. Thus Crawford says that we should expect the vast majority of new teachers to be rated “developing.” In fact, she submits that there should be “no such thing” as a first-year teacher—meaning that no newly minted educator should be flying solo at the outset. “It’s like taking a student right out of medical school,” she says, “and giving them a full surgical load unsupervised.”

Part of the problem is a mindset: school and district leaders often think that helping new teachers should be the job of teacher preparation programs. Says Weil of the AFT, “Districts say, ‘We aren’t in the teacher-prep game.’ They think teachers should arrive ready to go.” But, as many recent studies of teacher preparation programs have shown, too many new teachers are decidedly *not* ready to go. Clinical practice is especially lacking. More than a quarter of the nation’s new teachers, studies show, have had no student-teaching experience, and those who do have typically only two and a half months’ worth. And according to NCTQ, less than 10 percent of prep programs assign students to highly skilled teachers who give them meaningful feedback.⁵² “In some schools of education,” says Coon of Achievement First, “stu-

dents aren’t really teaching during their student teaching; they are grading papers in the back of the room.”

Compounding these problems, student teaching typically occurs in the second semester of the school year, after classrooms are set up and rules and norms are in place. That means student teachers never go through the crucible of setting their own classroom rules, building a culture, and the like. It is perhaps not surprising, then, that nearly two thirds of the respondents to a national survey of new teachers in 2006 said they weren’t prepared for the realities of the classroom.⁵³

Today, nearly 40 percent of new public school teachers enter the profession through non-traditional recruitment programs like TFA, and they are often leading a classroom after only a summer’s worth of training.⁵⁴ That’s sometimes a

better proposition for students than giving them the untrained substitutes they might otherwise be assigned. But it’s typically not enough, however driven and academically accomplished these recruits may be. Observes Houston’s McGee: “TFA corps members are all high-achieving, but in the past, their success has been a reflection of effort. With teaching, effort doesn’t immediately equal success.”

(In a significant policy shift, TFA recently announced that it would provide a full year of training to a group of recruits starting in 2015. It also announced plans to do more to encourage its teachers to stay beyond the required two years.)

Overall, new teachers leave their classrooms at much higher rates if they lack key elements of preparation, says Linda Darling-Hammond of Stanford University’s Graduate School of Education. Teachers who are unprepared in curriculum, teaching methods, child development, and stu-

“In some schools of education, students aren’t really teaching during their student teaching; they are grading papers in the back of the room.”

dent teaching leave at twice the rate of teachers who have had this training, she says.⁵⁵

Given these pre-service shortcomings, the need for strong induction seems clear. But, according to educators who have surveyed the landscape, it is the rare school district that provides it. In 2011, Ingersoll reviewed 15 studies on teacher induction and found that the content, duration, and goals of the programs vary widely. Some are focused on evaluation and performance; others seem to include socialization and adjustment.

WHAT COMPREHENSIVE INDUCTION IS AND IS NOT

Comprehensive induction is NOT

- A crash course in teaching
- An orientation session that tells teachers where the copy machine is
- A stand-alone mentoring program
- A string of disconnected one-day workshops
- A top-down, one-directional approach in which teachers are passive recipients
- Only a benefit to beginners
- A way to help teachers cope with a dysfunctional school

Comprehensive induction IS

- High quality mentoring by trained mentors
- Common planning time
- Ongoing professional development
- External networks of teachers
- Standards-based evaluation
- Dedicated resources
- An adequate and stable source of funding

SOURCE: Alliance for Excellent Education

Some are designed to foster growth, others to assess and even weed out those who are poorly suited to the job. But what many have in common is that they do none of these things particularly well.⁵⁶

In Baltimore, when officials looked at their supports for new teachers, they found that some teachers received feedback from as many as 10 different sources—all of which was uncoordinated, much of which was contradictory, and some of which was incoherent. By contrast, some new teachers received almost no feedback at all. “The thought is often to do more,” says Bolte. “But the answer was to do less and be more focused.”

The best induction programs target instruction in this way, addressing teachers’ individual needs, research shows. They focus on teacher growth, and their hallmarks are well-trained, freed-up mentors and common teacher planning time. Detailed below are three such programs that show promise in curbing attrition: Houston’s summer academy; a comprehensive mentoring program in Cedar Rapids, Iowa; and Boston’s teacher residency model.

BOOT CAMP IN HOUSTON

The Houston Independent School District is among several urban districts that have recently increased their investments in new teachers. Houston is the nation’s seventh largest school system, with 200,000 students, 88 percent of whom are black or Hispanic and 80 percent of whom are poor.⁵⁷ Of its 11,417 teachers, nearly 2,000 this year are brand new. This development is partially by design. A more rigorous evaluation system that ties teacher performance partly to student test scores resulted in the departure of 800 teachers at the end of the 2012-13 school year, the great majority of whom were fired.⁵⁸ Along with the sheer numbers being a lot bigger, the needs of Hous-

ton's new teachers are greater than ever. Under the district's strict new accountability guidelines, new teachers are held to the same standard as teachers who have been practicing for years. That means they need to get better in a hurry. "The bar is high from the get-go," says McGee. "There is no 'beginner 3' [on the city's teacher rating system of 1 to 4]. A three is a three is a three."

At the same time, Texas laws have made Houston a hotbed of alternative certification programs. Up to 70 percent of the district's new teachers this year are coming from programs like Teach for America. The state has approved more than 110 such programs, and, according to a recent state audit, the oversight is weak and the quality varies. Some of the programs are offered entirely online, and teachers can be certified with no classroom experience in as little as three months.⁵⁹ The Houston district also has its own certification program, and while some graduates do get classroom experience, they get it only for a few weeks the summer before school starts.

Faced with these substantial changes, Houston revamped its teacher induction program last summer. It used to be that all teachers came to a short orientation program before the start of school; there was no special curriculum for new teachers. Now, in addition to a week of orientation for all teachers, beginning teachers have three days of induction to themselves. Held at a sprawling mega-church on the city's far southeast side, the New Teacher Academy is a like a big conference, with breakout rooms, exhibitors, and swag. Teachers work together in classrooms divided by grade level and subject. Trained mentors tell them what to expect, modeling lessons, creating scenarios, and using examples from their own experience.

In a session on "establishing expectations," for instance, high school social studies teachers watch a video showing a skilled teacher in action and talk about how his behavior shapes classroom culture. They write down three things they want a student to know to be a happy and productive person. They describe the characteristics of a good teacher, discuss their answers, then refine them based on insights they have gained from each other. The mentor teachers talk to them about how to set rules that are specific and observable, monitored and enforced. And they talk about how to greet a student who is having a hard time, a student who has been absent, and one who got an A-plus on the latest test. (All differently.) In a discussion on classroom management, the new teachers learn how they can save one minute each from 10 transitions a day.

The novices fill their notebooks with advice from the mentors like: "Don't make excuses for them! If you make excuses they will take them." "The work stack is this deep but if you don't grade it and

give it back it will only get worse." "They used the F word like a comma. I had to let go of that because my classroom would be empty." "Learn to break rules but be rigidly flexible." "I had to teach my students how to listen." "Keep the rules list short. You can't have 20 rules." "Make it a safe classroom, mentally and emotionally safe." "You are young and you have never been in a toxic classroom. You are gonna work with people who actually don't like kids."

The importance of assuming a "growth mindset"—the belief that intelligence is not fixed, and that with hard work it can increase—is a pervasive message at the academy. Teachers are shown why they must instill these mindsets not only in their students but adopt them for themselves.

**"You are young
and you have never
worked in a toxic
classroom. You are
gonna work with
people who actually
don't like kids."**

A big push, says McGee, is getting new teachers to ask for help. “You are not going to make it...if you don’t ask for guidance for improvement,” she says. “Feedback can’t be just one way.”

Toward that end, new Houston teachers must take tests in their subject areas that are graded and returned the next day. Some find the exercise humiliating, but the idea is for them to see from the student’s perspective what the students are expected to know. The tests have flagged some distressing knowledge gaps among teachers, which the district aims to address with emergency remediation.

“The pre-assessment is about how we can impact what you do before you do it,” says McGee.

Houston’s support for new teachers doesn’t end with the academy. For the rest of the school year, the 60 mentors (known as key teachers) who lead the summer workshops work with a select group of new teachers to help them improve their practice while they are actually teaching. “We are really moving to embed PD,” says Lance Menster, assistant superintendent for professional support and development at HISD.⁶⁰ That means observing teachers when they need it and providing them with immediate feedback rather than coaching them in regularly scheduled and infrequent meetings.

ROVING MENTORS IN IOWA

Nearly 1,000 miles away, a multi-district education agency with a very different demographic profile—largely rural and white—offers another model for investing in new teachers. The Grant Wood Area Education Agency in and around Cedar Rapids, Iowa relies on carefully selected and trained mentors to guide teachers over the rocky

shoals of their first years. But thanks in part to a federal grant, it gives the mentors fully dedicated time to work with every new teacher in every type of school.

The Grant Wood AEA is one of nine such consortia created by the Iowa state legislature in 1975 to provide far-flung rural districts with services such as special education and professional development that the districts could not always supply well on their own. Iowa has traditionally ranked high on measures of educational achievement, but in recent years the state has seen performance plateau and even decline. At the

same time, the state has experienced a significant increase in teacher attrition, and evidence that beginners are struggling. So in 2000 the legislature passed a law that required every new teacher to have a mentor.

A few years in, however, the program did not seem to be having much impact. Turnover in rural schools remained particularly high, and attrition among special education teachers was two to three times worse than attrition overall. The problem was that while the policy itself seemed sound, there was little oversight of its implementation. Mentors were given a \$1,000 stipend, and it is safe to say that some earned it and some did not. Says Kim Owen, mentoring and induction program administrator for the Grant Wood AEA, “The question is what is mentoring? For some it was not much more than saying ‘Hi’ in the hallways or having the occasional lunch. There was no data being collected of what it was, what its goals were.” Practices were all over the map, she says, and the policy was being treated more as a ceiling than a floor.⁶¹

Owen was tasked with reviewing the program, and she didn’t always like what she saw. “As a state we had no consistency. We would do

“You are not going to make it...if you don’t ask for guidance for improvement. Feedback can’t be just one way.”

a few workshops a year. We were all doing different things,” she says. “We asked what was working, but we had no data. All we knew was that there was no difference in retention. There was no evidence that the [mentor PD] curriculum had made any difference. We heard that teachers felt the training was minimal.”

Perhaps most important, while the goal of the legislation was to give a mentor to every teacher, there was no provision in the state law for releasing those mentors from the classroom—for freeing them from any of their own teaching duties so they would have time for their mentees. Owen believed that full release was essential, “because when are you are a teacher, your first priority is the kids in your own classroom.”

Owen connected with NTC, which works with districts and charter management organizations to boost the skills of 26,000 new teachers a year. NTC’s successes applied largely to big cities, but Owen saw no reason why they couldn’t be replicated in rural communities. It would take more resources, a bigger commitment, and a couple of districts to pilot it.

Sharing in a \$14.7 million grant to NTC from the U.S. Department of Education’s Investing in Innovation program, the Grant Wood AEA now has an ambitious yearlong mentoring program. Completely freed from classroom duties for three years, each mentor works with up to 15 teachers in multiple schools. Having multiple charges, instead of just one, as in some other programs, gives the mentors a broad experience from which to draw. And it maximizes their influence. “Let’s say we have a [new] physics teacher in one school and we know a dynamite AP physics teacher in another school—they just take a road trip,” says Owen. “We capitalize on the consortium.”

“The question is what is mentoring? For some it was not much more than saying ‘Hi’ in the hallways or having the occasional lunch.”

As in Houston, much effort goes into mentor selection at the Grant Wood AEA. Candidates are interviewed multiple times and required to give several model lessons and to provide assessments of student work. They write essays in which school leaders look for the crucial capacity for reflection. The mentors don’t necessarily work with teachers in the same subject area or grade level; mentors who were elementary teachers, it turns out, often have much to teach their secondary counterparts about pedagogy, and mentors who were secondary teachers, particularly math and science teachers, can show their elementary counterparts a thing or two about content. They all meet weekly. “A lot of people said [mixing grades and subjects] wouldn’t work,” Owen says. “But the new teachers really disagree.”

TEACHER RESIDENCIES: EASING INTO THE JOB

Critics of teacher training frequently note that the field of medicine requires newly minted M.D.s to work under the close supervision of physicians before they can treat patients on their own. Even plumbers, they say, must serve several years apprenticeship before fixing pipes on their own. This model is the inspiration behind teacher residency programs, which give new teachers intensely supervised clinical experience before they are put in charge of their own classrooms. The pre-service teacher works as an apprentice for a full year in the classroom of a mentor-teacher, as part of a master’s degree program with a full complement of courses that is centered on classroom work. Mentors and clinical educators help residents plan and give them frequent coaching and feed-

back. They use performance data to target regular interventions, and, in a big departure from the status quo, release the new teacher gradually into full responsibility for the classroom.

There are several dozen residency programs operating in the nation's 13,600 school systems, many of them supported by independent organizations such as Urban Teacher Residency United, an umbrella group for 17 programs. The Boston Teacher Residency, one of the oldest such programs, was co-founded by Boston Public Schools and the BPE. Its 70 carefully chosen recruits are intended to fill the need especially for minority teachers and teachers of math, science, English as a second language, and special education. They are paid an annual stipend of \$12,100, plus health insurance, and receive a \$10,000 student loan that is forgiven if a teacher stays for three years.⁶² The residents spend their days working side by side with an experienced teacher, who demonstrates the objectives of each lesson, gives the recruit opportunities to co-teach, and discusses the successes and shortcomings of each practice. In a departure from most training programs, the recruits are prepared specifically for the particular curriculum and demands of Boston Public Schools.

The role of a residency mentor, known as a collaborating teacher, is a demanding one, director Solomon says. The mentors must daily create experiences to encourage their resident's learning. That means they must be highly effective teachers in their own right. In the Memphis, Tenn. residency program, the mentor teachers score almost an entire effectiveness level higher than the average district teacher. In Boston, likewise, mentors have shown themselves to be considerably more effective than other Boston Public School teach-

ers.⁶³ Crucially, studies have shown no negative effect from the mentors having residents in their classrooms. As in medicine, the saying is "First do no harm." Says Solomon, "The kids have to do better than they would have if a resident had not been there."

But one-on-one mentoring is only part of the program. One of its core beliefs is that "learning to teach is best done by working together and by engaging in regular, reflective, data-based conversations about the work alongside other educators."

So the entire school collaborates on mentoring. Residents spend time with other teachers and in other schools, and they meet regularly with two teams: one determined by grade level and the other by academic subject.

(The Carnegie Foundation's BTEN experiment has found collaboration to be key component of effective teacher induction as well. The Foundation's work with the Austin and Baltimore school districts points to the importance of frequent face-to-face conversations (every two weeks in BTEN) with multiple administrators or coaches, given the many demands on principals' time. It calls for teachers to help select individualized improvement topics, for giving teachers a clear picture of successful classroom strategies, and for follow-up support, ranging from a chance to watch expert teachers to one-on-one classroom coaching.⁶⁴)

In exchange for the stipends, benefits and loans it provides its residents, the Boston program expects residents to work in the city's public schools for three years after they complete the program. The residents do tend to stay beyond that minimum expectation—and far longer than other teachers in high-needs schools. A recent Harvard University study found that 80 percent

They use performance data to target regular interventions and release the new teacher gradually into full responsibility for the classroom.

of the residency graduates between 2004 and 2011 stayed for three or more years, compared with 63 percent of other Boston teachers, and 75 percent stayed for five or more years, compared with 51 percent of other teachers.⁶⁵

Researchers are just beginning to see results on the impact of residencies on student achievement, and they are somewhat inconclusive. A 2011 study of the Boston residency by the Center for Education Policy Research found that residency-trained teachers initially were no more effective than other novice teachers in raising test scores in English and were less effective in math but that after four or five years they outperformed other novices in math.⁶⁶

Residencies have, however, produced measurable improvements in teacher performance and retention. A survey of Denver principals by Urban Teacher Residency United found that a majority of them thought that teachers trained in this way were more effective or considerably more effective than a typical new teacher, than other alternatively certified teachers, than traditionally trained teachers, and than their own district's teacher fellows. Fifty-five percent of the Denver residency's first-year teachers received the highest effectiveness rating under the district's evaluation system, compared with just 22 percent of first-year Denver teachers who don't go through the district's residency program.⁶⁷

A MATTER OF MATCH

Another way to stem teacher turnover, and to ensure the success of beginning teachers, is to put the right people in the right schools in the first place. That means looking beyond sheer competence to matters of compatibility. New teachers who embrace the educational philosophy of a school, for instance, are in the best position to succeed, as are teachers with a natural disposition

to improve. And such teachers are also more likely to stay.

Yet this critical issue of “fit” is often overlooked, especially by the many schools that scramble to fill spots even after the start of the school year. Edward Liu and Susan Moore Johnson of the Harvard Graduate School of Education capture the problem in a recent paper titled “New Teachers’ Experience of Hiring: Late, Rushed and Information-Poor.” They surveyed 486 new teachers in four states and found that even though hiring decisions were made at the school level, presumably providing the teacher and the school the opportunity to discuss teaching philosophy and other ingredients of a good match, the teachers had surprisingly little interaction with school personnel.⁶⁸

In a Florida district, one in five new hires was never interviewed, only 7.5 percent were asked to teach a sample lesson, and just one in four was asked to submit evaluations of student work. The absence of such information only increases the chances of a bad match between the teacher and the school or the assignment. And, say Liu and Johnson, “To the extent that a poor fit compromises a new teacher’s effectiveness on the job, and therefore her sense of success, it may contribute to her leaving school or exiting teaching altogether.”⁶⁹

In contrast, the Boston Teacher Residency admits just 14 percent of its applicants based on the application, interviews, a sample lesson, and a group problem-solving activity. Then it culls about 15 percent of each cohort during their residency year. “We try to run things so we get rid of the [poor fits] during the training,” says Solomon. “We have less control after ‘graduation’ than we do before.” In addition to competence, the program wants teachers who have high expectations of students, a deep commitment to equity, and a hunger for feedback. While they are in training they have several chances to demonstrate their ability, and they get coaching, but they have to

show that they are making progress. Essentially, the program conducts a yearlong job interview. Residents who struggle, whether for personal or professional reasons, says Solomon, “will not find a successful career in urban teaching.”⁷⁰

Some educators have suggested that hiring large percentages of teachers through alternative certification programs can lead to bad matches. Baltimore City Schools, whose five-year teacher turnover rate is about 50 percent, is one of the districts that hire heavily from TFA. “It is a calculated decision,” says Bolte. But however much the district values the intelligence and work ethic of TFA corps members, Bolte says, schools also need teachers who can take a longer view. Disadvantaged students, in particular, benefit from continuity as well as quality. “[TFA] focuses on low-performing schools, but if you turn over teachers every two years, there is no consistency for individual students. The relationships always have to start from scratch.” He cites the example of Baltimore’s Booker T. Washington Middle School, which brings in 12 to 15 new TFA recruits annually, but has not seen test scores budge in five years. Records like that convince Bolte that teachers should stay for five years at a minimum “so there will be a time period when students will know all the teachers.” The high turnover of TFA-ers, he says, has caused the district to rethink its dependence on alternatively certified teachers. Baltimore’s current ratio of about 70:30 alternative-to-traditional should be closer to 50:50, Bolte suggests.⁷¹

The Ravenswood City School District in San Mateo County, Calif., a low-income district prompted by a significant attrition problem, has adopted a more extreme policy of not hiring TFA

members at all. It recently boosted its efforts to pre-screen new teachers, making sure that idealistic beginners will actually be able to connect with the district’s high-needs kids. Assistant Superintendent James Lovelace says he is not interested in short-termers looking for “missionary work.” Inspired by the late Martin Haberman of the University of Wisconsin, who studied the characteristics that help teachers succeed in urban schools, Ravenswood now puts new teachers through a more rigorous process that includes multiple interviews, essays, and sample lessons. For the first three years after the district’s retention initiative started in 2007, retention averaged 67 percent; now it is 87 percent.⁷²

This critical issue of “fit” is often overlooked, especially by the many schools that scramble to fill spots even after the start of the school year.

DC Prep also puts a premium on making the right match from the start. School leaders there look in particular for recruits who can listen and learn from feedback. “It’s a matter of plateauing versus improving,” says Lawson. “You could have a new teacher who is very good but who plateaus, and a struggling teacher who responds well to feedback and really improves.” McGee of Houston stresses the need for much stronger communication between district leaders and new teachers from the outset—about expectations, goals, and the often profound challenges of teaching to cultures wildly different from one’s own.

Late hiring is a particularly hard barrier to attracting the kinds of teachers who will fit in, work well, and stick around, especially in low-income districts. Liu and Johnson found that the vast majority of the teachers they surveyed had been hired only a month before school started, and 33 percent of them were hired after the school year had already begun.⁷³ Contrary to perceptions, late hiring in urban districts is generally not due to a

shortage of qualified candidates. In a 2003 study of urban hiring, TNTP surveyed three large school districts and one medium district, and found that heavy recruiting by all of these “hard to staff” districts had resulted in five to seven times more applicants than there were positions. Yet none of the districts made offers until mid-summer.⁷⁴

There are number of reasons why districts take so long to extend job offers. They include poor data systems, cumbersome bureaucracies, and lousy “customer” service. But they also include factors outside of HR control: districts perennially face uncertainties over budgets and student enrollment. And some are also limited by requirements that allow resigning teachers to provide very late notice, as well as by union contracts that give existing teachers the first crack at openings.

Late hiring has clear consequences for teacher quality, job match, and retention. In the TNTP study, from one-third to two-thirds of the candidates at the four districts had withdrawn from consideration, most of them citing delays. Those who withdrew tended to be, on the face of it, the strongest candidates: they had higher GPAs, were far more likely to have a degree in their field and were far more likely to have completed educational coursework than those who were hired. At least 37 percent of them were candidates for hard-to-fill positions. Four out of five teachers accepted offers from other districts, but nearly half of those said they would have taken an offer from the urban district if it had only come first.⁷⁵ As for those who are actually offered jobs and take them, a late start means less time for adjusting, thus a greater chance of attrition. In Houston, for instance, a late hire would miss out on the new teacher academy.

RETURNS ON INVESTMENT

Even comprehensive induction programs and better school-to-teacher matches can’t dramatically cut turnover in really bad schools—places with low standards, unsupportive administrators, and disruptive environments, Ingersoll points out. But the evidence is that high-quality induction typically does reduce teacher attrition and bolster student achievement. It appears that investments in comprehensive induction pay financial dividends, as well.

Ingersoll has found positive effects in the induction studies he has reviewed. “Almost all [studies] show that beginning teachers [in induction programs] had higher satisfaction, commitment or retention,” he writes.⁷⁶ Researcher Steven Glazerman at Mathematica Policy Research also has found a link between comprehensive support

for new teachers and student achievement. In a 2010 study of the induction programs of 17 large and medium school districts, he found that after three years of receiving comprehensive induction support, the test scores of students improved significantly.⁷⁷

The more comprehensive the induction package, the better the teacher retention. And studies show that support for induction needs to

be sustained: Glazerman found no differences in classroom practice between first-year teachers and those who had had induction support, and no differences in student achievement after the first or second years.

A 2007 analysis of the Santa Cruz, Calif. school district by NTC found that after five years, the \$13,000 price of a comprehensive, two-year induction program brought \$21,500 in benefits.

“It’s a matter of plateauing versus improving. You could have a new teacher who is very good but who plateaus, and a struggling teacher who responds well to feedback and really improves.”

The costs, over two years, included time spent by teachers and mentors, program materials, room rentals, and substitute teachers. The benefits, calculated over five years, came partly from the finding that first- and second-year teachers who had gone through induction were as effective as more highly paid fourth-year teachers who had not had induction. Also, lower attrition reduced recruitment costs, as well as the need for more costly supports.⁷⁸

Yet funding induction programs and other solutions to the attrition problem can be a challenge—in Houston, Iowa, Boston and nationwide—especially as school systems continue to recover from the fiscal ravages of the recession. Houston spent \$740,000 on its New Teacher Academy this year, and the budget for overall induction is \$1.5 million, including \$480,000 for mentor teacher salaries. The money comes from a combination of federal Title II and district funds. The district compensates the teachers at \$100 per day, a stipend that is paid at the end of the first semester. Fees from vendors help pay for exhibit space, printed materials, and the cost of the building rental.⁷⁹ But limited resources have forced the school system to narrow the focus of its key teachers to new teachers in low-performing schools. “We had to make a hard call,” Menster says. Still, though it will be a couple of years before Houston is able to know whether its new induction program will lower teacher attrition and increase student achievement, Menster thinks the district has made a prudent investment.

In Iowa, the financial challenge is one of sustainability. The Grant Wood AEA program costs \$6,000 to \$7,000 per new teacher. Of that amount, the state contributes \$1,300 (from the existing state program that supports mentors);

districts provide \$2,000; and the rest is covered by the federal grant. The grant runs out in two years, though, so Grant Wood officials are looking to new funding sources, including businesses and philanthropies, to step in with continuous support. The program might also be able to take advantage of money allocated by a new state program that gives Iowa school districts financial incentives to create more leadership positions, with matching compensation, to teachers.⁸⁰

So far, the feedback at Grant Wood AEA from teachers, mentors, and principals has been overwhelmingly positive, Owens reports. But officials have no intention of accepting anecdotes as

**The more
comprehensive the
induction package,
the better the
teacher retention.**

evidence of success. They are collecting meticulous data on the program’s implementation and impact, carefully tracking how much time each mentor spends with each teacher every week (all are spending 60 to 90 minutes, as prescribed) and what they are learning about

what new teachers need (early in the school year, it was overwhelmingly help with classroom management and planning for instruction.)

Researchers will track retention over three to five years, comparing teachers who received induction support against new teachers from last year who did not, and they will chart the development of the teachers and the achievement of their students. “We want to show that [mentoring] translates into student learning,” says Owen. Of the 33 new teachers that mentors worked with last year, she reports, only two teachers have left.

Because it provides the most intensive training, and because it is essentially an extension of teacher preparation, the teacher residency is the most costly form of “induction.” Over half of the Boston Residency’s \$5 million annual budget comes from federal grant programs, including from the U.S. Department of Education and

Americorps. Remaining funds come from Boston Public Schools and private sources.⁸¹

Being more selective in teacher hiring may seem a luxury that many strapped districts can ill afford. But in other cases, budgets are easing, and districts are using the occasion to make reforms. In Los Angeles, where layoffs and hiring freezes had been the case since 2007, a tax increase and an improved economy means that the district is hiring 1,333 new teachers this year (up from 718 last year), and all will be subject to a tough new application process.⁸²

Coon suggests that even financially struggling districts can be choosier by reordering priorities. “At Achievement First, which hires about 200 teachers a year, it’s just how we choose to spend the money—finding and developing great people,” Coon says. “We have many more school leaders than other [charter management organizations and districts.] We make a big investment in recruiting.” Principals at Achievement First schools don’t act as recruiters, she says; they get good candidates who have already been vetted. “We do a lot of cultivating a long time in advance,” Coon says. The organization sends people across the country to do training for TFA, for example. So that even if those trainees don’t end up at Achievement First, Coon

says, “at least there will be more teachers with better skills.”

The growing number of beginning teachers in the nation’s public school classrooms is a critical challenge that policymakers and educational leaders have largely failed to recognize. In the short term, the failure of many school districts to attend sufficiently to the unique needs of these teachers undermines much of the hard work that educators

and school reformers have done to bolster the teaching profession. If left unaddressed, the problem could seriously weaken schools’ ability to meet the nation’s elevated expectations for students, including the demands of the new Common Core State Standards.

But if the condition of beginning teachers is a largely neglected human capital challenge, it is also an opportunity.

The most promising strategies to address the problem—particularly comprehensive induction—hold out the prospect of building a far more effective foundation for public school teaching than exists today, one with the potential to substantially increase student achievement. These strategies may cost money, and they may require shifts in policy and practice, but they address an issue that, it is increasingly clear, educators can no longer afford to ignore. ■

A 2007 analysis of the Santa Cruz, Calif. school district found that after five years, the \$13,000 price of a comprehensive, two-year induction program brought \$21,500 in benefits.

Beyond Sink or Swim: A Mentor's Work with New Teachers

CLASSES ARE OUT for the day at Anamosa High School in rural Anamosa, Iowa, a working class town on the outskirts of Cedar Rapids that is dominated by the massive Anamosa State Penitentiary. Mentor Lindsay Hobson has pulled up a student desk alongside first-year teacher Emily Korth to talk about the joys and frustrations—mostly the frustrations—of teaching 10th-grade geometry. Although Korth gamely wears a superhero cape to get into the spirit of homecoming weekend, she is clearly feeling poorly, suffering from a mid-fall virus. But her immediate problem is that nearly two thirds of her class are boys, several of whom are big trouble.

Typical of new teachers, Korth is straddling two classic phases of the beginner's first year—survival and disillusionment. Teachers in their first few weeks of school are bombarded with unwelcome surprises, says Ellen Moir, the founder and CEO of New Teacher Center (NTC), a professional development non-profit. Working often 70 hours a week, they struggle simply to keep up. They have little time to reflect, and are pressured daily to develop lessons they aren't sure will even work. Energy and determination pull them through. Around mid-October, though, it becomes clear that little is going as planned. The lessons are not, in fact, working; the students are acting out; and parent conferences and principal evaluations loom. Disillusionment sets in.

If familiar patterns hold, teachers will rejuvenate over the winter holidays. Meanwhile, it is the mentor's job to make sure they get there.

Korth is among a very small percentage of U.S. teachers who enjoy the counsel of professionally trained mentors freed from their own classroom duties to help new teachers weather the storms of their first year. Under the program at the Grant Wood Area Educational Agency, a consortium of districts in and around Cedar Rapids, mentors each take charge of about 15 teachers, observing classes and meeting with the teachers weekly to make observations, address pressing questions, and offer practical advice. As counselor-colleagues—carefully selected for the three-year position on the basis of interviews, written reflections, and their own classroom ability—the mentors work entirely apart from school principals and others in administrative or evaluative roles. Hobson is a nine-year veteran who has taught middle school language arts and social studies. “We are fellow teachers,” says Hobson. “Our job is to help not to judge.”

As counselor-colleagues the mentors work entirely apart from school principals and others in administrative or evaluative roles.

The mentors follow a protocol laid out by NTC. They use a set of formative assessment tools—guides for communicating with the teacher that show what's working, what isn't, and where the teacher needs support. One set of guiding questions helps the mentor and teacher talk about what the teacher knows about her students—their families, their interests, their learning styles and how the teacher might take account of each. Another helps with analysis of student work—what is the content standard, what does meeting the standard look like, and what percentage of the students are at or exceeding the standard? The two then choose a work sample or

two for further analysis: What are the possible misconceptions? How will the teacher differentiate instruction to move students ahead? What are the next steps? The tools serve as a framework for discussion as well as a means of ensuring accountability.

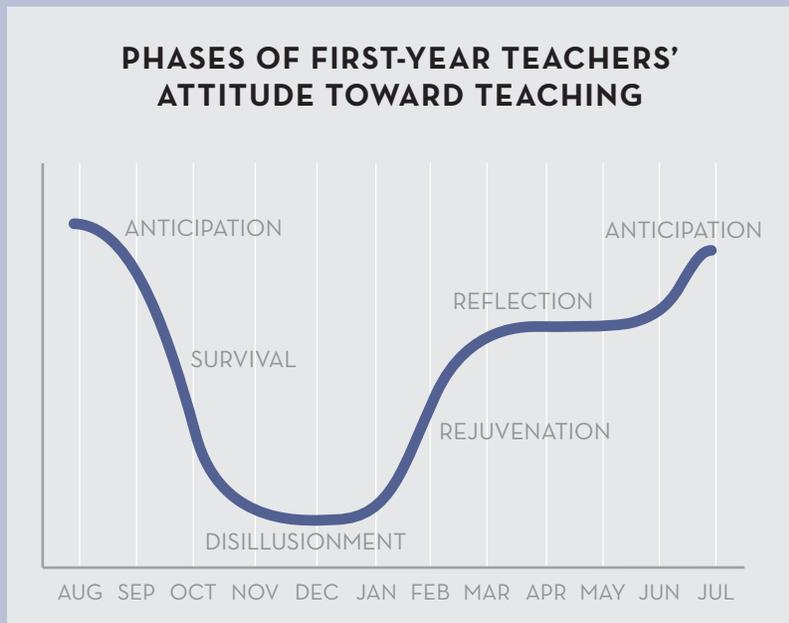
On this particular day, Korth is seeking Hobson’s advice on how to conduct a test review that would run a lot more smoothly than one she had recently done. She had broken the students into teams to work on their own, and the result was something approaching chaos. In a separate matter, as part of a schoolwide exercise designed for students to show appreciation for each other, she had asked the students to write “affirmations” of their classmates—verbal pats on the back recorded on 3 x 5 cards. A couple were insulting and one was unprintable. “That’s disappointing,” Hobson tells Korth, with understated calm. “This is more serious than what you’ve dealt with in the past. I think you did the right thing by contacting the administration.”

Korth and Hobson discuss ways of addressing the problem. On the classroom wall is a contract laying out expectations for learning and behavior that the students have written themselves. “Respect” is a key provision. Hobson advises her to review the contract with the class. “Bring it back to what they want the culture to be,” Hobson says. She talks to Korth about her goals for the near term. Hobson suggests that Korth pare them down to a manageable three. “Where would you rate your practice right now?” The ratings go from 1 to 5 and correspond with “emerging,” “exploring,” “applying” and so on. Korth gives herself a couple of threes and a 2.5. “I don’t know if I’m doing enough re-teaching,” she says. On “checking for understanding,” she gives herself a 2.

She is being hard on herself, but, as the system encourages, she is candidly reflecting on her practice, even if she is not easily verbalizing it. She asks Hobson if she would come back and co-teach a review lesson. Hobson happily agrees, and says she will also observe a class, filling out a seating chart to note who is on task and who isn’t and at what part of the lesson.

Later in the day, down the road at Anamosa Middle School, Hobson drops in on special education teacher Laura Blythe, a beginner who teaches grades 5, 6, and 8. Blythe demonstrates a sharp intelligence, and she is naturally reflective—a character trait that Hobson says serves her well as a developing teacher. “Tell me what is making you crazy,” Hobson asks.

Today it’s a behavior problem, one persistently disruptive boy who has taken to performing somersaults in class. Fresh out of ideas, Blythe had moved the group out in the hall, leaving the student in the classroom, only to have the student follow them out to the hall. “It’s time for some major changes,” Blythe says. After offering some advice on classroom management, Hobson follows up on a previous discussion about teaching numerical place value, suggesting a particular website could help. “It’s one of the best math



resources I've seen," Hobson says. "And if it isn't enough, I'll keep looking for you." Blythe pledges to try it the next day, and Hobson writes it down under "next steps" so she remembers to follow up.

A discussion of goals—what they are and how to meet them—follows, and again Hobson narrows them to an achievable three. (More will be added as the weeks go on.) Blythe tells her mentor she wants to do better at checking for understanding. "Sometimes I just feel like I'm doing the same thing over and over again. I sometimes haven't figured out the misunderstanding." She says she also wants to be more proactive in dealing with parents. "So what's going well?" Hobson asks, in a query that mentors make in every session. Blythe beams. "My eighth grader is awesome," she says. "Yeah," Hobson agrees. "You guys have really been making a connection."

The dynamic of these exchanges is significant. The mentor sits next to the teacher, not across from her, with her laptop open for the teacher to see. "Here's what I've learned so far about you," Hobson tells Blythe, showing what she has recorded on her screen. It would be like a doctor sharing her chart with a patient—if that ever happened. The meeting is not so much a lesson as it is a collaboration or a conversation, with Hobson taking care to use the pronoun "we." Hobson is a patient and attentive listener, skilled at drawing the teacher out by ask-

ing her questions. There is no lecturing or preaching. The atmosphere is one of a safe space, as at a therapist's office, where teachers are free to share and ask for as much help as they need without fear of being judged.

Even Hobson's writing during these discussions is designed to promote trust. Rather than type on her laptop, she takes handwritten notes and types them up later. She says she wants the act of documenting and chronicling to be invisible, for the mentoring sessions to be relaxed give-and-takes. "I don't want them to feel that I am judging them," she says. "[Writing by hand] doubles the time, so I am not sure it is working smartly. But it's working better."

Two months later, by late November, most of Hobson's mentees were over the hump. Korth had had a particularly difficult start: what she thought was a bad cold that day back in October turned out to be mononucleosis, an illness that put her out of the classroom for over a week. When she met with Hobson upon her return, she admits, "I had kind of a meltdown." The problem, says Hobson, and which Korth confirms, "was that she felt that she was teaching in too traditional a way. She felt like she was spoon-feeding material to her students in a boring way, and the disruptive behavior was coming from that. When she envisioned teaching she had envisioned a kind of controlled chaos, but here she

THE PHASES OF A TEACHER'S FIRST YEAR

ANTICIPATION: As student teachers reach the end of their assignments, they are both excited and anxious about moving into their first real teaching job. They tend to romanticize the role. Their idealism and commitment carries them through the first few weeks in charge of their own classroom.

SURVIVAL: Teachers are learning a lot fast. They are assaulted with situations they had not expected. No amount of preparation

has prepared them for the realities of the job. They struggle to stay afloat, and they have no time to reflect. Exhausted and overwhelmed, they are nevertheless hopeful.

DISILLUSIONMENT: The crushing workload, the daily disappointments, the failures large and small — all combine to crush morale and create a sense of disenchantment. Teachers begin questioning their competence and commitment. They are faced with difficult parent

SOURCE: Ellen Moir, New Teacher Center

felt that she was just standing and lecturing. She admitted that she felt afraid to let go of control.”

After that cathartic session, Korth and Hobson refocused their energies on improving just one class—two sections of pre-algebra. “The goal was just to get the students excited about math,” says Hobson. “It’s student-led learning, and it is going fantastically. We are starting small.” As to the discipline problem, Korth called parents and met with the principal, who moved a few troublesome students to another class. She has also adopted an on-line classroom monitoring system and is keeping an interactive journal for Hobson. By November, she said she felt confident with both the content of the class and her relationships with students. “She is persistent,” says Hobson. “She really wants to figure it out.”

Meanwhile, Blythe has apparently defied the new teacher odds and managed to skip the disillusionment phase altogether. “She has not dipped at all,” says Hobson. “She has things under control. I probably spend the least amount of time with her.” As a special education teacher Blythe deals with many factors that are out of her control.

“We have done some backward design, worked on curriculum resources, done some work on classroom management,” Hobson says. The two are also going to work on making sure that Blythe is adding maximum value when she co-teaches with colleagues.

Hobson started out the year spending an hour with each mentee for each session, but by November, she says, she was devoting 80 to 180 minutes to every session. “I’m in the classes a lot more and staying longer,” she says. “I still have some [teachers] that I am working on—on how to reach them without hurting the relationship. [The relationship] is very fragile.”

Not all teachers were responding as well as Korth and Blythe. Hobson reports in November that of her 15 mentees, “I’ve had five or six criers, and they are all in survival mode.” One, she says, may be ready to quit. But all, she says, have been comforted by the knowledge that they have help, and that they are not alone. She has shown several of them the diagram of new teacher phases and says, “You can almost see the weight lifting off of them. They say ‘I thought it was only me.’” ■

The atmosphere is one of a safe space, as at a therapist’s office, where teachers are free to share and ask for as much help as they need without fear of being judged.

conferences and their first principal evaluation. Many of them get sick. Getting through this phase is the toughest challenge of the year.

REJUVENATION: Refreshed by the winter break, teachers slowly perk up. The vacation has given them time to organize materials and plan curriculum. They now understand the system and have come to accept the realities of the job. They have gained new coping strategies for preventing or solving future problems.

Toward the end of this phase, they start to wonder how they will get everything done.

REFLECTION: Thinking back over the year, teachers highlight their successes and failures. They plan changes in management, curriculum, and teaching strategies. They feel relieved that they have almost made it. And they now have vision for the next year, which begins a new phase of anticipation.

ENDNOTES

- ¹ Richard Ingersoll and Lisa Merrill, “Seven Trends: The Transformation of the Teaching Force: A CRPE Working Paper,” November 2012, Consortium for Policy Research in Education
- ² Ibid
- ³ Richard Ingersoll and Michael Strong, “The Impact of Induction and Mentoring Programs for Beginning Teachers: A Critical Review of the Research,” University of Pennsylvania, February, 2004
- ⁴ Ingersoll and Merrill, “Seven Trends”
- ⁵ Ibid
- ⁶ Gail McGee, remarks at conference of the Carnegie Foundation for the Advancement of Teaching, “Using Improvement Science to Tackle Practical Problems in Education,” September, 2013
- ⁷ Gary Barnes, Edward Crowe, and Benjamin Schaeffer: “The Cost of Teacher Turnover in Five School Districts: A Pilot Study,” National Commission for Teaching and America’s Future; Richard Ingersoll, “Teacher Turnover and Teacher Shortages: An Organizational Analysis,” *American Educational Research Journal*, Vol. 38, No. 3, 2001
- ⁸ “The Irreplaceables: Understanding the Real Retention Crisis in American Urban Schools,” TNTP, 2012
- ⁹ Ingersoll and Strong, “The Impact of Induction”
- ¹⁰ Ingersoll, “Teacher Turnover and Teacher Shortages”
- ¹¹ Eric Hanushek, “The Difference is Great Teachers,” *Waiting for Superman*, 2010, New York: Public Affairs
- ¹² Henry May and Richard Ingersoll, “Recruitment, Retention and the Minority Teacher Shortage,” Sept. 1, 2011, University of Pennsylvania Graduate School of Education
- ¹³ Betheny Gross and Michael DeArmond, “Parallel Patterns: Teacher Attrition in Charter vs. District Schools,” September 2010, Seattle, Wash., Center on Reinventing Public Education
- ¹⁴ “North Carolina: State Policy Review,” The New Teacher Center, April 2011
- ¹⁵ William H. Marinell and Vanessa M. Coca with the Research Alliance for New York City Schools, “Who Stays and Who Leaves: Findings from a Three-Part Study of Teacher Turnover in New York City Public Schools,” Steinhardt School of Culture, Education and Human Development, New York University, March 2013
- ¹⁶ “The Irreplaceables,” TNTP
- ¹⁷ Author interview with Candace Crawford, 2013
- ¹⁸ Unpublished survey, Building a Teaching Effectiveness Network (BTEN), Carnegie Foundation for the Advancement of Teaching, 2013
- ¹⁹ Author interview with Amanda Meyer, 2013
- ²⁰ Author interview with Jesse Solomon, 2013
- ²¹ Author interview with Kelly Manard, 2013
- ²² Gross and DeArmond, “Parallel Patterns”
- ²³ Jane C. Coggshall et al, “Retaining Teacher Talent: The View from Generation Y,” Learning Point Associates and Public Agenda, 2010
- ²⁴ Author interview with Sarah Coon, 2013

ENDNOTES

- ²⁵ “Number of Jobs, Labor Market Experience and Earnings Growth: Results from a National Longitudinal Survey,” U.S. Bureau of Labor Statistics, July 25, 2012
- ²⁶ Author interview with Rob Weil, 2013
- ²⁷ National Association of Colleges and Employers, “Starting Salaries for New College Graduates,” 2014
- ²⁸ Jonathan Rochkind et al, “Lessons Learned: New Teachers Talk about Their Jobs, Challenges, and Long-Range Plans,” Public Agenda and the National Comprehensive Center for Teacher Quality, 2008
- ²⁹ “The MetLife Survey of the American Teacher: Teachers, Parents and Economy,” 2012
- ³⁰ Rochkind et al, “Lessons Learned”
- ³¹ Author interview with Karolyn Belcher, 2013
- ³² Steven Glazerman et al, “Transfer Incentives for High-Performing Teachers: Final Results from a Multi-site Randomized Experiment,” Mathematica Policy Research, November, 2013
- ³³ Bill Tucker, “Five Things Education Supporters Should Know About Pension Reform,” Education Sector, 2012
- ³⁴ “Employers’ News,” Website of Public School Employees Retirement System; Josh McGee and Marcus Winters, “Better Pay, Fairer Pensions: Reforming Teacher Compensation,” Manhattan Institute for Policy Research, Civic Report 79, September, 2013; Josh McGee and Marcus Winters, “Reform Teacher Pensions,” Philly.com, Sept. 24, 2013
- ³⁵ Maria D. Fitzpatrick, “How Much Do Public School Teachers Value Their Retirement Benefits?” Unpublished manuscript, 2012.
- ³⁶ Bethany Gross and Ashley Jochim (eds.) Prioritizing Productivity, The SEA of the Future, 2, San Antonio, Tex.: Building State Capacity & Productivity, Center at Edvance Research, Inc., November 2013
- ³⁷ Barnes et al, “The Cost of Teacher Turnover”
- ³⁸ “Making a Case for Policy Investments That Help New Teachers Succeed,” New Teacher Center, 2007
- ³⁹ Author interview with Jarrod Bolte, 2014
- ⁴⁰ Unpublished survey, Building a Teaching Effectiveness Network (BTEN), Carnegie Foundation for the Advancement of Teaching, 2013
- ⁴¹ Nicole Simon and Lisa Moore Johnson, “Teacher Turnover in High-Poverty Schools: What We Know and Can Do,” Project on the Next Generation of Teachers, Harvard Graduate School of Education, August 2013
- ⁴² Taylor C. White, Carnegie Foundation, interview with Susan Moore Johnson, 2013
- ⁴³ Eric A. Hanushek and Steven G. Rivkin, “Constrained Job Matching: Does Teacher Job Search Harm Disadvantaged Urban Schools?” (Working Paper No. 42) National Center For Analysis of Longitudinal Data on Educational Research, May 2010
- ⁴⁴ Matthew Ronfeldt, Susanna Loeb, and James Wyckoff, “How Teacher Turnover Harms Student Achievement,” American Educational Research Journal, February 2013

ENDNOTES

- ⁴⁵ Barnes et al, “The Cost of Teacher Turnover”
- ⁴⁶ “The Irreplaceables,” TNTP
- ⁴⁷ Ingersoll, “Teacher Turnover and Teacher Shortages”
- ⁴⁸ Taylor C. White, Carnegie Foundation, interview with Kafi Payne, 2013
- ⁴⁹ “Leap Year: Assessing and Supporting First-Year Teachers,” TNTP, 2013
- ⁵⁰ Thomas Dee, James Wyckoff, “Incentives, Selection, and Teacher Performance: Lessons from IMPACT”, NBER Working Paper No. 19529, The National Bureau of Economic Research, October, 2013
- ⁵¹ Ibid
- ⁵² “Student Teaching in the United States,” National Council on Teacher Quality, July 2011
- ⁵³ Arthur Levine: Educating School Teachers, Washington, D.C., The Education Schools Project, 2006
- ⁵⁴ “Profile of Teachers in the U.S. for 2011,” National Center for Education Information, 2012
- ⁵⁵ Robin R. Henke, Xianglei Chen, Sonya Geis: “Progress Through the Teacher Pipeline 1992-93 College Graduates and Elementary /Secondary School Teaching as of 1997,” Statistical Analysis Report, National Center for Education Statistics, U.S. Department of Education, January 2000; “The High Cost of Teacher Turnover,” National Commission on Teaching and America’s Future, 2003; Linda Darling-Hammond, “Recruiting and Training Teachers: What Matters Most and What Government Can Do,” The Forum for Education and Democracy, 2011
- ⁵⁶ Richard M. Ingersoll and Michael Strong, “The Impact of Induction and Mentoring Programs for Beginning Teachers,” Consortium for Policy Research in Education, Review of Education Research, Vol. 81 (2) 201-233, June 2011
- ⁵⁷ Website, Houston Independent School District
- ⁵⁸ Author interview with Lance Menster, 2013
- ⁵⁹ “An Audit Report on the Texas State Education Agency’s Oversight of Alternative Certification Programs,” SAO Report No. 08-037, Texas State Auditor’s Office, June 2008
- ⁶⁰ Author interview with Lance Menster, 2013
- ⁶¹ Author interview with Kim Owen, 2013
- ⁶² Website, Boston Teacher Residency; Tom Payzant, “Urban School Leadership,” San Francisco: 2011, Jossey-Bass
- ⁶³ “Mentors in the Urban Teacher Residency Model: Selectivity and Performance Data from UTRU Network Impact Reports,” Urban Teacher Residency United, January 2013
- ⁶⁴ BTEN is funded by the Bill and Melinda Gates Foundation
- ⁶⁵ Author correspondence with Jesse Solomon, 2013
- ⁶⁶ J.P. Papay, J.B. Fullerton, T.J. Kane, “Does Practice-Based Teacher Preparation Increase Student Achievement? Early Evidence from the Boston Teacher Residency,” NBER Working Paper, Center for Education Policy Research, 2011
- ⁶⁷ “Mentors in the Urban Teacher Residency Model: Selectivity and Performance Data from UTRU Network Impact Reports, Urban Teacher Residency United, January 2013

ENDNOTES

- ⁶⁸ Edward Liu and Susan Moore Johnson, “New Teachers’ Experiences of Hiring: Late, Rushed and Information-Poor,” *Education Administration Quarterly*, Vol. 42, No. 3, August 2006
- ⁶⁹ Ibid
- ⁷⁰ Author interview with Jesse Solomon, 2013
- ⁷¹ Author interview with Jarrod Bolte, 2013
- ⁷² Author interview with James Lovelace, 2013
- ⁷³ Liu and Johnson, “New Teachers’ Experience of Hiring”
- ⁷⁴ Jessica Levin and Meredith Quinn, “Missed Opportunities: How We Keep High-Quality Teachers Out of Urban Classrooms, the New Teacher Project, 2003
- ⁷⁵ Ibid
- ⁷⁶ Ingersoll and Strong, “The Impact of Induction”
- ⁷⁷ Steven Glazerman et al, “Impacts of Comprehensive Teacher Induction: Final Results from a Randomized Controlled Study,” National Center for Evaluation and Regional Assistance, Institute of Education Sciences, June 2010
- ⁷⁸ Michael Strong and Anthony Villar, “The Costs and Benefits of a Comprehensive Induction Program,” Research Brief Issue #07-011, June, 2007, Santa Cruz, Calif.: New Teacher Center
- ⁷⁹ Houston Independent School District
- ⁸⁰ Author correspondence with Kim Owen, 2014
- ⁸¹ Author correspondence with Jesse Solomon, 2014
- ⁸² Howard Blume, “L.A. Unified Finally Hiring Teachers Again,” *Los Angeles Times*, Jan. 4, 2014

ACKNOWLEDGEMENTS

SPECIAL THANKS to my Carnegie colleague Taylor White — herself once a beginning teacher — for her insights, expertise, and valuable assistance with research and reporting. Thanks also to Elena Silva for her ideas and advice; to Paul LeMahieu for holding our written work to high standards; to Tony Bryk for giving us the time to do that work; and to Thomas Toch for improving this report with his deep subject knowledge, smart perspective, and deft editing.

Kim Owen, thank you for your generous help in Iowa. And thanks to Lindsay Hobson, Emily Korth, Laura Blythe, and Jessica Taylor for letting us in. Gail McGee, thank you for your Texas hospitality and for telling it like it is.

AUTHOR BIO

SUSAN HEADDEN is a senior associate for public policy engagement at the Carnegie Foundation for the Advancement of Teaching.

This publication was written with funding from The Joyce Foundation. While we're grateful for the foundation's support, the statements made and views expressed in the report are those of the author alone. Carnegie is also grateful to the Institute of Education Sciences for supporting the foundation's work on the improvement of teaching.

The Carnegie Foundation for the Advancement of Teaching is committed to developing networks of ideas, individuals, and institutions to advance teaching and learning. We join together scholars, practitioners, and designers in new ways to solve problems of educational practice. Toward this end, we work to integrate the discipline of improvement science into education with the goal of building the field's capacity to improve.

© 2014 Carnegie Foundation for the Advancement of Teaching



This work is licensed under a Creative Commons Attribution-NonCommercial 3.0 Unported License. (CC BY-NC)

