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Teacher Quality, Retention, and Effectiveness

Susan Moore Johnson
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Contents

Those who know and care about public education in the United States agree that having a good teacher is a key to students' success. In recent years, researchers have carefully tracked students' achievement over time and confirmed what parents long have known—that the quality of their child's teacher can have lifelong consequences (Sanders and Rivers 1996; Rowan, Correnti, and Miller 2002; Rivkin, Hanushek, and Kain 2002; McCaffrey and others 2003).

What can be done to ensure that there will be a good teacher in every classroom? Many people assume that if schools successfully recruit enough knowledgeable and skilled people into teaching, the problem will be solved. However, research shows that this is not sufficient. For if good teachers are to be retained in teaching and supported in doing their best work with students, they must have a workplace that promotes their efforts in a variety of ways. This paper draws broadly on research to explore how the context in which teachers work contributes to their willingness to enter and remain in teaching and to their success or failure in the classroom.

Teacher Quality, Teaching, and Context

For the past three decades, researchers have sought to identify the factors that make a difference in teachers' effectiveness. Some have focused on personal traits. For example, Murnane (1975) found evidence that teachers with high verbal scores on standardized tests are more effective than those with low scores. Other analysts have looked to teacher education to explain differences in teacher quality. For example, Darling-Hammond and Sykes (2003) reported on research showing that students perform better on standardized tests when their teachers have had pedagogical training in addition to coursework in their subject area. Researchers also have sought to understand whether an individual's length of experience contributes to effectiveness and, if so, how many years make a difference. For example, Hanushek and Rivkin (2003) reported that teachers in Texas did not improve much after their first few years in the classroom, although there is other evidence that experience beyond three years positively affects teachers' performance (Rockoff 2004; Goldhaber and Anthony 2004). It is important, however, that researchers have not yet closely examined how these features of individual teachers—their personal characteristics, preservice preparation, or length of teaching experience—interact with the context of the school, where teaching and learning take place.

There is much yet to understand about how teachers' effectiveness with students depends on the characteristics and quality of the school as a workplace. Some recent studies have shifted from examining teacher quality out of context to considering effective teaching in the context of where teachers work. These studies have shown clearly that the workplace can enable or constrain good teaching (Bryk and Schneider 2002; Johnson and the Project on the Next

Generation of Teachers 2004; McLaughlin and Talbert 2001; Rosenholtz 1989). Factors such as whether the school building is well equipped, whether colleagues provide helpful assistance, or whether there are good support services for students all mediate what any teacher, however talented or well trained, can accomplish in the classroom. Even the best-educated, most experienced English teacher cannot effectively teach *The Grapes of Wrath* without books. Note that this emerging line of research does not assume that the characteristics of teachers are fixed or static. It indicates, rather, that they are malleable and dynamic within a rich, professional context that encourages learning and growth. Thus, improving the conditions of the school as a workplace can increase the capacity of schools to serve all students.

The school as a workplace can be understood as having many features that together create the context for individual teachers' work (Johnson 1990), as detailed in Box 1. All of these aspects of the school workplace can mediate the effectiveness of teachers within their classrooms and influence their decisions about whether to remain in teaching. Although teachers' pay and benefits have considerable influence on their career decisions, these economic conditions are generally considered distinct from working conditions and thus are not examined in this review.

Box 1. Definition of Working Conditions

Working conditions include the following:

- The *physical* features of buildings, equipment, and resources, which serve as a platform for teachers' work
- The organizational structures that define teachers' formal positions and relationships with others in the school, such as lines of authority, workload, autonomy, and supervisory arrangements
- The sociological features that shape how teachers experience their work, including their roles, status, and the characteristics of their students and peers
- The political features of their organization, such as whether teachers have opportunities to participate in important decisions
- The cultural features of the school as a workplace that influence teachers' interpretation of what they do and their commitment, such as values, traditions, and norms
- The psychological features of the environment that may sustain or deplete them personally, such as the meaningfulness of what they do day to day or the opportunities they find for learning and growth
- The educational features, such as curriculum and testing policies, that may enhance or constrain what teachers can teach.

Recruitment and Retention

The character of the workplace is enormously important in determining who enters teaching and who stays (Hanushek, Kain, and Rivkin 1999; Johnson and Birkeland 2003; Ingersoll 2004). When demographers first projected that there would be a substantial teacher shortage between 2000 and 2010 (Hussar 1999), concern about the supply of teachers—particularly, well-qualified ones—grew, because experience shows that school officials often compromise on quality when they must hire many teachers quickly. For many years, there have been chronic shortages in certain fields (e.g., special education, science, and mathematics) and in certain places (particularly in high-poverty urban and rural communities).

Yet, new demographic projections promised something different. A large proportion of the teaching force was approaching retirement, which would substantially change the makeup of the teaching force by 2010. By 2001, 38 percent of all teachers had more than 20 years of experience (NEA 2003), and most could be expected to retire within a decade. Evidence of a decline in the SAT scores of entrants to teaching (Henke and others 1996) fueled fears that a pressing need to staff classrooms might further undermine the quality of the teaching force.

In response to predictions of a teacher shortage, states and districts initially concentrated their resources on attracting the best possible teaching candidates to their schools—as identified by test scores, training, experience, or advanced certification. They offered signing bonuses, student loan forgiveness, and mortgage subsidies. Quickly, however, it became apparent that successful recruitment would not be enough, because many of those highly sought entrants were staying only a short time in the classroom before moving on to other lines of work (Ingersoll 2004; Liu, Johnson, and Peske 2004). Although some level of turnover is arguably beneficial in any industry, high levels of ongoing turnover disable schools by undermining progress in school improvement and by continuously diverting scarce resources to recruitment and hiring when these funds might better be used on other needs, such as professional development. Working conditions proved far

more important in retaining teachers than school officials originally anticipated.

An analysis of teachers' employment patterns reveals that persistent staffing problems result not from a shortage of qualified teachers but from the fact that many new recruits leave their schools and teaching a short time after they enter (Ingersoll 2001a). As turnover and attrition rates rapidly rose after 2000, school officials found themselves coping annually with what Ingersoll called the "revolving door" demands of recruiting and hiring large numbers of new teachers. Using data from the Schools and Staffing Survey (SASS), he concluded that teachers were leaving schools primarily because they were dissatisfied with the organizational shortcomings of their schools. Some moved to different schools; others left teaching entirely. Nationally, in 1999–2000, 27 percent of first-year teachers left their schools. Of those, 11 percent left teaching altogether, and 16 percent transferred to new schools (Smith and Ingersoll 2003). Earlier research revealed that the teachers who leave schools first are likely to be those with the highest qualifications (Murnane and others 1991; Schlecty and Vance 1981), and thus the negative impact of rapid turnover is probably even greater than it appears on the surface.

Large urban districts report even higher rates of attrition. In Philadelphia, for example, one-quarter of teachers new to the district in 1999–2000 left after their first year, and more than half left within four years (Neild and others 2003). In Chicago, an analysis of turnover rates in 64 high-poverty, high-minority schools revealed that 23.3 percent of new teachers (those with five years of experience or less) left in 2001–02. Extrapolating from current data, researchers projected in 2003 that 73.3 percent of the newly hired first-year teachers would be gone within five years (Timmer 2003).

From the perspective of the school, the departure of an experienced, effective teacher reduces that school's capacity to do its work. Whether the departing teacher leaves for another career or moves to the school across town because it offers a better workplace, that individual takes away an acquired expertise and accumulated knowledge about the students, their families, the curriculum, and the school's practices. Such turnover severely compromises the chance that all students will be taught by effective teachers. Also, losses of this magnitude impose substantial financial and organizational costs on school districts, estimated in Texas to range from losses of $355 to $5,166 per teacher (Texas Center for Educational Research 2000) and in Chicago to be $10,329 per teacher (Timmer 2003). These are huge, unnecessary costs for public schools, which already are strapped for resources and struggling to meet public demands.

By 2003, teacher retention had replaced teacher recruitment as the major staffing challenge that schools and districts faced. Notably, researchers found that once teachers are in the classroom, they are more likely to report that they would leave teaching because of poor working conditions than because of low pay. However, dissatisfaction with pay becomes increasingly important to teachers if they find that their schools make it difficult to succeed with students (Goodlad 1984; Ingersoll 2001b; Johnson 1990). The National Commission on Teaching and America's Future has emphasized the importance of retention: "The ability to create and maintain a quality teaching and learning environment in a school is limited not by teacher supply, but by high turnover among the teachers who are already there" (National Commission on Teaching and America's Future 2003).

The best teachers entering schools today have a wide range of professional careers open to them, many of which were not available to veteran teachers when they first chose teaching as a career in the late 1960s and early 1970s. Frequently, these other careers offer better pay, more opportunities for advancement, and a work environment with far better resources. Given evidence that new teachers are likely to change schools or leave teaching if they are dissatisfied, schools must become more supportive workplaces if they are to attract and retain teachers of high quality.

Supportive Working Conditions for Teachers

Supportive working conditions can enable teachers to teach more effectively. They can enhance teacher quality, and they can improve retention. The extent to which a school is well organized and supportive is of central importance as new teachers decide whether teaching is the career for them (Johnson and others 2004). Therefore, key questions for this paper are, What working conditions support effective teaching and build teacher capacity? What working conditions are most likely to retain teachers? What do teachers say when they are asked which workplace conditions matter to them as they do their jobs and make decisions about their careers? Table 1 summarizes by comparing practices typically found in schools with best practices for school workplace conditions emerging from the research.

Appropriate and Fair Teaching Assignments

Having an appropriate and manageable teaching assignment is unquestionably essential to a teacher's success and

Table 1. Benchmarks for School Workplace Conditions

Benchmarks for…	Moving from…	Moving toward…
Teaching assignments	Out-of-field or split assignments; excessive teaching load or class size	Appropriate teaching assignments; fair and manageable teaching load and class size
Working relationships among teachers	Working in isolation from colleagues	Working collaboratively with colleagues
Support for new teachers	Sink-or-swim induction	Ongoing observation of, interaction with, and advice from experienced colleagues
Support for students	Little assistance for students or for teachers in working with students; inadequate family and community support	Collective teacher responsibility for student achievement, comprehensive student support services, school-family-community partnerships
Curricular support	Under- or overprescribed curriculum, often not aligned with standards	Complete, aligned curriculum that can be used flexibly
Resources and materials	Routine shortages of instructional supplies; teachers spend their own money for essentials	Sufficient resources and materials; teacher stipends for extras
Assessment	Excessive focus on tested topics and test-taking skills	Standardized tests, as one part of a comprehensive assessment strategy
Professional development	A miscellaneous selection of one-shot workshops	Coherent, job-embedded assistance that meets individual teachers' instructional needs
Professional influence and career growth	Having the same influence and opportunities on the first day and last day of one's career	Progressively expanding influence and increasing opportunities for career growth
Facilities	Inadequate, unsafe, decrepit buildings for some schools	Safe, well-maintained, well-equipped facilities for all schools
Principal's leadership	Insufficient attention to workplace conditions and interdependent aspects of teacher's work	Actively brokers workplace conditions; encourages teacher interdependence and collective work

satisfaction. In many cases, however, teachers are assigned out of their subject areas, have split assignments that prove unworkable, or are responsible for excessively large teaching loads or classes.

Out-of-Field Teaching

Although it might seem obvious that teachers should be asked to teach only what they know, large numbers of teachers are routinely assigned to teach outside their area of expertise and field of license. In 2000–01, 19 percent of U.S. teachers spent teaching time outside their area of preparation (NEA 2003). Although high, that marked a decline from 31 percent in 1961 (p. 27). National data from the 1990 SASS revealed high levels of out-of-field teaching and large school-to-school differences in this practice in U.S. schools (Ingersoll 2002). About 12 percent of those who teach regular K–6 grades did not have a major or minor degree in pre-elementary, early childhood, or elementary education.

At the secondary level, rates of out-of-field teacher assignment were much higher, with approximately one-third of all secondary math teachers lacking a major or

minor in math or a related discipline. About one-fourth of English teachers had no major or minor in English or related subjects, and one-fifth of science and social science teachers lacked such credentials in their field. Ingersoll (2002) concluded, "In each of the fields of history, English, and math, more than four million secondary students are taught by teachers with neither a major nor a minor in the field" (p. 16). It is a matter of considerable concern that so many students have teachers who are unprepared for the subjects they teach. Teachers who are assigned out of their field are likely to experience teaching as stressful, unrewarding work and may choose to leave teaching as a result.

Predictably, the problem of out-of-field placement is more prevalent in schools serving low-income rather than high-income communities. The "poverty and race gaps [between high-poverty and low-poverty schools] for out-of-field teaching are even greater than for teacher qualifications. In other words, *although teachers in disadvantaged schools are slightly more likely to have fewer qualifications, they are far more likely to be misassigned than are those in advantaged schools*" (Ingersoll, 2002, p. 17; emphasis in the original).

Out-of-field placements present obvious difficulties for both students and teachers. Ingersoll (2002) observed that "highly qualified teachers may actually become highly unqualified if they are assigned to teach subjects for which they have little training or education" (p. 5). Attending the algebra class of a teacher who is not competent in math inevitably limits what students will learn. However, misassignment also generates dissatisfaction among the teachers themselves, who must scramble to stay ahead of their class and who experience the discomforts of uncertainty and ignorance. This is far more than a technical matter of academic qualifications, for out-of-field placement unnecessarily increases many teachers' dissatisfaction with their jobs. Ingersoll found that "out-of-field assignments are significantly correlated with decreases in teachers' morale, engagement, and commitment" (2003, p. 162).

Moreover, misassignment is inequitably experienced by new teachers, who often are expected to teach classes or courses that are left over once experienced teachers have chosen their schedules. Again, this problem is intensified in high-poverty schools: "Not only are there more beginners in disadvantaged schools, but beginners in those schools are less likely to be fully qualified" (Ingersoll 2002, p. 16). A recent study of new teachers in Massachusetts reveals that misassignment was a major source of some respondents' dissatisfaction, eventually leading them out of teaching (Johnson and Birkeland 2003).

Split Assignments

Teachers also struggle with split assignments, which require them to teach in different subjects, grades, classrooms, or schools. Sometimes these placements also involve out-of-field teaching. For example, one novice was assigned to teach two English and two history courses in a large urban middle school. Licensed only to teach English, she thus had half of her assigned courses outside of her subject area. She observed, "I'm completely unqualified to teach history, so it was a bit difficult." Ultimately, her assignment, which she considered not only inappropriate but unfair, influenced her decision to leave teaching during her second year (Johnson and Birkeland 2003).

Often new secondary school teachers find themselves assigned to teach in multiple classrooms or schools. These teachers typically work from carts, which they wheel from room to room, making it hard for them ever to be prepared fully. Having no classroom to call their own, they lack ready access to their bookshelves and reference texts, filing cabinets with class records or handouts, and blackboards that might inform students about long-term or daily assignments. It is not unusual for new teachers simultaneously to experience the stresses of being asked to teach out of field, having a split assignment, and moving like an itinerant worker from classroom to classroom or school to school.

Teaching Load

The number of different courses that teachers must juggle—even when they all fall within their particular fields of license—greatly affects teachers' capacity to do a good job and, thus, their satisfaction with teaching. The average teaching load for a secondary school teacher in the United States is five classes a day, with two different subjects or preparations (Ingersoll 2003, p. 14). Often, beginning teachers are assigned a teaching load with more class meetings or preparations. For example, Johnson and others (2004) reported about a first-year Spanish teacher in an urban middle school who was assigned to teach 10 different classes each week—210 students in three grades at two ability levels. As a native Spanish speaker, she had sufficient expertise in the subject, but the number of preparations included in her teaching load made for an extremely difficult job. Initially, her principal assured her that she would have a more reasonable schedule during her second year. When she did not, she quit and moved to a suburban school district with a full-time position that was split between two schools. This, too, proved to be unmanageable, so she left teaching to return to her work in public health.

Class Size

Class size introduces yet another important element of teaching assignments having implications for both student learning and teacher satisfaction. The Public Education Network (2004) found that among new teachers they surveyed, "Large class size was continually raised as a source of dissatisfaction." Most teachers report finding teaching much harder when their classes are large, and their unions have long sought class-size reductions.

It is worth noting that class-size ratios have improved recently. In 2001, the average size of an elementary-level class was 21, and the average number of students taught daily by a secondary or departmentalized elementary teacher was 87. Both marked reductions from prior years (NEA 2003, p. 34). The Public Education Network (2004) reported that of their respondents, "teachers with smaller classes felt they could focus more on individual students and have more contact with parents, which was not the case for teachers responsible for large numbers (30 or more) of students" (p. 19).

However, as local teacher unions seek to negotiate reductions in class size, critics often discount the benefits of small classes for students, suggesting that a proposal to reduce class size is simply a strategy for simplifying the work of teachers or enlarging the rolls of unions, since reducing class size creates more teaching positions. The opposition of school boards to class-size reduction is understandable, given the high cost of even modest reductions. Moreover, until recently, research had not shown that class size matters in student performance. However, evidence is mounting that on this issue, teachers' priorities are consistent with students' needs.

STAR (Student/Teacher Achievement Ratio), a controlled experiment conducted in Tennessee between 1985 and 1989, offers convincing evidence that small class size in the early grades has long-lasting, positive effects for students (AERA 2003). Conducted in kindergarten through third grade, this experiment showed that limiting classes to 13 to 17 students had a positive impact on students' performance in reading and mathematics when compared with classes of 22 to 26 students. Subsequent research in Wisconsin found similar results, with a higher level of positive impact for "children living in poverty" (p. 3). "While small classes benefit all kinds of students, much research has shown that the benefits may be greatest for minority students or students attending inner-city schools" (p. 3). It is important to note that the positive benefits of being in small classes for three or four years in the early grades continue after students return to larger classes in the upper grades.

In 1996, such evidence spurred California policymakers to fund class-size reduction policies so that classes in kindergarten through third grade would not exceed 20 students. For primary teachers, working conditions improved dramatically, because many classes in elementary schools had been close to twice that size. However, with the policy change, teachers in the upper grades—many of whom were new or had little teaching experience—might still expect to teach large classes. Elementary teachers whose class size approaches 40 and secondary teachers who are assigned five sections with 25 to 30 students each—for a total teaching load of 125 to 150 students per day—report having less success and, therefore, finding less satisfaction in their work (Johnson 1990).

Many teachers receive unfair or inappropriate assignments—an out-of-field class, many course preparations, large classes, or an excessive student load. Any one of these can dampen teachers' enthusiasm and diminish their effectiveness and satisfaction. However, it is the newest teachers who typically experience these challenges in combination, and those who might have been highly effective in ordinary circumstances frequently find such trying work settings overwhelming. All too often, they leave their school or teaching in disappointment and disgust.

Collaborative Work with Colleagues

There is considerable research and writing about the fact that teachers work alone and that they appreciate the autonomy that comes when they close their classroom door. Lortie's landmark 1975 study documented teachers' isolation, which he attributed to the "cellular" or "egg crate" nature of the schools in which they work. Although "modern" schools of the 20th century might seem large and complex compared with the one-room schoolhouses they replaced, these schools were simply colonies of independent cells, and assembling them did little to diminish the teacher's separateness within each classroom. Administrators found this type of school organization convenient because they could add or subtract classes one unit at a time in response to growth or decline in student enrollments. However, the structure discouraged teachers from collaborative work.

Goodlad's extensive analysis of classroom teaching in 1984 did little to change the picture of the modal teacher working in isolation. Within schools, "teacher-to-teacher links for mutual assistance or collaborative school improvement were weak or non-existent." Although teachers did express an interest in observing their colleagues teach, few had ever done so. Similarly, Little (1990)

reported that among veteran teachers, independence and privacy prevailed. Although "the collective capacity of a school, program, or group to serve students is arguably improved by joint decision making on matters of curriculum, instruction, and testing," Little concluded that "schoolteaching has endured largely as an assemblage of entrepreneurial individuals whose autonomy is grounded in norms of privacy and noninterference and is sustained by the very organization of teaching work" (p. 530).

Nonetheless, there is some evidence that teachers today place more value on the opportunity to work together with their colleagues. In both 1996 and 2001, teachers ranked "cooperative, competent teacher colleagues/mentors" as the most important factor helping them in their work (NEA 2003, p. 73). There is also considerable empirical evidence that interdependent work among teachers can contribute to increased student achievement and teacher satisfaction. Little (1982) found that teachers were more likely to collaborate in successful than in unsuccessful schools: "In successful schools, more than unsuccessful ones, teachers valued and participated in norms of collegiality and continuous improvement (experimentation); they pursued a greater range of professional interactions with fellow teachers or administrators, including talk about instruction, structured observation, and shared planning or preparation" (p. 325). In another study, Rosenholtz (1989) found significant differences in progress on reforms between schools where teachers collaborated and those where they did not. She concluded that students pay a price when their teachers work alone, because those teachers are unlikely to have shared goals for student learning and achievement.

Subsequent studies have confirmed that there is a payoff for students when their teachers work together and the school is an interdependent workplace. McLaughlin and Talbert (2001) found that high school teachers who succeeded in engaging all students with challenging academic work developed the innovative practices necessary to do so in their professional communities. In their study of school practice, Newmann and Wehlage (1995) concluded that professional community among teachers is a necessary component for school improvement. In most successful schools that they studied, there were "opportunities for teachers to collaborate and help one another achieve the purpose; and teachers in these schools took collective—not just individual—responsibility for student learning" (p. 3). Another study revealed that high-performing schools also had strong professional communities in which teachers' pedagogical strengths could be reinforced by the norms and practices of the professional community (Louis, Kruse, and Marks 1996).

However, scholars also have documented the difficulty that schools have in developing such collaborative cultures, particularly among the more experienced segment of the teaching force. Because schools have many internal compartments, collegial interaction does not occur naturally. Rosenholtz explained: "Norms of collegiality do not simply happen. They do not spring spontaneously out of teachers' mutual respect and concern for each other. Rather, they are carefully engineered by structuring the workplace with frequent exposure to contact and frequent opportunities for interaction" (1989, p. 367). Evans (1996) explored the challenges that school leaders face when they try to engage veteran teachers who are accustomed to working in isolation to adopt collaborative practices. He observed, "restructuring faces an extraordinarily complex human resource problem: to make new schools with mostly older veteran teachers. Most of America's educators are veteran practitioners who are not eager to embrace a new round of innovation" (p. 92)

There is evidence that some change in attitudes is under way because of turnover in the teaching force. Johnson (1990) interviewed 115 "very good" public and private school teachers and reported that although several respondents "avoided extensive interaction with colleagues," the "large majority considered isolation a continuing concern and said that they valued productive collegial interaction and would like more consistent attention to instructional concerns in their contacts with peers" (p. 156). A decade later, interviews with new teachers in Massachusetts revealed not only that they were willing to collaborate with their colleagues but that they expected to do so (Kardos and others 2001).

It is important to note that large proportions of today's cohort of new teachers are entering the classroom at midcareer. Using random sample surveys of teachers in seven states, Johnson and others (2004) reported that between 28 and 47 percent of the entering teaching force had completed a substantial period of work in another field. Typically, these career switchers entered their new schools with extensive experience working on teams. Meanwhile, their colleagues who came to teaching as a first career also differed from the veterans they replaced in that many had participated in cohort-based teacher preparation programs where they regularly observed others' work. These new teachers, both mid-career and first-career entrants, expect to work closely with colleagues and fear the consequences of isolation. Unfortunately, the egg-crate structure

persists in many schools, and few are deliberately organized to promote interdependent work.

Thus, collaboration among teachers requires more than good intentions and norms that promote joint work, for the open exchange of ideas and feedback takes time, and the school schedule seldom allows for ongoing interaction. Some school administrators deliberately arrange teaching assignments to align the preparation periods of teachers who need time to work together—for example, those teaching the same cluster of middle school students, the same elementary grade level, or the same high school course. Although all teachers can benefit from such arrangements, they are particularly important for new teachers, who rely on the support of mentor teachers to find their footing in the classroom.

Extra Support for New Teachers

In response to the entry of large numbers of new teachers, many schools and districts have instituted mentoring programs that pair experienced and new teachers. The range of mentoring activities under way today varies widely, from an informal buddy arrangement to an intense supervisory one. Some research has shown that mentoring increases retention rates among novice teachers (Feiman-Nemser 1996), although there are as yet few studies that specify the characteristics of the mentoring relationship that make a difference. A recent report from the Public Education Network (2004) reviewed mentoring programs at several sites and found that although teachers appreciate the support their mentors give, these programs often are not effectively staffed. Many good teachers cannot become effective supervisors of their peers without training, yet most schools lack the resources to provide that training. In addition, good mentoring takes time, which must be coordinated carefully so that the mentor and novice teacher can observe one another and meet.

An analysis of more than 3,000 responses by new teachers to the SASS led Smith and Ingersoll (2004) to conclude that mentoring has a positive effect on new teacher retention in education, provided the mentor teaches in the same field as the novice. Grossman, Thompson, and Valencia (2001) reported on three new high school teachers, all of whom lacked sufficient curriculum and sought guidance about what to teach is illustrative. One new teacher relied on the help of a "supportive department and department chair and a designated mentor teacher within the department" (p. 10). Another, who had no curriculum, found that his assigned mentor taught a different subject and therefore was of little help. A third, whose mentor also taught a different subject, was disappointed that the mentor could not advise her about subject-matter issues.

Such qualitative findings are consistent with the conclusions of recent quantitative research, which suggests that new teachers profit from working closely with more experienced colleagues, although not necessarily in one-to-one mentoring relationships. Kardos' 2004 random sample survey of new teachers in four states (Massachusetts, California, Michigan, and Florida) revealed no statistical relationship between having a mentor and being satisfied with teaching. However, the same study revealed a strong positive correlation between new teachers' satisfaction and their reports of working in schools that provided ongoing interaction among teachers of all experience levels. It may be that one-to-one mentoring matches are not reliably supportive for new teachers, particularly when schools lack the resources needed to provide essential time and training or when their teaching fields differ.

As more and more master teachers retire, there may be increasing pressure on schools to rely on less effective mentors or to offer group mentoring. In such circumstances, one might expect new teachers to report less satisfaction with mentoring than they might have a decade ago, when the number of entrants was small and there was a greater supply of seasoned, skilled, and willing mentors. Ongoing interaction among all teachers represents another promising strategy for providing new teachers with extra support.

More extensive induction programs, many of which include one-to-one mentoring, appear to provide better support. Smith and Ingersoll (2003) analyzed national survey data and found that induction has a positive effect on new teacher retention. Notably, collaboration and common planning time had the greatest impact, reducing the predicted probability of attrition by 43 percent. Teachers who received what the researchers called "basic induction" (mentoring and supportive administrator communication) had a turnover probability of 39 percent. Those who received bundles of seven induction components (the above plus collaboration/planning time, seminars, teacher networks, an aide, and reduced course load) had an 18 percent probability of turnover. Clearly, programs that were more comprehensive were also more effective in retaining teachers.

One exemplary high school induction program in Brookline, Massachusetts, holds monthly seminars led by two expert teachers who are released from teaching part-time to coordinate the program. New teachers are freed from one administrative duty a week so that they can observe a colleague's class. Mentors and their new teachers

have at least one common teaching assignment, their desks are located in the same teachers' workroom, and they share one preparation period (Johnson and others 2004). Such careful arrangements increase the likelihood that collaboration among teachers will occur, that unnecessary attrition can be avoided, and that students will be well served. Often, however, schools lack the resources or the will to encourage and facilitate such interaction, and discouraged new teachers leave as a result.

Supports for Working with Students

Teachers choose their profession expecting to realize the intrinsic rewards that come with watching their students learn, grow, and succeed. However, students and teachers must co-produce results, and success depends on the will, cooperation, and skill of both (Cohen and Ball 1996). The student context is the most salient aspect of the workplace, according to one study designed to understand high schools from the teacher's perspective (McLaughlin and Talbert 1993). In that study and others (e.g., Spillane 2001), teachers reported that their work is especially challenging because of changes they have seen in students over the past two decades—decreased motivation, lower skill levels, declining respect for schools and teachers, greater poverty, and reduced support by their families and communities.

Many teachers believe their students' attitudes are different these days and that their needs have increased in recent decades. Public Agenda (2003) reported that "a majority of teachers say most students in their school do only enough to get by, and almost 7 in 10 consider lack of student effort to be a serious problem in their own classrooms." In fact, there is some evidence documenting students' disengagement from their formal education, particularly at the high school level. Steinberg (1996) surveyed more than 20,000 high school students and found that *"an extremely high proportion. . . do not take school or their studies seriously"*(emphasis in original, p. 18). More than one-third reported that they "get through the day in school primarily by 'goofing off with their friends'" (p. 18); two-thirds reported cheating on a test during the past year; and 90 percent reported copying homework.

"Teachers experience today's students as changed in nearly every respect related to and predictive of academic success—family support, consistent attendance, attention to schoolwork, and social class and language compatible with school culture" (McLaughlin and Talbert 2001, p. 8). The authors observed that many public high schools that might have been successful with "traditional" students were far less successful with "nontraditional" ones, yet few schools adjusted their practices in response.

Of course, there is no way to know whether such students' attitudes and activities are, in part, a consequence of their experience in schools. There are many school-based explanations and targets of blame for this problem—poor teaching, lack of curricular alignment, students' disengagement, social promotion. Even very optimistic teachers sometimes report that they are not confident that they can succeed with all the children they teach.

McLaughlin and Talbert's research in high schools suggests that strong and effective professional communities among teachers enable them to respond to the diverse needs of today's students while upholding high standards for their performance. Rather than leaving teachers alone to cope with demands they cannot meet, these professional communities "establish distinctive expectations for work and interaction with students" (2001, p. 10). Teachers collaborate closely to "address the challenges of their student body and explore ways of improving practice to advance learning" (p. 63). Such shared expectations differ markedly from the norms that prevail in most high schools, where "teachers continue to teach as they have always taught" and the "pattern of practice follows a logic rooted in a professional culture that casts teacher as expert and student as recipient of knowledge" (p. 19).

Teachers rely on a variety of school-level supports for students, especially for students with special needs. Rothstein (2004) documented the many ways in which social class differences contribute to the academic achievement gap. He suggested that preschool, after-school, and summer programs can provide academic supports that supplement teachers' efforts. In addition, nonacademic student supports, such as in-school health services, can ensure that treatable problems, such as near-sightedness, do not compromise students' learning.

As students with a wide range of disabilities are guaranteed access to instruction in mainstream classrooms and the number of students who are English language learners grows, teachers often find that they do not have the skills they need to teach all of their students. In many schools, teachers work in teams with special education consultants, bilingual teachers or aides, social workers, and counselors to meet the needs of students. Although such programs are explicitly designed to benefit students, they also support teachers in their work and thus increase the likelihood that teachers can do their jobs well and remain in teaching.

Schools that establish ongoing, positive relationships with parents also are more likely to offer productive

instructional settings for students and teachers. Parents, long kept at a distance by many public schools, have become more actively engaged in the day-to-day life of the school. When a school deliberately provides programs for parents to become involved in their children's education, the chances increase that teachers will experience parental support as well (Mapp 1999). Drawing on years of research, Epstein and others (2002) have developed a model for school, family, and community partnerships that includes six types of mutual involvement.

Schools tend to be less familiar with community involvement than they are with parent involvement, but two types of community partnerships are especially noteworthy for the support they can offer both students and teachers. One is school-linked family support services, in which schools partner with social service agencies outside the school to make health, counseling, and other nonacademic services more accessible not only to students but to their families as well. Recognizing that students learn all day, both in and out of school, another strategy involves partnerships with youth organizations and youth development programs. These include well-known national organizations, such as the YMCA, as well as small, local, community-based organizations. Low-income urban youth who participate in youth organizations appear to do better in school, probably because their participation buffers them from some of the detrimental aspects of their environment (Honig, Kahne, and McLaughlin 2001).

Curricular Support in an Era of High Standards

Curriculum is at the center of teachers' work with students (Cohen and Ball 2000). With the introduction of standards-based reform, teachers find it increasingly important to have a curriculum that is aligned with state standards and assessments as well as professional development that supports them in teaching that curriculum. They also seek a curriculum that is sufficiently detailed to offer them guidance and options without confining them to rigid patterns of pedagogy. Research suggests that teachers expect, but often do not have, a curriculum that is well developed, aligned with standards, and flexible.

There is solid evidence that teachers support higher standards for instruction and student performance. Public Agenda (2003) reports "repeated findings" that "teachers do not oppose the central tenets of the [standards-based] movement, nor are they sitting around longing for the good old days. Eight in 10 teachers (80%) say having guidelines for what students should learn helps improve academic performance. . . . In fact, most teachers (53%) say they want local standards initiatives to proceed as planned" (p. 12). Researchers at *Education Week* also found strong support among educators for higher academic standards. In a poll conducted for *Quality Counts 2001,* 87 percent of teachers agreed that raising standards was "a move in the right direction," and 74 percent said that the level of standards in their states was "about right" (Doherty 2001).

Inadequate Curriculum

Although teachers generally endorse high standards, there is considerable evidence that they do not have the curriculum or professional development to support them in meeting the new standards. Hoff (2001) reported that "fewer than half the teachers surveyed for *Quality Counts* said they have 'plenty' of access to curriculum guides or textbooks and other materials that match state standards." In Philadelphia, two-thirds of new teachers had not received the district's Curriculum Scope and Sequence for their courses by the end of their first week (Neild and others 2003). The majority of new teachers in a Massachusetts study also reported that they "either had no curriculum at all—leaving them without guidance about both what to teach and how to teach it—or a curriculum that included only lists of topics and skills—suggesting only very generally what to teach but not how to teach it" (Kauffman and others 2002, p. 280). When they reported having "materials such as textbooks to accompany the [state's] curriculum frameworks, they often said that the two were not aligned; the books or other materials did not cover the same content as the state's frameworks" (p. 289).

Grossman and Thompson (2004) reported a similar lack of aligned curricula in their four-year study of beginning language arts teachers: "While district and state frameworks articulated some sense of what students should be learning at different grade levels, the expectations were generally quite global (e.g., students should have opportunities to engage in the writing process). Such frameworks also provided little opportunity to learn what the writing process is or how to help students engage in it" (p. 19). Given evidence that good curricula can provide scaffolding for teachers' learning and instruction (Cohen and Ball 1996), the lack of an aligned curriculum represents a double loss.

There is also evidence that teachers are daunted by the scope of their states' curriculum frameworks; they simply cannot find the time to teach all the specified topics. Of the teachers surveyed by *Education Week,* 70 percent "said they did not have enough time to cover the material needed to

meet standards" (Doherty 2001, p. 20). Qualitative studies yield similar findings. New teachers studied by Kauffman and others (2002) were perplexed when they received long lists of topics to be covered, accompanied only by the informal recommendation that they should choose what to teach. When new teachers lacked sufficient curriculum, these authors reported, "they spent an inordinate amount of time and money developing their own content and materials from scratch," an experience the authors called the "mad scramble" (p. 282). Given the many other demands on new teachers, it is arguably unrealistic to expect them to create a curriculum that is aligned with state standards. For those who teach multiple subjects or are assigned classes outside their fields of preparation, this may be enough to drive them out of teaching.

Scripted Curricula

Although most teachers report that they have insufficient curricula for the range of subjects they are expected to teach, many teachers—particularly in large, low-income districts—report having a curriculum that is too prescriptive, especially in mathematics and language arts (Johnson and others 2004). So-called scripted or teacher-proof curricula, which include pacing guides and word-for-word scripts, are intended to ensure that particular pedagogies are used regularly and implemented faithfully by teachers. Although such approaches have many supporters, they also have many critics (Apple 1990; McNeil 2000; Troen and Boles 2003), who have concluded that packaged curricula reduce the creative art of teaching to rote compliance, thus "deskilling" teachers, diluting the quality of instruction, and making teaching unattractive work.

Those who have studied new teachers recently (Grossman and Thompson 2004; Kauffman and others 2002) have reported that their respondents often welcome the guidance that detailed curricula provide, as long as they can reserve the right to use the materials flexibly. As Grossman and Thompson (2004) reported, "Even when they were aware of some of the limitations of particular curriculum materials, their need for concrete guidance often overcame their reservations" (p. 18). However, as Kauffman and others (2002) concluded, "In calling for greater specification, these new teachers stopped well short of asking that their every move be dictated" (p. 285). In subsequent survey research conducted in three states (Massachusetts, North Carolina, and Washington), Kauffman (2004) found that approximately three times the percentage of new teachers in low-income schools (20%) reported encountering "excessive direction" in mathematics than did teachers in high-income schools (7%). A similar pattern emerged in language arts—20 percent in low-income schools and 10 percent in high-income schools. Such findings warrant further careful examination because they suggest that overprescription, as well as the underprescription discussed earlier, is an undesirable context for quality teaching.

Sufficient Resources and Materials

As teachers see it, in addition to having an appropriate curriculum, schools should have the resources needed to implement the curriculum and to support good teaching. That applies especially to the basics, such as paper, crayons, pencils, chalk, and textbooks for each student. If science teachers are to conduct labs, they need a steady supply of chemicals for experiments and biology specimens for dissection. In addition, teachers need services to support their teaching, such as accessible laminating machines, dependable photocopy machines, good computers, and reliable connections to the Internet.

Qualitative studies of teachers' work are replete with stories of ill-equipped schools and classrooms (Corcoran, Walker, and White 1988; Johnson 1990). They tell of out-of-date textbooks, stringent quotas on paper, and deficient libraries with torn books and antiquated audiovisual materials. Respondents describe inequities between rich and poor schools and recount stories of political deals that increase resources for one school at the expense of another.

In an effort to ensure that teachers have what they need to teach, some schools provide each teacher with an annual stipend to supplement materials already available. Notably, however, such stipends are most often provided by districts serving wealthy communities, which already have sufficient, if not abundant, resources.

Most teachers report having to spend their own money if they are to succeed, or even survive, in the classroom. They buy stickers to reward careful homework, groceries for in-class cooking projects, paperback books to promote independent reading, posters to decorate the classroom, colored markers for art projects, film for photographic projects, plants and animals for science, and software for in-class publishing. In 2001, teachers spent an average of $443 each on instructional resources (NEA 2003, p. 51). Another study reported that on average, first-year elementary teachers spent $701 out of pocket for classroom materials (Quality Education Data 2002). New teachers, whose salaries often barely allow them to meet their own living expenses, find having to make such purchases galling, however necessary they may be for good teaching.

Assessments for Accountability

Standardized tests play an increasing role in teachers' work, a trend that has accelerated with the implementation of No Child Left Behind. A survey conducted for *Quality Counts* showed that "teachers are feeling pressure from state testing and accountability systems and believe there is too much focus on state tests." Of teachers surveyed, 67 percent "said their teaching had become 'somewhat' or 'far too much' focused on state tests, and 66 percent said they were concentrating on tested information to the detriment of other important areas of learning" (Doherty 2001, p. 20).

Teachers adjust their instruction to emphasize what is tested and skip what is not tested: "Teachers may increase their attention to specific topics, shift instructional time to concentrate more on the subjects that are tested, devise exercises that mirror test formats and expectations, and work with their students on such test-taking skills as filling in the bubbles on multiple-choice questions" (Olson 2001). Wong and others (2002) studied four Chicago high schools that were receiving varying degrees of support and intervention from district officials. In schools that were on probation or had been reconstituted, they found that teachers complied with mandates that they focus on activities that developed students' test-taking skills. Teachers in probationary schools allocated "from 16 percent to 60 percent of instructional time to these mandated activities" (p. 4), whereas in the reconstituted school, "test-related activities [had] begun to displace the standard curriculum" (p. 16).

Overall, this attention to students' performance on tests is predictable and, in fact, is at the core of an accountability strategy that relies on tests. However, because the tests do not cover all subjects, or even all that is important in the tested subjects, critics argue that teachers' responses to the pressures of testing compromise the quality of instruction. In a Delaware study about the effects of standardized testing on teaching, researchers concluded that instruction had become "less deliberate, less individualized, and more homogenized"; curriculum was "more likely to be driven by the state test"; and teachers were increasingly working in a "culture of compliance," where decision-making power had moved "further from the classroom and the school" (Banicky and Noble 2001, pp. 1, 2, 16). There was substantial evidence that teachers were "teaching to the test" even when their efforts were inconsistent with state standards or with preparing students for the next grade (p. 8).

Although reports of such attention to the tests are widespread, researchers also have found that practices differ notably, depending on the socioeconomic status of the schools studied. Diamond and Spillane (2004) reported that test-taking strategies are emphasized at the expense of deeper instruction in low-income, low-performing schools, whereas high-performing schools use assessment as a source of information about students' learning and instructional improvement. Kauffman (2004) found evidence that large proportions of new teachers in low-income schools—43 percent in mathematics and 40 percent in language arts—are required to spend instructional time on test preparation, compared with 18 percent and 25 percent, respectively, in high-income schools.

There is increasing evidence that the pressure of test-based accountability carries a price in teacher retention as well as instruction. Teachers who enter the profession motivated by the prospect of seeing their students learn and succeed often are distressed when their schools focus excessively on compliance and sanctions. Graduates of a large teacher education program who had subsequently left teaching "ranked the pressures of increased accountability (high-stakes testing, test preparation, and standards) as their number-one reason for leaving." By contrast, respondents still in teaching who might consider leaving "ranked paperwork and accountability pressures high—second and third, respectively," in the factors that would drive them out (Tye and O'Brien 2002, p. 27).

Therefore, teachers' support for standards-based instruction does not always extend to endorsements of high-stakes testing or its consequences for their students or themselves. The *Quality Counts 2001* survey found teachers "generally opposed to making decisions about student promotion or graduation based solely on state tests. Only 11 percent would support a policy to require that all students pass tests before moving up to the next grade; 88 percent said teachers and principals should consider test scores along with grades and their own individual assessment of students. Only 37 percent of teachers supported high school exit exams without attention to other parts of students' records" (Doherty 2001, p. 20).

Ongoing Professional Development

Is teaching a uniform, static profession, as many people assert, or does it provide opportunities for individuals to achieve greater expertise in the classroom, expanded influence in the school, and ongoing development in their career? One might expect that teaching would attract and retain teachers of higher quality if they could see such prospects in the career. Recent research suggests that there are increasing opportunities for learning and growth but

that they have yet to become widely accepted and established in school practice.

Professional development for teachers has long had a sorry reputation, largely because it typically is short term, driven by an external agenda, and disconnected from classroom practice. For many years, school districts sponsored monthly sessions for all teachers in which an invited "expert" lectured about issues that teachers perceived as marginally useful. In the 1990s, however, professional development gradually became more school-based and its agenda increasingly focused on student learning goals and effective teaching practices, drawing insights for improvement from research and from the teachers themselves. Time and resources were used more often to support teachers' instructional needs within their classrooms. Group sessions focused on interpreting data about student performance, planning classes and units with colleagues, learning how to teach new curriculum, or working with consultants about school improvement.

Elmore and Burney (1997) reported on such practices in New York City's District 2. Through a number of coordinated professional development activities, including professional development laboratories, peer observation, off-site training, and administrator "walk throughs," teachers were expected to improve their practice. Notably, nearly half of the teachers left the district during this period. Some were asked to leave or chose to leave because they disagreed with the reforms. However, those who remained were energized by this professional development and appreciated its focus on teaching and learning.

Professional communities within schools also contribute to teachers' ongoing development and satisfaction. McLaughlin and Talbert (2001) recounted the benefits to teachers of working jointly to generate new knowledge of practice and to support each other's professional growth. They observed, "Teachers in these schools experience professional growth because they work together to become better teachers and to become a better school" (p. 90). They "experience careers marked by collective accomplishments and a sense of continuing professional growth" (p. 91). Although McLaughlin and Talbert concluded that professional learning communities achieved "extraordinary success in nurturing successful careers," they found few such workplaces in the schools they studied.

One might expect that the introduction of standards-based accountability would be accompanied by extensive, sustained support for teachers about how to interpret the standards and how to use the data gained from assessments. However, researchers for *Quality Counts* found that "teachers received only modest training to implement standards. In the past year, 28 percent had no training in understanding and using state academic standards; 30 percent had no training that provided an overview of a state test or assessment; and nearly half had no training in how to use test results for diagnostic purposes" (Doherty 2001, p. 20).

When teachers find that professional development focuses on instruction and the needs of their students, they are more likely to welcome than to resist the assistance. The range of possible strategies available for professional development has broadened considerably in recent years. Despite improved practices in some schools, the NEA (2003) reported that "of all professional growth activities queried by [their] survey, teachers were most likely to participate in system-sponsored workshops during the 2000–2001 school year (77%)" (p. 55).

Expanded Influence and Career Growth

In 1985, when the regulatory reforms first provoked by *A Nation at Risk* (National Commission on Excellence in Education 1983) had failed to deliver appreciable improvement in student achievement, school reformers turned to teachers as the agents, rather than the objects, of reform. In an effort to improve schools by engaging teachers in decisions about policy, budget, and personnel, they introduced initiatives such as school-based management and career ladders. Teachers historically had retained control of important instructional decisions within their classrooms while relinquishing to administrators the right to make decisions about the larger school. In the mid-1980s, however, reformers reasoned that teachers could improve the school by drawing on their professional knowledge as they participated in school-site councils that deliberated about schoolwide matters. Over time, the logic went, schools would improve. However, research has shown that more often than not, such councils were diverted by less significant administrative or social concerns and neglected important matters of curriculum and instruction (Ogawa and White 1994).

Ingersoll (2003) confirmed that across all schools, there were no increased levels of control for teachers because of reforms adopted in the late 1980s. Examining national data from SASS collected in four cycles from 1987 to 2000, Ingersoll found little change in teachers' influence. He saw this as "especially striking because these were years of intense policy debate over the control of schooling, when great fanfare was attached to numerous reforms aimed at changing the organization and control of schools" (p. 82).

However, Ingersoll did find considerable school-to-school variation in teachers' influence. "Schools that delegated more control to teachers had fewer problems among teachers and less conflict between teachers and administrators" (p. 202). This was particularly true when teachers were involved in schoolwide decisions about discipline and tracking.

There is growing interest today in differentiated roles, which would provide teachers a chance to extend their professional influence beyond the classroom. In fact, new teachers today express interest in careers that would allow them to have additional responsibilities, often while continuing to teach part-time. They express little interest in pursuing a lifelong career as a full-time classroom teacher. In a study of 50 Massachusetts entrants, the overwhelming majority of respondents who planned to remain in education for a substantial time expected to supplement their teaching with expanded roles in professional development, curriculum writing, or mentoring, even though these roles were only beginning to emerge in their schools (Peske and others 2001). Troen and Boles (2003) set forth proposals for careers that provide differentiated roles for teachers, and they explained how these roles would benefit schools. As yet, however, there are few examples of differentiated staffing patterns in public education, and analysts caution that teachers' well-documented reluctance to grant greater status and pay to their peers may interfere with efforts to establish differentiated roles for teachers.

Notably, however, some local school districts and their unions have collaboratively established the basic elements of a career ladder for teachers, including several steps of advancement, culminating in a rung for "master" or "lead" teachers. Often, however, these are only labels that designate increasing levels of experience rather than increasing levels of expertise or responsibility. For many years, the role of department head, which engaged teachers with their peers in administrative and evaluative responsibilities, was the only such role routinely found in public schools. Recently, however, some districts have succeeded in establishing peer assistance and review programs, which engage expert teachers in supporting and assessing fellow teachers. These programs, which are well established in Toledo, Cincinnati, and Columbus, Ohio, and in Rochester, New York, all have demonstrated success, both in the assistance they offer new and experienced teachers and in the opportunities for influence they provide master teachers.

The Toledo Plan, the original and longest running peer assistance and review program, was established in 1981 and has served as the model for other districts. Expert teachers, who are selected by a joint panel of teachers and administrators (five appointed by the union and four by management) leave their classrooms for three years and consult intensively with 10 to 12 teachers annually. They are trained for their roles and granted considerable responsibility. Teacher-experts spend approximately 20 hours per semester mentoring and evaluating each teacher on their roster. All new teachers receive assistance, as do selected experienced teachers who are judged to be in need of intervention. At the end of the year, the consultants recommend to the governing panel whether a teacher should be reemployed or released (Toledo Federation of Teachers and Toledo Public Schools 2001).

Thus, in Toledo and other districts implementing similar plans, teachers are assuming differentiated roles as consulting mentors and supervisors. In Boston, San Diego, and New York City, roles for teachers as instructional coaches recently have been created. Such developments suggest that teachers may be exercising broader influence in their schools through such newly defined positions and daily work responsibilities than they do through the formal governance mechanisms of school-site councils or faculty senates. It will be important to see whether these roles become established over time and win the support of teachers, administrators, and school boards, for they might help to retain expert teachers and increase the capacity of schools to support the development of all teachers.

One challenge to establishing meaningful career ladders and respected leadership roles has long been how to select "lead" or "master" teachers. Teachers generally are wary that favoritism and local politics might influence selection, and school boards distrust seniority as a criterion for identifying teacher-leaders. The National Board for Professional Teaching Standards, which awards advanced certification to "accomplished" teachers, now provides an unbiased means for identifying exemplary teachers. Recent research by Goldhaber and Anthony (2004) concluded that board-certified teachers are indeed more effective than are unsuccessful candidates for board certification. It is not yet clear, however, that successful candidates are well qualified to assume responsibilities beyond their classrooms or that differentiated roles will provide the best use of their talents.

Given new teachers' expressed interest in expanded roles and responsibilities, however, there is reason to be encouraged by recent developments in peer assistance and review, coaching and mentoring roles, and new approaches to

selecting exemplary teachers. The possibilities for retaining skilled and committed teachers may well be enhanced by such opportunities and approaches.

Safe, Well-Equipped Facilities

Although schools tend to be similar in physical structure, there is a surprising range of facilities. Some school-to-school differences reflect the era when they were built. Compact, multistory, brick structures were built in the 1930s and 1940s; single-story, multiwinged buildings were constructed in the 1950s; so-called "open" schools with few internal walls were built in the 1960s and 1970s; and contemporary schools with classroom clusters and pods were constructed in the 1980s and 1990s. Well-designed facilities can enhance good teaching, especially when the design matches a school's instructional approach.

However, for most teachers, what really matters most is not when a building was constructed or how it was designed but whether it is well maintained and functional. Is it clean or dirty? Are the walls attractively painted, or are they grayed and peeling? Are the floors routinely varnished or neglected and warped by water from a leaky roof? Is the school warm in winter and cool in summer? Is it regularly repaired, or does it have broken windows, damaged desks, disconnected phones, defunct water fountains, and dysfunctional bathroom facilities? From the perspective of teachers, students, and parents, a school facility that is carefully maintained signals respect for those who teach and learn there. However, neglected maintenance not only conveys indifference or disdain for those who use the school but also interferes with effective instruction. Bunsen burners that malfunction in the chemistry lab, electrical systems that fail to support classroom computers, weak lighting that makes it hard to read, and poor acoustics that discourage discussions during class—all can compromise even the best teacher's effectiveness (Johnson 1990).

In 1995, the General Accounting Office documented the serious deterioration of public schools, especially in urban school districts. Other studies had found that teachers regularly report the importance of working in safe buildings and well-resourced schools (Corcoran, Walker, and White 1988; Johnson 1990). Johnson observed that poorly maintained schools send signals about the status of public education: "Well-designed, well-maintained, well-supplied schools express the public's commitment to schooling. Decrepit, crowded schools and inadequate supplies convey a different message—that public education is low on the list of a community's priorities" (p. 78).

In a recent study, researchers analyzed survey data from K–12 teachers in Washington, D.C., and concluded that "facility quality" is an important predictor of teachers' decisions to leave their current position (Buckley, Schneider, and Shank 2004). In fact, these researchers concluded, "the benefits of facilities improvement for retention can be equal to or even greater than those from pay increases" (p. 9). Teachers in Washington and Chicago were dissatisfied with the lack of science facilities, inadequate classroom size, lack of teacher workspace, and poor air quality (Schneider 2003). Of those who gave their facilities grades of C or lower on an A through F scale, more than 40 percent said that "poor conditions have led them to consider changing schools and 30 percent are thinking about leaving teaching" (p. 3). In a related study, teachers from four school districts (Chattanooga, Tennessee; New York, New York; Seattle, Washington; and Washington, D.C.) and the state of West Virginia listed "lack of resources and materials" and "classroom conditions" as among the top five negative influences on their efficacy with students. Researchers concluded, "The physical condition of schools and the quality of instructional resources made a tremendous difference in the sense of efficacy that teachers felt" (Public Education Network 2004, p. 19).

The Principal as the Broker of Workplace Conditions

In discussing the school as a workplace, one might sensibly include the principal as part of the organizational context. For it is the principal who holds formal authority in the school, supervises the work of teachers, and serves as a link between the school and the community as well as the district office. Principals achieve varying degrees of success in that role, with some winning accolades from teachers for their skills as managers and instructional leaders. It is important to note that the principal's influence on the school as a workplace for teachers extends well beyond being in charge of the school.

Study after study has shown that the principal is the key to success in virtually all school ventures (Rutter and others, 1979; Murphy 1991; Newmann and Wehlage 1995; Quinn 2002). For example, the principal can set a positive tone for adult interactions and make collaboration possible by creating a schedule that allows teachers to work with those who teach the same students or subject (Blase and Blase 2000). The principal can endorse partnerships with local community agencies that provide support services to schools (Spillane, Hallett, and Diamond 2003). The principal can ensure that the district maintains the school

facility and provides teachers with sufficient instructional resources (Johnson 1990). The principal can arrange for professional workshops and inform teachers about opportunities for teacher learning and differentiated roles (Spillane, Hallett, and Diamond 2003). The principal can support teachers by working collaboratively with staff and students to develop norms for acceptable behavior and a system of discipline to reinforce those norms (Supovitz and Poglinco 2001).

Many new teachers look to their principal to meet their individual needs. However, given the many demands on a principal's time, this is unrealistic. Aware of the importance of new teachers' receiving support from their colleagues, a skillful school leader engages both experienced and novice teachers in productive work experiences, thus increasing the interdependence of all teachers and the coherence of the work they do together (Johnson and others 2004).

Achieving Success in Low-Income Schools

There is substantial agreement that however it is defined, *equal access to teachers of quality* is not something all students have. "No matter which study you examine, no matter which measure of teacher qualities you use, the pattern is always the same—poor students, low-performing students, and students of color are far more likely than other students to have teachers who are inexperienced, uncertified, poorly educated, and underperforming. Many of those teachers demonstrate most or all those unfortunate qualities all at the same time" (Carey 2004, p. 8). Thus, far too many students, particularly students of color from high-poverty communities, attend what often are called hard-to-staff schools. These schools, which are not only low income but also low performing, have great difficulty attracting and retaining teachers, particularly those with characteristics found to be associated with students' success on standardized tests.

The evidence indicates that schools in low-income communities encounter far more turnover than those in moderate-income or high-income communities, and that teachers who transfer from one school to another consistently move to schools serving higher-income students. Thus, administrators of low-income, low-performing schools are perpetually recruiting and hiring new staff, which creates an enormous drain on management resources.

Recognizing this, analysts and policymakers increasingly suggest that teaching talent should be redistributed by moving the best teachers to hard-to-staff schools. However, there is solid evidence that retaining talented teachers will not be easy, for, as Ingersoll observed, "high-poverty schools, especially those in urban communities, lose, on average, over one-fifth of their faculty each year" (2004, p. 2). Any plan simply to transfer well-trained, experienced, and successful teachers will fail if it does not take into account the impact of working conditions on teachers' effectiveness and satisfaction.

These patterns of transfer raise the important question of whether teachers move in search of wealthier students, better working conditions, or both. Hanushek, Kain, and Rivkin (2001) studied transfer patterns in Texas and found that more than 25 percent of teachers in schools scoring in the bottom quartile of achievement left their schools each year, whereas fewer than 20 percent of teachers in the top quartile of schools did. Research at the Project on the Next Generation of Teachers (Johnson and Birkeland 2003) and at the Philadelphia Education Fund (Neild and others 2003) revealed steady patterns of new teachers' migration from low-income to higher-income communities. Some, including Hanushek, Kain, and Rivkin (2004), have interpreted such findings to mean that teachers routinely transfer to schools in higher-income communities because they want to work with students who, as a group, are wealthier and whiter. Other analysts see in this pattern of movement a far more complex set of incentives and disincentives created by working conditions.

Education Week analyzed the responses of teachers in the national SASS who worked in "high poverty" schools, where at least half of the students are eligible for federal free or reduced-price lunch, and "high minority" schools, where at least half of the students are nonwhite (Park 2003). In "low poverty" and "low minority" schools, 15 percent or fewer of the students were eligible for free or reduced-priced lunch (p. 17). Researchers found that teachers in schools designated "high poverty" and "high minority" experienced "much more challenging working conditions" on a variety of indicators, including student behavior, induction support, school safety, access to resources, and parental involvement (Park 2003, p. 17).

Similarly, Neild and others (2003) found that only 64 percent of all Philadelphia teachers who were employed in 1999–2000 were at the same school three years later, and although "almost every Philadelphia public school enrolls a high proportion of low-income students," it was the highest-poverty schools [that] had the hardest time retaining teachers" (p. 17).

In their decisions to stay, transfer, or leave teaching, teachers respond primarily to whether they can be effective

with the students they serve. Despite the general finding that poor working conditions and consequent dissatisfaction among new teachers map predictably onto schools in high-poverty, high-minority communities, researchers also have found that some schools fitting this profile achieve success with their students and thus experience much less turnover among staff. These high-poverty, high-performing schools warrant close attention because their success in retaining teachers suggests that it may be particular schools, rather than the students they serve, that generate dissatisfaction. If their efforts in these schools prove fruitless, teachers who can do so tend to move on to more supportive and rewarding workplaces.

Useem (2003) studied new teachers in high-poverty, high-minority Philadelphia middle schools. Although attrition rates were very high overall—68 percent of an entering cohort after three years—certain schools experienced comparatively lower staff turnover. Useem reported, "At one extreme, the middle school that had the most serious problems of school climate lost all 12 of its new teachers over the period of the study. . . . At the other end of the spectrum, a well-functioning school retained four of its five [new] teachers, with the fifth leaving at the end of the third year because of marriage" (p. 15). Useem concluded that schools that were more successful in retaining new teachers were "characterized by a safe and orderly environment that is welcoming and respectful to all; ongoing support for new teachers; the timely provision of materials; and principals who are strong instructional leaders and who delegate authority and develop the leadership skills of others" (as described by Olson 2003, p. 21). Useem asserted, "Teachers will stay in schools like that even if they have opportunities to go to 'better' schools, with higher test-score performance or wealthier kids" (as quoted by Olson 2003, p. 21).

Similarly, in a study of 50 new Massachusetts teachers, those who transferred to new schools always moved to schools with wealthier students, as indicated by the proportion of students on free and reduced-priced lunches (Johnson and Birkeland 2003). Given patterns of race and wealth in the United States, these receiving schools also can be assumed to have student bodies with larger proportions of white students. However, interviews with the teachers revealed that in deciding whether to move, the respondents weighed whether they were likely to achieve a "sense of success" in their work with students. If their school did not seem to make that possible, teachers were inclined to leave. Sometimes this meant that they left teaching; at other times, it meant that they went in search of a "better" school, one where they might find more support in their work. Note, however, that some respondents in this sample taught in high-poverty, high-achieving schools. These teachers were satisfied that the working conditions of their schools provided the support they needed to teach well, and so they chose to stay.

As researchers continue to examine the role of working conditions in the career decisions of teachers, it will be important to attend to the array of features that contribute to their success in low- and high-income schools. Teachers with higher test scores, more extensive preparation, and greater experience—characteristics often associated with high-quality teachers—are more likely to move from low- to high-income schools, thus leaving lower levels of professional capacity in these schools. Recent research suggests strongly that if public education is to retain high-quality teachers in all schools, regardless of demographic composition, a concerted and systematic effort must be made to ensure that all schools become good workplaces.

Conclusion

In response to current demands for accountability in public schools, policymakers and school administrators have relied almost exclusively on short-term incentives (such as cash rewards for improved test scores) or punitive measures (such as restrictions on student promotions or labels for failing schools). These approaches assume that teachers are not making sufficient efforts in their work and might be motivated to try harder by promises of financial rewards or threats of public embarrassment. Although such interventions may have some initial effect on student test scores, consistent, long-term improvement in U.S. public schools will depend not only on the attitudes and efforts of teachers but also on the conditions in which they work.

Those seeking to improve schooling must understand the important links between the workplace, effective instruction, and teacher retention. The separate questions about teacher retention, teacher quality, and effective teaching all tend to point to a set of workplace conditions that facilitate these goals. A long-term strategy for school improvement would focus on removing constraints to good teaching in the workplace and building the supports identified throughout this research synthesis and summarized in Table 1 as benchmarks for best practice. If public education is to attract, sustain, and retain able teachers—individuals whose students succeed year after year—then all schools must become places where good teaching is both possible and likely.

There is considerable evidence that teachers are sustained and successful in their work, and thus more likely to remain in teaching, when their schools provide an array of supports. Many factors contribute to workplaces where teachers can hope to achieve success with their students. These include teaching assignments that match the teacher's field of expertise and are not unreasonably demanding; collaborative colleagues at all levels of experience; assistance from parents and experts in working with students; support services for students that help teachers in their work with students; a comprehensive but flexible curriculum that allows for meaningful accountability; job-embedded professional development; career opportunities for growth and influence beyond their classroom; and facilities that are safe and well equipped.

Today, however, remarkably few schools—particularly among those serving low-income students—provide all or even most of the workplace conditions that teachers need to do their jobs well and stay in teaching. This is an especially worrisome situation, because new teachers today have an array of career options and are not necessarily committed to long-term teaching (Peske and others 2001). The NEA (2003) reported that among the teachers surveyed in 2001, those under 30 "were more likely than those 40 and older to be undecided about remaining in teaching. . . . They were correspondingly less likely to indicate that they planned to remain in teaching until they were eligible for retirement" (p. 72). If today's new teachers find that their workplaces fail them, chances are good that they will transfer to other schools or leave the profession altogether, thus further jeopardizing the stability of public education, the well-being of students, and the future of society. If students are to be effectively educated so that they can perform to high standards, schools must become places where teachers and students can succeed together.

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NEA Appendix: Additional Research Resources

Several Web sites are useful as sources of additional research information on topics related to school workplace conditions. All of them have research reports, and sometimes other information, that can be downloaded free.

1. **Project on the Next Generation of Teachers,** Harvard University. This research project, directed by Susan Moore Johnson, addresses critical questions regarding the future of the nation's teaching force. The project is examining issues related to supporting, attracting, and retaining quality teachers (http://www.gse.harvard.edu/~ngt/).

2. **Center for Research on the Context of Teaching (CRC), Stanford University.** The CRC uses the embedded-contexts framework to analyze environmental effects on teaching and learning. Codirected by Milbrey W. McLaughlin and Joan E. Talbert, the center has done extensive research on teacher professional communities. Additional topics include teacher unions, workplace conditions, school districts, and the student context. Much of the center's work has been done from the teacher or student perspective (http://www.stanford.edu/group/CRC/).

3. **Richard M. Ingersoll Homepage and the Consortium for Policy Research in Education (CPRE), University of Pennsylvania.** Richard Ingersoll, a professor of education and sociology at the University of Pennsylvania, has done extensive research in the areas of school organization and accountability, teacher turnover and shortages, and teacher quality. His Web site is http://www.gse.upenn.edu/faculty/ingersoll.html. Dr. Ingersoll is affiliated with CPRE, a research center at the University of Pennsylvania, and additional research reports by him and others on related topics can be found at the CPRE Web site (http://www.cpre.org).

4. **The Center for Teaching Quality, Chapel Hill, North Carolina (formerly the Southeast Center for Teaching Quality).** Directed by Barnett Berry, this center conducts research to support policy development and advocacy in areas related to teacher quality and workplace conditions. The center is also developing the Teacher Leaders Network (TLN) to give teachers greater voice in school reform and policies related to teachers and teaching (http://www.teachingquality.org).

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