1 How Are Teachers Compensated?

Teacher compensation is a high-interest issue. Some think teachers are paid too little. Others think teachers are paid too much. Today, however, there are many efforts across the country to pay teachers more, in part because higher pay is key to recruiting and retaining the quality of teachers needed to educate students to high-achievement standards. The challenge is to determine how to pay which teachers more.

One problem in accomplishing this goal is that many do not like the way teachers currently are paid; they are reluctant to use the current structure to pay teachers more. Most districts pay teachers according to a single-salary schedule that provides salary increases for objective differences among teachers—education units, university degrees, and years of teaching experience. Over a 50-year period, up to about 1995, state and local policymakers enacted several well-publicized efforts to link teacher pay to performance—either their own performance or the performance of their students. Those efforts were largely ineffective, unsuccessful, and short-lived. As a result, teacher compensation structures today look pretty much as they did decades ago, and relative teacher pay levels are not better, and in many cases are worse, than they were decades ago.

This book is about both changing the way teachers are paid and raising teacher salary levels. We do not propose raising teacher salary levels across the board. But we have concluded that if the country is to accomplish the aspirations of standards-based education reform—educating many more students to much higher levels of performance—then recruiting and retaining quality teachers must be a high-priority issue. And paying teachers differently—as well as paying them more—must be part of this equation.

This book uses *teacher compensation* and *teacher pay* interchangeably. Technically, teacher compensation would include salary as well as fringe benefits, such as health and life insurance, retirement, sick leave, and so forth. Odden and Conley (1992) discuss some of these nonsalary issues, but this book primarily addresses the salary issue, using *salary, pay,* and *compensation* as synonyms.

Because teacher compensation is the largest portion of the education budget, how teachers are paid is key to effective use of educational resources. If teachers are paid below market, salaries need to be increased or the quality, and thus the effectiveness, of individuals entering and remaining in teaching is likely to fall (Manski, 1987; Murnane, Singer, Willett, Kemple, & Olsen, 1991; National Commission on Teaching and America's Future, 1996; Rosen & Flyer, 1994). If better methods exist for paying teachers, they should be considered and adopted, especially if they will contribute to improved schools and more effectively paid, higher-paid teachers. But finding and implementing more effective ways to pay teachers is a stiff challenge, and, as Chapter 2 discusses, the history of this search in our country is quite dismal.

As the book argues, however, the more recent history of paying teachers differently holds more promise. For several reasons, the education system has begun to meet more successfully the challenge of designing better ways to pay teachers. In this book, we identify a variety of new compensation structures that can be used in conjunction with other organizational strategies to enhance teacher capacity and effectiveness, improve school performance, increase student achievement, raise teacher salaries, and, perhaps, even bolster teacher morale. We discuss these strategies in an attempt to provide guidance to policymakers and practitioners in how to design and successfully undertake teacher compensation reform.

In this chapter, we describe how the level of teacher pay has changed since 1960, provide an overview of current teacher compensation structures, and discuss how the context surrounding teaching today is conducive to revisiting the issue of teacher compensation.

Current Status of Teacher Compensation: Pay Levels and Salary Structures

In general, today's teachers are paid according to a single-salary schedule that provides salary increments according to a teacher's years of expe-

rience and number of college or university units and degrees. This teacher salary schedule, first implemented in several big-city districts in the late 1920s and early 1930s, has not changed much over the course of the 20th century. For the 45 years from 1950 to 1995, moreover, teacher salaries did not change dramatically relative to other occupations, but toward the end of the 1990s, they began to take a turn for the worse. This began just when the nation needed more and better teachers, more because of enrollment rises and teacher retirements and better because of the demands of standards-based education reforms.

Teacher Salary Levels

Most teachers are public employees. Local school boards set teacher salaries, sometimes with state-guaranteed minimums. This is an unlikely context for producing very high salaries. Although some districts pay teachers an annual salary that can exceed $80,000, the national average in 1999 was $40,574, a relatively low level given the average education and experience of the teaching force.

Teacher salaries have changed significantly over time. In some periods, teacher salaries have risen or fallen with the salaries of other workers, and in other periods—particularly in the 1980s—the policy goal was to boost teacher salaries ahead of other occupations to make teaching more attractive. As the following discussion shows, however, relative teacher salaries in 1995 were about where they were 25 years earlier, but declines began to occur in the late 1990s.

Table 1.1 displays average teacher salaries over the 39-year period from 1960 to 1999. Although nominal teacher salaries rose by more than eightfold over this time period, from $4,950 in 1960 to $40,574 in 1999, the change is much smaller when the numbers are adjusted for inflation using the Consumer Price Index. As Table 1.1 shows, average inflation-adjusted teacher salaries rose from just $28,210 in 1960 to $40,574 in 1999, a 39-year increase of 44%.

But the numbers also show other factors buried in this 39-year change. The largest change in average salaries occurred during the 1960s, the period when the baby-boom generation entered public education, swelling school enrollments. Real salaries increased from $28,210 to $36,514 between 1960 and 1970, a 29% increase in just a decade. During the next 29 years, from 1970 to 1999, however, average inflation-adjusted teacher salaries rose only 11% more to just $40,574.

Table 1.1 Estimated Average Annual Teacher Salaries, 1960 to 1999

Year	*Constant 1999 Dollars*
1960	$28,210
1970	$36,514
1980	$31,398
1990	$39,430
1991	$40,226
1992	$40,239
1993	$40,406
1994	$40,208
1995	$40,285
1996	$39,861
1997	$40,032
1998	$40,308
1999	$40,574

SOURCE: Based on American Federation of Teachers, 1999 Salary Survey, Table II-2 (American Federation of Teachers, 2000).

NOTE: Consumer price index used as inflation adjustment.

But during the 29 years from 1970 to 1999, teacher salaries went on a roller-coaster ride. First, just as did many salaries during the inflationary period of the 1970s, inflation-adjusted teacher salaries dropped during the 1970s from $36,514 to $31,398, a loss of 14%. Then, during the 1980s, when policymakers decided that teacher salaries needed to increase, real teacher salaries rose 26%, not only gaining back the loss of the 1970s but also gaining an additional 8% over the previous 1970 high. But from 1990 to 1999, average teacher salaries remained essentially flat (paralleling the overall flat level of inflation-adjusted, per-pupil, education funding).

In short, taking 1960 as a base, teacher salaries in 1999 were almost 50% higher, but the bulk of teacher pay increases occurred during the 1960s. Furthermore, since 1970, teacher salaries increased less than an average of 0.4% a year, and after 1990, inflation-adjusted teacher salaries essentially did not increase at all. At least for the last quarter century, this is not a story of fiscal success. Indeed, since the average years of experience of teachers also increased from 1970 to 1999, it could be that when adjusted for years of experience, average teacher salaries today are no higher than they were 29 years ago.

Table 1.2 Beginning Teacher Salaries Compared to Salaries of Other College Graduates

	Beginning Salary				
	1972	*1980*	*1990*	*1995*	*1999*
Teaching	$6,970	$10,657	$20,635	$24,463	$26,639
Engineering	10,608	20,136	32,304	36,701	44,362
Accounting	10,356	15,720	27,408	28,398	35,555
Business Administration	8,568	14,100	26,496	28,434	36,886
Liberal Arts	8,328	13,296	26,244	28,715	34,776
Economics/Finance	9,240	14,472	26,712	29,484	38,234
Computer Science	—	17,712	29,100	33,663	42,500
Ratio of Other Occupations' Salaries to Teaching Salaries					
Engineering	1.52	1.89	1.57	1.50	1.67
Accounting	1.49	1.48	1.33	1.16	1.33
Business Administration	1.23	1.32	1.28	1.16	1.38
Liberal Arts	1.19	1.25	1.27	1.17	1.31
Economics/Finance	1.33	1.36	1.29	1.21	1.44
Computer Science	—	1.66	1.41	1.38	1.60

SOURCE: Based on American Federation of Teachers, 1999 Salary Survey, Table III-3 (American Federation of Teachers, 2000).

Of course, these national figures varied dramatically by state and region. The highest average teacher salary in 1999 was $51,692 and was paid in New Jersey, where salaries increased by 57% in nominal terms over the decade from 1989 and 1999. The lowest average teacher salary in 1999 was $28,386 and was paid in South Dakota, where salaries increased by only 38% the previous decade. In three states—Alaska, Wyoming, and Arizona—salaries increased by less than 25% in nominal terms over the previous decade. In Louisiana, moreover, teacher salaries actually remained essentially unchanged (in real terms) during the quarter of a century from 1970 to 1995 but then increased modestly at the end of the 1990s. In short, the national averages played out very differently depending on the region, state, and local district in which a teacher worked.

Average teacher salaries and changes over time, however, are not the only salary parameters of importance. Table 1.2 shows estimated, average, beginning teacher salaries as well as average beginning salaries for several

other categories of college graduates, over about the same period—1972 to 1999. These comparisons are important because one key factor in the ability of education to recruit able individuals into teaching is the competitiveness of the beginning salary. Research shows that the higher the beginning salary, the more able the individuals who enter into teaching (Ferris & Winkler, 1986).

Several aspects of the figures in Table 1.2 stand out in comparing *beginning* salaries of teachers to those of college graduates entering different professions. First, beginning teacher salaries in 1999 were significantly below those of all liberal arts graduates, the primary competitive pool for teachers, and the gap had increased to the highest level during this 27-year time period. A modest goal for any state or district would be to have beginning teacher salaries at least at the level for other, beginning liberal arts graduates. The education system was farther from this modest goal in 1999 than at any time during the previous 25 to 30 years.

Second, this might not be a sufficiently high beginning salary. Education must also compete with more technical fields for talent. The data show, however, that competition on these other fronts has become more intense. Although progress was made in matching beginning salaries for individuals entering accounting and business administration up until 1995, nearly all gains were lost between 1995 and 1999, when the gap between beginning salaries for teachers and those for accounting and business majors nearly reached an all-time high.

Third, if teaching is to attract able individuals into mathematics, science, and technology instruction, beginning salaries are even less competitive. Beginning engineers and computer scientists make substantially more—nearly two thirds more—than beginning teachers, as do individuals who enter the economics and finance world.

Finally, although the gap between beginning teacher salaries and those of many other professions narrowed in the early 1990s, the flat level of education funding over the decade reversed this progress, and as the national economy boomed in the 1990s, raising salaries for many occupations, comparative beginning salaries for teachers lost ground. If district and state policymakers continue to keep their eye off the competitive market for teachers and do not make beginning salaries competitive—especially as many teachers retire, enrollment grows, demands rise, and large numbers of quality new teachers are needed—education is likely to remain disadvantaged in recruiting their fair share of bright, able individuals into teaching.

Table 1.3 Ratio of Average Teacher Salary to Average Salary of All Full-Time Employees in Economy

School Year	*Ratio*
1961	1.08
1971	1.14
1981	1.01
1991	1.21
1993	1.19
1995	1.20
1997	1.15
1999	1.12

SOURCE: Based on American Federation of Teachers, 1999 Salary Survey, Table II-2 (American Federation of Teachers, 2000).

These admonitions also pertain to *average* salary levels. Teacher salary levels and their changes over time are important in themselves but are also important in relation to other occupations. Even if teacher salaries were stagnant, teaching could still have a relative advantage if the salaries of other workers were falling. But that is not the case. Tables 1.3 and 1.4 provide some comparative data on average teacher salaries, again over the last 30 or so years. Table 1.3 shows the ratio between average teacher salaries and average salaries for all people in the workforce. The numbers pretty much reflect the overall trends in teacher salaries. First, teacher salaries gained relative to the salaries of all workers between 1961 and 1971, growing from just 8% more to 14% more. But nearly all this gain and more were lost during the 1970s. By 1990, however, comparative teacher salaries had risen not only back to their high of 1970 but also a little higher to 21% above the average worker's salary. But 1990 seemed to be the high watermark. The gain dropped from 21% to 12% by 1999 and will probably continue to drop unless more money is added to teacher salary budgets. Although teacher quality was the number-one issue on many state policy agendas at the end of the 1990s, that concern really needs to be bolstered with the dollars to enhance the education system's comparative advantage in both recruiting and retaining quality individuals in teaching.

Moreover, teacher salaries should be substantially higher than the average salary for all other workers, because nearly all teachers are college graduates and a large percentage have master's or even higher-education

Table 1.4 Estimated Average Salaries of Teachers and Selected Other College Graduates

	1962	*1970*	*1980*	*1990*	*1994*	*1999*
Teachers	$5,512	$8,635	$16,100	$31,347	$35,764	$40,574
Accountant III	7,416	10,686	21,299	35,489	39,815	49,257
Attorney III	11,844	16,884	33,034	59,087	71,328	69,104
Computer Systems Analyst	—	—	—	47,958	55,998	68,782
Engineer	10,248	14,695	28,486	49,365	56,191	68,294
Assistant Professor, Public University	7,700*	10,800	17,800	32,730	37,220	41,940
Ratio of Other Occupations to Teachers						
Accountant III	1.34	1.24	1.32	1.13	1.11	1.21
Attorney III	2.15	1.96	2.05	1.88	1.99	1.70
Computer Systems Analyst	—	—	—	1.53	1.57	1.70
Engineer	1.86	1.70	1.77	1.57	1.57	1.68
Assistant Professor, Public University	1.40*	1.25	1.11	1.04	1.04	1.03

SOURCE: Based on American Federation of Teachers, 1999 Salary Survey, Table II-5 (American Federation of Teachers, 2000).

NOTE: *Data are from 1964.

degrees. Indeed, teachers are among the most highly educated workers in the country's economy, and most teachers engage in ongoing professional training each year to enhance their professional expertise. Given their level of education and training, they should have a significant earning advantage compared to all other workers. Unfortunately, that advantage was only 12% in 1999, which should bring a sense of urgency to most policymakers to raise teacher salaries.

As Table 1.4 reveals, moreover, teachers generally are paid less than people in many other occupations who have similar levels of education and training. Since 1962, average teacher salaries have made some gains with respect to accountants and assistant professors but are still substantially below that of attorneys, engineers, and computer systems analysts. Attorneys made about twice as much as teachers in 1962 and retained a large fiscal advantage in 1999; those who question the litigious nature of U.S. society might smile at the drop in the salary differential of lawyers

versus teachers, although the average lawyer still earns 70% more than the average teacher. The alarming aspect of Table 1.4 is that several professions—law, computers, and engineering—offer a salary advantage of 70% over teaching. Unless things change, education will simply not be able to compete effectively for talent. Perhaps the most striking element of Table 1.4 is that the average salary of a teacher is now close to the same as that of an assistant professor at a public university, even though the latter requires a doctorate. But it is probably also true that the average assistant professor is much younger than the average teacher is, as assistant professor is the entry point into the professorate. The fact is that educators—teachers or professors—tend to earn less than people in many other professions, particularly those in mathematics, science, and technological fields.

In sum, it would be fair to say that teacher salaries today are modest. They are just above the median family income in America. They have changed over time but very little since 1970. They are much lower than for many other occupations with similar levels of education and training, although they are modestly higher than the averages of all workers in the economy.

The salary changes that have occurred, however, can be put into a different fiscal context by comparing them to the more than 200% increase in inflation-adjusted, per-pupil funding that occurred between 1960 and 1999 (Odden & Picus, 2000). Clearly, the bulk of new education dollars did not increase the salary of individual teachers; the large bulk, as other research has shown, was used to hire more teachers to provide more services for students in areas such as special and compensatory education (Odden, Kellor, Heneman, & Milanowski, 1999).

The Single-Salary Schedule

Most teachers across the country are paid according to a single-salary schedule. This does not mean that all teachers earn the same salary. Individual teacher salaries vary, and they vary according to the attributes of individual teachers. Teachers with more years of experience have larger salaries. Teachers with more education units have larger salaries. Teachers with master's degrees earn higher salaries. The structure even pays more for additional jobs; coaches earn a salary supplement; advisors of clubs and other cocurricular activities often earn a salary increment. Increasingly, teachers in leadership positions earn salaries above those in the schedule. But the bulk of salaries that teachers earn is determined by the

Table 1.5 Typical Teacher Single-Salary Schedule, 1999-2000

Step	*Bachelor's*	*BA+15*	*Master's*	*MA+15*	*Doctor's*
1	$29,885	$30,421	$32,884	$34,662	$37,661
2	31,793	32,326	34,770	36,548	39,547
3	33,141	33,677	36,420	38,195	41,197
4	34,512	35,048	37,768	39,547	42,547
5	36,677	37,213	39,675	41,454	44,452
6	38,304	38,839	41,561	43,337	46,338
7	39,932	40,468	43,466	45,245	48,243
8	41,839	42,375	45,652	47,431	50,429
9	44,023	44.559	48,095	49,872	52,872
10	46,467	47,002	50,815	52,594	55,592
11	49,165	49,700	53,792	55,570	58,571
12*	52,457	52,993	57,084	58,863	61,861
13*	54,606	55,142	59,212	60,990	63,989
14*	56,229	56,755	60,834	62,613	65,611

NOTE: *Steps 12, 13, and 14 are longevity steps payable upon completion of four years service in steps 11, 12, and 13, respectively.

steps-and-lanes schedule, with steps providing salary increases for years of experience and lanes providing increases of education units or degrees.

And critical to the success of the single-salary schedule is that the basis for paying teachers different amounts—for years of experience, education units, and different jobs—be objective, measurable, and not subject to administrative whim.

Table 1.5 displays the major features of a salary schedule for a typical school district from 1999 to 2000. The data show that the beginning salary in this district was $29,885. Nationally, that was about 85% of the beginning salary for all college graduates with a liberal arts degree entering the workforce in that year.

The maximum salary was $65,611, about 120% above the beginning salary. Assuming this type of salary structure remains, which it has for nearly three fourths of a century, the most teachers in this district could expect financially over the course of their career would be to slightly more than double their beginning salary in real terms. But this salary doubling would occur only after working 22 years and investing in substantial graduate training, including earning a doctorate!

For the first 11 years, the teacher automatically receives a salary increment of between $1,348 and $3,188 each year without earning any additional credits. These increases typically are called seniority, years of experience, or step increases. But after 11 years, automatic annual salary increments would stop and be replaced by *longevity* increments that take more than a year to earn. Indeed, the longevity increases for each of steps 12 through 14 require an additional 4 years of teaching. In short, to earn the step-14 salary level requires 22 years of teaching experience, a large part of the full career of most teachers.

Not indicated on the schedule is the placement of an experienced teacher who is new to the district. Although the procedure is changing, common practice has been to limit a teacher to a maximum of 4 to 6 years of experience, which would mean teachers who did not stay in one district for their entire career—the most common behavior—might never reach the highest salary step (step 14 for this district) regardless of their professional expertise.

Table 1.5 shows that earning advanced credits and degrees also produces salary increases. For the first 15 units after the bachelor's degree, the increment is $536 at all levels of experience. But both the dollar amount and the percentage increase for the master's degree rises with the years of experience. So, for example, a teacher with a master's degree at step 1 would earn an 8%, or $2,460, salary increase for the master's, and at step 7, that would produce a 7.4%, or $3,000, increase, and at step 14, a 7.2%, or $4,070, increase. These increases would be added to a teacher's base salary and thus would be earned for every year after the master's degree was earned.

For average teachers who earned a master's degree by their 11th year of teaching, their salary would have risen about 80% above their starting salary. If these teachers did not earn any more degrees or take any more education credits, they would then earn just 13% more (the longevity increases) over the next 12 years, which would put their salary at 103% above their beginning salary.

A doctorate pushes these maximum-earning numbers a bit higher. A doctorate within the first 11 years of teaching produces a salary of $58,571, or 96% above the beginning salary; that would rise by just another $7,040 over the next 12 years of experience to a maximum of $65,611. But only a very few teachers earn a doctorate, and thus enjoy such salary levels.

These data do not include extra salary increments for additional jobs such as coaching a sport, advising a team or other extra curricular activity, or assuming a teacher leadership role.

Certainly, salary schedules around the country vary from the one shown in Table 1.5, with both lower and higher salaries at different points in the steps-and-lanes matrix as well as greater or fewer steps and lanes. Nevertheless, the data in Table 1.5 are a good overall indicator of how teachers are paid. Teachers tend to start with a salary below that of other college graduates with liberal arts degrees and below that of all college graduates. They can, at most, double their salary over a long time period, and only with substantial graduate training, and after a large number of years—often their entire teaching career. They pretty much top out on annual increments within the first 15 years of teaching (in their mid-30s if they begin teaching in their early 20s). And their extra pay for more years of experience is limited—unless they work at a different job during the summer. In short, the typical teacher has modest earning power.

Finally, larger salaries are available to teachers but only for those who leave teaching and enter administration—assistant principal, principal, central office supervisor, or numerous other out-of-classroom jobs. Except for recent salary increases for earning certification from the National Board for Professional Teaching Practice (discussed below) and the very beginnings of pay for knowledge and skills, teachers with a greater array of professional expertise do not earn more than those with fewer skills and competencies, and only in rare circumstances are teachers, who provide the most crucial direct service to students—instruction—able to earn more than individuals who do not work in the classroom.

There are better ways to pay teachers and better ways to let teachers—the linchpin in the education system for reaching the goal of teaching students to high standards—increase their maximum pay beyond levels now possible in the typical school district while also allowing them to remain in the classroom teaching children for the bulk of the working day.

Winds of Change

The need to understand how to design and implement effective, workable, and new teacher compensation structures has an additional urgency because the taxpaying public, the business community, and policymakers continue to pressure the education system to produce results and to link pay—even school finance structures more broadly—to performance. This was an explicit call by the 1999 Education Summit of governors and the nation's business leaders. As Chapter 2 shows, however, the problem is

that previous innovations in teacher compensation also seemed promising, such as merit pay for individuals, teachers, or administrators, or career ladder programs; but the promises were not fulfilled (Freiberg & Knight, 1991; Hatry, Greiner, & Ashford, 1994; Heneman & Young, 1991; Murnane & Cohen, 1986; Schlechty, 1989).

Although this dismal history has led many educators to believe that changes in teacher compensation of any sort are not possible in education, particularly performance awards (Bacharach, Lipsky, & Shedd, 1984; Cohen, 1996; Darling-Hammond, 1996; Johnson, 1986; Kohn, 1993; Lipsky & Bacharach, 1983), a new round of teacher compensation changes already has begun to spring up around the country. School-based performance awards have been created in nearly two dozen states including Arizona, California, Florida, Kentucky, and North Carolina, and in a similar number of large districts (Charlotte-Mecklenburg, North Carolina; Dallas, Texas; Fairfax County, Virginia; Memphis, Tennessee; and New York, New York). All use the money for teacher salary bonuses; other states and districts have such programs but require that the money be used for school improvement initiatives. California, Colorado, and Minnesota enacted legislation in 1995 that encourages districts to implement teacher compensation innovations, and Florida passed a bill requiring districts to allocate 20% of teacher salaries on the basis of performance.

Several states and districts have begun to add elements of knowledge- and skills-based pay. Currently, 28 states and more than 50 districts provide salary bonuses to teachers who earn a certificate from the National Board for Professional Teaching Standards (Kelley & Kimball, in press). This was the first major knowledge- and skills-based pay element to enter teacher pay systems. But many other districts are developing local aspects of knowledge- and skills-based pay. Douglas County, Colorado, created one of the first systems, but an additional variation was created by Rochester, New York. In 2000, Cincinnati became the first district in the country to adopt a full-fledged, knowledge- and skills-based, teacher salary structure, as did the Vaughn Next Century Learning Center. In January 2001, a bill was introduced in Iowa to create such a system statewide, essentially scaling up the Cincinnati structure to a statewide strategy coupled with a performance-based system for providing the teaching license (Youngs, Odden, & Porter, 2000). These and other recent initiatives will be discussed in more detail in Chapter 5.

Although these are the two basic structural changes that are occurring, many other compensation initiatives are developing across the country. Several states (e.g., Arizona, Iowa, Nebraska, and South Carolina) and

numerous districts (e.g., New York City, Philadelphia) want somehow to raise teacher salary levels to compete for teacher talent in the labor market. Other districts are providing higher pay for teachers in shortage areas (mathematics, science, and technology), and still others are providing pay incentives for individuals who take jobs in hard-to-staff, high-poverty, or low-performance schools to increase the level of teacher quality in those difficult schools. District and state teacher compensation task forces are also using or proposing signing bonuses, moving expenses, and housing allowances in high-cost communities (big cities and Silicon Valley). In short, numerous, varied, and rapidly emerging innovations in teacher compensation all suggest that the time is ripe for change, and all will provide a rich, natural laboratory for research and analysis.

As we have argued throughout this book, we find appealing the claim that changes in teacher compensation plans that improve their alignment with reform goals can contribute to better education for students. However, we also know that within education and the education policy community, we are still at the beginning of the learning curve on what new teacher compensation structures are viable and with what effects. It is quite possible that some plans developed in the future will not draw on the workable new concepts and will constitute just another round of merit pay and thus will not elicit responses that will motivate teachers or improve the quality of education provided to students. Given the vast resources devoted to compensation, the continued pressures from stakeholders outside of education, and the skepticism about viable compensation change by many within education, getting the word out on compensation innovations that show promise—knowledge- and skills-based pay and group performance awards—is a critical need and a primary purpose of this book.

New Concepts of Compensation

The above new ideas for how to pay teachers differently are paralleled by new strategies for paying other individuals, including professional knowledge workers, which have been developed and used quite successfully in organizations, particularly high-performance organizations, in the private and nonprofit sectors. Many organizations in the broader economy are undergoing a dramatic change in both the structure of their workplace and the way they pay employees, including professionals (Crandall & Wallace, 1998; Heneman, Ledford, & Gresham, 2000; Lawler,

1990, 2000b; Heneman & Ledford, 1998; Schuster & Zingheim, 1992; Zingheim & Schuster, 1995a, 2000). A force driving these broader changes is the need to improve productivity, which is also the challenge for education if the lofty goals of education reform are to be attained (Odden & Busch, 1998; Odden & Clune, 1995, 1998).

Although they vary, there are several commonalties in the pressures to improve productivity in nonschool settings. One is an intense focus on quality and results, with the requirement that quality improve in quantum, not just marginal, amounts. To produce quantum improvements, organizations tend to restructure and reorganize. In this process, they usually decentralize their management systems and flatten their organizational structures. They create multifunctional work teams, give them power and authority to accomplish organizational and team goals, and hold them accountable for results. Considerable ongoing investment in training work team members must accompany this new strategy for it to work. Team members are trained in technical areas, in new functional areas for which teams are responsible, and in the business skills needed to engage in self-management (Hammer & Champy, 1993; Heneman et al., 2000; Katzenbach & Smith, 1993; Lawler, 1986, 1992).

These changes represent the "new logic" for organizing higher-performance systems in the 21st century (Lawler, 1996). Moreover, ample research has shown that this way of organizing work is particularly well suited to education and applies quite well to schools (Crandall & Wallace, 1998; Darling-Hammond, 1996; Galbraith & Lawler, 1993; Mohrman, Lawler, & Mohrman, 1992; Mohrman, Wohlstetter, & Associates, 1994; Odden & Busch, 1998; Odden & Odden, 1995).

Many organizations following this new logic also have designed new forms of compensation to have their pay practices enhance the core knowledge and competencies needed in their new organizations. Such core competencies include team-based leadership and management skills; new technical, analytical skills to support continuous improvement; and skills needed to work across traditional functional lines (Crandall & Wallace, 1998; Heneman et al., 2000; Lawler, 1990, 2000b; Zingheim & Schuster, 1995a, 2000).

As a result, concepts such as knowledge- and skills-based pay, pay for knowledge, pay for professional expertise, collective rewards for adding value to performance, and gain sharing have become the core of new compensation strategies. Under these compensation strategies, individuals are not paid on the basis of seniority or for doing a particular job. They are

paid on the basis of the knowledge, skills, and competencies they need to perform their many new job tasks and of their success as a group in producing organizational results.

Many organizations also are beginning to pay individuals in hot areas (e.g., information technology fields) a higher salary, even though their job tasks may be similar to other workers. In this way, internal pay equity for comparable jobs is beginning to erode because of external market pressures. If companies do not pay such employees more, the employees leave the organization for higher wages paid by other companies, and the productivity of their former employers declines.

Furthermore, a portion of each team member's pay can depend on the results of the team's effort measured by team and organizational performance. Group performance awards, team bonuses, and gain-sharing plans reflect these compensation innovations.

In sum, many private and nonprofit organizations are beginning to replace job-based pay, experience-based pay, and individual merit and incentive pay with knowledge- and skills-based pay, contingency pay, and team-based performance awards. In short, compensation is being changed to align organizational incentives and rewards with the strategic needs of the workplace (Crandall & Wallace, 1998; Heneman & Von Hippel, 1995; Heneman et al., 2000; Lawler, 2000b; Ledford, 1995a, 1995b; Ledford, Lawler, & Mohrman, 1995).

Shifting pay increments from years of experience and loosely related education units to more direct measures of professional knowledge and skills, adding a mechanism that undergirds the need for ongoing training and assessment of instructional strategies, and adding group-based performance bonuses are compensation changes that could reconnect how teachers are paid with the evolving strategic needs of new school organizations and with calls for teacher professionalism and the core requirements of standards-based education reform. Providing salary increments for teachers who are certified by the National Board for Professional Teaching Standards as accomplished teachers, a policy increasingly adopted by states and districts, is a direct knowledge- and skills-based pay element and represents specific movement on teacher compensation reform; the Web page of the National Board (www.nbpts.org/state_local/where/index.html) describes these latter state and local compensation incentives (Conley & Odden, 1995; Darling-Hammond, 1996; Kelley & Kimball, in press; Kelley & Odden, 1995; Mohrman, Mohrman, & Odden, 1996; Odden, 1996).

The Changing Context of Teaching

These evolving new notions about how to pay knowledge workers, including teachers, are compatible with, and even reinforce, the broader reform context surrounding teaching and education. First, there are serious efforts to transform teaching into a much stronger profession. These efforts include a new understanding of what constitutes good teaching; actions by teachers to describe and assess what beginning, midcareer, and advanced teachers know and can do; and creation of incentives for teachers to learn these new teaching practices. Second, the standards-based education reform movement, in which teachers are playing leading roles, is identifying curriculum content standards and student performance standards that require a greater level of teacher professional competence to implement. The standards-based reform movement includes notions of school restructuring and site-based management, both of which require that teachers play new and key roles in organizing and managing their work environment; these roles also require additional teacher competencies as well as incentives for teachers to develop them.

Thus the context surrounding teaching could be reinforced by change in teacher compensation. If this round of change draws from the new ideas that have been used successfully in other organizations to pay knowledge workers who work best collegially, it has the potential to be more successful than the failed efforts of the individual merit and incentive pay schemes of the past 50 years (Hatry et al., 1994; Heneman & Young, 1991; Murnane & Cohen, 1986) and career ladders of the more recent past (Bellon, Bellon, Blank, Brian, & Kershaw, 1989; Freiberg & Knight, 1991; Schlechty, 1989; Southern Regional Education Board, 1994).

The Push to Professionalize Teaching

The proper context for understanding the need to change teacher compensation is within the larger issue of how to enhance the profession as a whole. There are several initiatives across the country focused on enhancing the professional condition of teaching. Since 1986, when the Carnegie Forum on Education and the Economy released a report on the need to transform teaching into a full-fledged profession, the country has experienced numerous initiatives to do just that. In 1995, the National Commission on Teaching and America's Future was created. In September 1996, it issued a set of proposals (National Commission on Teaching and

America's Future, 1996) close to the 10-year anniversary of the Carnegie report *A Nation Prepared: Teachers for the 21st Century* (Carnegie Forum on Education and the Economy, 1986). The 1995 report made numerous recommendations to improve instruction and the professional nature of teaching, including new forms of teacher compensation. The report specifically mentioned knowledge- and skills-based pay and some sort of group incentives based on improved student learning. This was the first report with proposals to enhance teaching as a profession that also included proposals to change teacher compensation.

Three components of the efforts to professionalize teaching are particularly relevant to a discussion of teacher compensation: (a) a new view of teaching as an intellectually complex, multifaceted activity critical to having all students achieve to high standards; (b) creation of detailed, written descriptions of teaching practice and development of standards that can be used to describe and assess practice to external criteria; and (c) development of assessments for beginning, midcareer, and advanced teachers that indicate the level of teaching practice relative to external standards.

New Understandings of Good Teaching

Based primarily on advances from cognitive psychology, a realization is rapidly growing that all but the most disabled students can achieve to high academic standards. Producing this higher level of learning, however, requires a different type of pedagogy and, indeed, a new understanding of what constitutes good teaching and learning (Bransford, Goldman, & Vye, 1991; Bruer, 1993; Knapp, Shields, & Turnbull, 1995; Lehrer, 1993; Odden & Odden, 1995, Chapter 3; Resnick & Klopfer, 1989).

Good teaching today requires a deep understanding of content, that is, knowledge of the conceptual underpinnings of a subject area, the principles that tie the concepts together, and the ability to use both the principles and the concepts to engage in analysis both to advance understanding of the subject area and to solve real problems. Good teaching also requires a similarly deep understanding of how students learn the content, including the developmental stages children move through as they construct deeper subject matter understanding and the types of predictable errors they make and incorrect theories they construct. Finally, good teaching requires knowing and learning how to use an ever-increasing array of pedagogical practices that lead students through a set of experiences that,

over time, help them know and understand the subject matter (for a summary, see Bransford, Brown, & Cocking, 1999).

Effective teaching occurs when students learn to high standards and consists of applying the knowledge of content, student learning, and pedagogy to the tasks of teaching—planning, instruction, assessment, diagnosis, and classroom management—in the context of a particular subject area and with a particular group of students (Darling-Hammond, Wise, & Klein, 1995; Newmann & Associates, 1996). Although good teaching requires a wealth of knowledge, studies also show that good teaching is quite contextualized; a major strength of expert teachers is the degree to which their classroom strategies are conditioned on their personal, practical knowledge of their students—both their specific cognitive abilities and their various learning styles. Good teachers use this personal, practical knowledge as a lens through which they understand classroom events and thus as a guide for developing classroom instructional experiences that will help each student individually as well as the class as a whole construct long-term and deep understandings of the subject matter they study.

In short, good teaching—teaching to high professional standards—is informed by understanding of content, knowledge about learning, and knowledge about content-specific pedagogy, and is grounded in the actual realities of a particular classroom with a set of real, individual children. Furthermore, good teaching is codependent on the effect of any set of instructional activities on the student; good teachers take in information about how students respond and learn (or do not learn) and modify, adapt, and plan future instructional activities with those responses in mind (Cohen, McLaughlin, & Talbert, 1993). In short, as Shulman (1986, 1987) concludes, good teachers engage continuously in pedagogical reasoning (see also Stronge & Tucker, 2000).

This new understanding of effective teaching is quite different from the teaching that is typically found in most classrooms (Elmore, 1996; Goodlad, 1984; Sizer, 1992) and the type of teaching that is the focus of most teacher training or professional development programs (Cohen et al., 1993; Darling-Hammond et al., 1995). At the same time, this type of teaching is quite effective in educating students to high-achievement standards (Newmann & Wehlage, 1993, 1995). Thus there is a rapidly emerging understanding of the new kind of teaching that is needed in the classrooms of the nation's schools to accomplish the goal of teaching all but the severely disabled student to high-achievement standards.

Development of Written Standards of Professional Teaching Practice

Not only is a new understanding of more effective teaching practice emerging but so also are efforts to articulate and describe this new form of teaching. Indeed, efforts to write detailed descriptions of good teaching practices as well as to write a set of high and rigorous standards by which good teaching practice can be gauged is a significant and major innovation for both professional and lay understanding of teaching.

There are at least four major efforts to write standards describing high-quality, effective teaching practice. The National Board for Professional Teaching Standards (NBPTS) began this effort. The board was created in the aftermath of the 1986 Carnegie Forum on Education and the Economy report; its purpose was to develop an assessment system that could be used to Board certify experienced teachers whose expertise met or exceeded high and rigorous standards of accomplished practice (Bradley, 1994; National Board for Professional Teaching Standards, 1995; National Board for Professional Teaching Standards, 1999). After a developmental period of several years, the board began to certify teachers in late 1994. The board now provides certification in over 30 areas of teaching. The first Board certificates were awarded to 81 teachers in January 1995. In December 2000, there were a total of 9,524 Board-certified teachers. To date, the number of Board-certified teachers has about doubled each year. The goal is to have 100,000 Board-certified teachers by 2005.

As part of this process, the board has created a series of documents that describe standards for teaching practice that must be met for a teacher to become certified. Each of these documents identifies both the areas in which a teacher must be knowledgeable and the standards that would represent accomplished practice. The areas include, among others, understanding of subject matter and how students learn that content, knowledge of pedagogical practices and new forms of student assessment, engagement in professional activities within the school but outside the teacher's own classroom, and outreach to parents. Each document runs between 30 and 40 printed pages; the goal is to describe the array of professional knowledge and competencies teachers are expected to know and be able to deploy to earn Board certification (National Board for Professional Teaching Standards, 1994a, 1994b, 1994c, 1994d; and the National Board's Web site: www.nbpts.org/standards/standards.html).

In a parallel effort, the Interstate New Teacher Assessment and Support Consortium (INTASC), which is housed at the Council of Chief State

School Officers in Washington, DC, is creating a similar set of standards of practice for beginning teachers. The INTASC project seeks to develop an assessment system that states can use as a basis for providing a professional teaching license. Again, the INTASC project is creating 7 or so documents, each about 30 to 40 pages, that describe the knowledge, skills, competencies, and dispositions that are to be expected of individuals who seek a license to begin work in the teaching profession (Interstate New Teacher Assessment and Support Consortium, 1995a, 1995b).

The PRAXIS project of the Educational Testing Service is the third national effort to develop written standards for teaching practice. Just as with INTASC, the focus of PRAXIS is on beginning teachers, and the goal is to provide a way to license beginning teachers on the basis of what they know and can do, not just on the basis of taking a set of courses in an approved teacher training university program (Dwyer, 1994).

The fourth effort is the development of the Framework for Teaching by Danielson (1996). Danielson, who worked at the Educational Testing Service on the initial development efforts for both PRAXIS III and the first National Board assessments, concluded that a description of teaching practices that covered the full range of a teacher's career and that was aligned with standards for licensure and standards for advanced recognition was needed. Hence she developed her Framework for Teaching, which appeared as the 1996 yearbook of the Association for Supervision and Curriculum Development. The framework includes 22 teaching standards organized into four domains: planning and preparation, the classroom environment, instruction, and professional responsibilities. The framework also includes a performance evaluation structure that assesses teachers to four different levels of practice: unsatisfactory, basic, proficient, and advanced.

All these efforts also fit with the professional teacher initiative of the National Council for the Accreditation of Teacher Education (NCATE). NCATE sets standards used to accredit university-based teacher training programs. The Professional teacher initiative suggests that the licensure process should become performance-based and require teachers to pass tests of content, learning, and instructional knowledge as well as a rigorous assessment of clinical skills. The goal is to align the standards required for accreditation with the standards expected for beginning teaching practice (Wise, 1995; Wise & Liebbrand, 1993). Indeed, licensing teachers in two stages—first, a provisional license granted upon graduation from a preservice training program and second, a professional license after

assessment of clinical practice within the first years of teaching—is a growing practice around the country (Youngs et al., 2000).

In short, for the first time in history, there are efforts to describe in detail on paper what good teaching entails, including a series of professional standards that would need to be met both to earn a professional teaching license and to earn recognition for midcareer, proficient, advanced, and accomplished practice. As will be explained in later chapters, such documents are critical to implementing a knowledge- and skills-based pay structure for teacher compensation.

Development of Assessment Instruments and Procedures to Identify What Teachers Know and Can Do

Not only are the National Board, the INTASC project, the PRAXIS program, and Danielson's Framework for Teaching creating standards that describe teaching practice, but they also are creating assessment procedures and instruments that can be used to determine whether an individual's teaching practice meets the written standards as a condition of licensure for INTASC and PRAXIS, to different levels of practice (basic, proficient, and advanced) for the Framework, and for advanced recognition for Board certification.

In other words, these efforts are developing performance assessment approaches to determine what teachers know and can do. INTASC and PRAXIS have two types of tests. A multiple-choice and essay test will assess teacher knowledge of subject matter and professional knowledge of how students learn and of pedagogy. The more ambitious assessment will actually assess clinical teaching practice in the classroom sometime during the first, second, or third year of teaching. This assessment will consist of a combination of on-demand tasks, simulation tasks, and more authentic assessments using portfolios and observations.

The portfolios for both the INTASC and NBPTS assessments are structured similarly; reflect an ambitious, professional, and performance-based strategy for assessing what teachers know and can do; and include several key tasks. One task requires individuals to outline how they would teach an instructional unit; the task is intended to have the candidates indicate both their understanding of the key content aspects of the unit and how students learn that unit. The task asks for demonstrations of problem solving, reasoning, and communication within the subject area as well as the types of manipulative and other tools that would be used in the classroom. A second task requires a video of how the teacher actually

taught a lesson to a class that focused on teaching a procedure or a concept and demonstrated teacher-student discourse. A third task asks for different ways teachers assess student learning and achievement. Another task seeks information on how the teacher would facilitate a small-group lesson for a subgroup of students in the classroom. An additional task asks teachers to discuss student work that shows understanding of the content matter being taught, such as mathematical problem solving, understanding and communication, and how student responses were used by the teacher to modify instructional strategies in order to produce better learning. Finally, there is a task that requires evidence of broader collaborative activities with colleagues, which included analysis of one's own teaching and contributions to the teaching field more generally. The key differences between the NBPTS and INTASC assessments are the number of different elements within each task. The board might require several instructional units for task 1, and work for several students in task 5, whereas INTASC would have fewer such items within each task.

These assessments have broken new ground in assessing the professional practice of teachers because they provide solid, psychometrically defensible results for making summative judgments on the nature of a teacher's professional skills with respect to externally set standards describing teaching practice (Bond, 1998; Dwyer, 1998; Jaeger, 1998; Milanowski, Odden, & Youngs, 1998; Moss, Schutz, & Collins, 1998). They are being used for high-stakes decisions—licensure in the case of INTASC and PRAXIS and certification in the case of the National Board. Several states and districts are paying a salary increment for teachers who earn Board certification and make Board certification a condition for advanced opportunities, such as lead teacher roles, mentor teacher programs, and the like. And as Chapter 5 shows, districts and states are beginning to use the results for new knowledge- and skills-based pay structures as well.

Conclusion

In sum, a new and ambitious view of teaching is emerging; written documents that describe sophisticated teaching skills have been published; standards are being developed to assess practice with respect to the written descriptions; assessments are being created to determine whether an individual's practice meets the standards; and important, high-stakes decisions—including additional pay—are being made on the basis of the assessment results.

It should be noted that although these initiatives describe, assess, and either license or pay teachers for performance, they do so to professional, external standards as opposed to just comparing individual teachers to one another. Past efforts to link high-stakes decisions to teacher performance generally tried a more norm-referenced approach to identify the best or the top teachers in a school or a district. In contrast, the above efforts use a criterion-referenced approach with high and rigorous professional standards and seek to identify teachers whose knowledge, clinical skills, and dispositions meet or do not meet professional standards. The best teachers in many schools today may not meet the standards to earn Board certification; the bulk of teachers in an excellent school could quite possibly meet those standards.

The standards describe an ambitious notion of teaching, indeed, a concept of teaching that would be effective in educating students to high standards. The assessments that have been developed show whether the practice of any individual teacher meets those standards, not whether that teacher is better or worse than some other teacher in the school or district.

Finally, from conversations with several individuals who have been developing these assessments, we have concluded that there are *steps* or *levels* in between the level of practice needed for licensure and the level of practice needed for Board certification. The Danielson Framework is a good example. It is these intervening levels that, as we describe more fully in the book, can be and are being used for significant salary increments—and the focus of professional development—as professional expertise expands from beginning to advanced status over the course of a teacher's career.

The Standards-Based Education Reform Movement

The standards-based education reform movement is integrally connected to these new understandings of teaching. The goal of reform—to teach all students to high standards—is substantively based on cognitive research findings showing that students can learn to much higher levels. And by linking high-quality curriculum standards, teacher training, and professional development to the above notions of good teaching, standards-based reform depends fundamentally on deployment of such teaching to accomplish its goal.

Standards-based education reform has three strategic elements: (a) a focus on school performance and student achievement results; (b) a focus on new curricula and the professional skills that they require for effective implementation; and (c) understanding that schools need to be restruc-

tured to provide this type of teaching and thus produce the new level of student achievement. Each of these strategic elements suggests needed compensation elements.

First, focusing on results reminds teachers and educational organizations of what needs to be achieved. Focusing on results can encourage continuing curricular and organizational change in the quest for better outcome performance. Student achievement is the complex result of individual differences and educational experiences. In turn, educational experiences are a function of the overall organization and teacher capabilities within the schools. By having the system focus on results, teachers know they need to work on establishing the professional knowledge and skills that allow them to produce achievement results by linking individual student needs with appropriate educational experiences.

Compensation practices can focus attention on results by tying them to rewards based on schoolwide performance in terms of results and not of individual performance. Appropriate rewards would be based on school results. One purpose of this book is to outline how such a practice might work.

Second, research shows that although there is strong, positive, local teacher response to new, ambitious, curriculum frameworks, teachers generally have not been equipped with the knowledge, skills, and competencies to implement this new curriculum well (see, for example, Ball, Cohen, Peterson, & Wilson, 1994; Cohen, 1990; Cohen & Ball, 1990; Goertz, Floden, & O'Day, 1995). The new curriculum requires deeper and more conceptual understandings of curricula content, an array of new pedagogical strategies that focus on concept development and problem solving and that are tailored to the developmental needs of each individual child, and a set of new assessment strategies that identify both what students know and what they can do. Indeed, many teachers must engage in a paradigm shift from what and how they are now teaching to an entirely different mode of pedagogy. This will require new knowledge and expertise, and the specifics of this new expertise will vary by school context (Cohen et al., 1993; Darling-Hammond et al., 1995).

Creating this new professional expertise will require substantial investment of time and energy on the part of teachers as well as substantial investment of funds by the education system in ongoing professional development. Although enhancement of professional expertise could be reward enough for teachers to engage in this process (McLaughlin & Yee, 1988), a change in the compensation structure to stimulate this engagement and to reward those who develop and use such new knowledge

could also be warranted. Such a compensation structure could link funds spent on compensation directly to the expertise teachers need to effectively teach the new curriculum and increase student achievement. Another purpose of this book is to sketch how this element of compensation could be designed.

Third, there is a substantial knowledge base on how to design decentralized management systems, including changes in compensation, despite conventional wisdom to the contrary. Incomplete design and poor implementation have largely caused past problems with decentralized management in education (Murphy & Beck, 1995; Wohlstetter & Odden, 1992). Research has found that effective, school-based management strategies operate by decentralizing power, knowledge, information, and rewards; creating an instructional guidance focus for change; and providing facilitative principal leadership. This more comprehensive decentralization creates conditions that help professionals in schools to reorganize curriculum and instruction toward the above notions, as the primary objective of change in school and classroom organization as well as use of resources (Smylie, 1994). This research also found that school-based management strategies could be strengthened if coupled with new compensation strategies (Darling-Hammond, 1996; David, 1994; Mohrman et al., 1994; Newmann & Wehlage, 1995; Odden & Busch, 1998; Odden & Odden, 1994; Odden & Wohlstetter, 1995; Odden, Wohlstetter & Odden, 1995; Robertson, Wohlstetter, & Mohrman, 1995; Wohlstetter, Smyer, & Mohrman, 1994).

In short, standards-based education reform suggests at least the following new elements for compensation: (a) knowledge- and skills-based pay to develop the wide array of skills needed to teach a high-quality curriculum well and to engage in effective school-based management; and (b) group performance awards for meeting specified improvement in school results.

This book also assesses in detail the degree to which these and other new compensation ideas could apply to education. As background, the next chapter discusses the history of change in teacher compensation and argues that the same macrofactors that led to teacher compensation change years ago are operating today, thus presaging another round of change along the lines just discussed.