



Better Pay for Better Teaching

*Making Teacher Compensation
Pay Off in the Age of Accountability*

Progressive Policy Institute
21st Century Schools Project

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Preface

A key challenge facing education reformers is how to attract and retain talented people in the teaching profession. Research shows the impact that teacher quality has on student achievement and that our most economically disadvantaged students, those who need the most from their schools, are least likely to have the most qualified teachers. The fact is that while we have many great teachers who labor anonymously every day—often in the face of trying circumstances and without adequate support—we do not have enough.

To help address this problem, the recent No Child Left Behind Act (NCLB) requires all teachers to be “highly qualified” by the end of the 2005-06 school year. Meeting this challenging goal is a key component of addressing the achievement gap that adversely impacts too many poor and minority youngsters.

However, without changes in how we compensate teachers accompanying the mandate in NCLB, many states and school districts will be unable to meet it. To help policymakers rise to the challenge, this paper by education analyst Bryan Hassel lays out the basis for a “grand bargain”: raise teacher salaries and modernize how we compensate teachers.

Rejecting the false choice between raising teacher pay and reforming an archaic pay structure, *Better Pay for Better Teaching* instead offers a roadmap to doing both. As Dr. Hassel shows, there is not one best way to accomplish this, but rather an imperative for policymakers to innovate with various strategies. Hassel offers various options and considerations for policymakers.

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The 21st Century Schools Project at the Progressive Policy Institute develops public policies to modernize American schools and ensure that all students are prepared for success in the knowledge economy. Through research, publications, and work with national, state, and local policymakers, the Project supports initiatives to improve education by increasing accountability, equity, choice, and innovation in public education.

The goals of the 21st Century Schools Project are a natural extension of the mission of the Progressive Policy Institute, which is to define and promote a new progressive politics for the 21st century. The Institute’s core philosophy stems from the belief that America is ill-served by an obsolete left-right debate that is out of step with the powerful forces reshaping our society and economy. The Institute believes in adapting the progressive tradition in American politics beyond the liberal impulse to defend the bureaucratic status quo and the conservative bid to dismantle government. More information on PPI and the 21st Century Schools Project is available at www.ppionline.org.

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Making Teacher Compensation Pay Off in the Age of Accountability

In the contentious debate over American public education, there's one thing everyone seems to agree is vital: great teaching. It's not only intuition that tells us that teachers matter; research shows that teachers have a greater impact on student achievement than any other educational factor.¹ It is time to embrace the logic of this conclusion head on.

During the past decade, efforts to improve public education have made great strides, focusing on accountability, expanded public school choice and charter schools, and a renewed commitment to invest in education. But it is impossible to imagine dramatic improvements in education without dramatic improvements in teaching.

America's teaching force faces substantial challenges. There is wide consensus in education about the importance of improving teaching by:

- ▶ enticing more people with high teaching potential to enter the profession, especially in subjects and geographical regions where there is an acute shortage of teachers;
- ▶ convincing effective teachers to stay in their classrooms rather than seeking other jobs;
- ▶ inducing more great teachers to take on tough assignments—like teaching the most disadvantaged kids;²
- ▶ enhancing the capacity of teachers to use practices that are likely to increase student achievement;
- ▶ increasing teachers' consistent use of such practices; and
- ▶ encouraging or requiring chronically ineffective teachers to leave teaching.

Achieving these goals will require dramatic changes in current education policy and practice with regard to the nation's 2.9 million teachers and those who seek to join their ranks.³ We need to change the way we prepare, recruit, select, develop, support, and evaluate teachers. In previous reports, PPI has addressed the issues of how we prepare teachers and how we recruit them.⁴ We may also have to change the way we design schools, to make them places where good teachers want to work.

It is also essential that we change how we pay teachers. We must pay them more, because without pay that is commensurate with other career opportunities, we will never attract enough of the best and brightest into teaching. But it is also clear that we must pay them differently from the way we do now. In addition to better pay, we must move toward a better pay system. We should reward teachers not just for experience, but for the skills, knowledge, and, ultimately, the performance they bring into their classrooms. This goal requires that we rethink teacher pay systems to harness them to drive student achievement.

This paper points to a new bargain to do just that: pay teachers more and tie higher pay to what schools need from teachers to improve student learning. Put another way, we must increase the opportunity that teaching affords teachers, but we must also ask in return that teachers accept more responsibility for results in a more professional and differentiated system of compensation.

A common refrain within the education debates is that unless we pay teachers more, efforts to improve teacher quality will inevitably fall short. They are right. The laws of supply and demand do not stop at the schoolhouse door. Current teacher pay levels do attract talented people to the profession, but not enough of them.

Overall teacher income remains too low to attract and retain enough of the high-caliber people knowledge jobs demand.

In 2000, the average U.S. teacher was paid only \$41,820 per year, and starting wages averaged only \$27,989. At the high end, states like New York, New Jersey, and Connecticut have average salaries of more than \$50,000 annually; however, 24 states have average salaries below \$37,000. Further, 27 states offer average beginning earnings below \$27,000. These starting and average salaries lag behind many other professions. For example, in 2000, graduates with a mathematics background took in an average starting income of \$46,744 and those with a chemistry background earned \$38,210. Liberal arts graduates started at an average of \$36,000—more than \$8,000 higher than the average starting teaching salary.⁵ Even accounting for teachers' shorter work year, a disparity exists. In a competitive market, these figures are too low to entice and retain enough talented individuals.

As essential as it is for policymakers to invest in greater teacher pay, it's equally important that we think at the same time about *how* we pay teachers. The way we typically pay teachers now represents a colossal underutilization of scarce resources and sends the wrong signals to aspiring teachers: Not only do they see low entry-level and mid-career salaries, compared to what their college classmates will earn, the pay system lacks sufficient incentives to reward knowledge and performance. Further, although we spend over \$100 billion per year on teacher stipends alone, our current compensation systems are not designed to drive achievement of the teaching quality goals listed above. Even worse, most systems frequently work at cross-purposes with efforts to achieve those aims.

Though there are many exceptions, the vast majority of public school teachers are paid according to a salary schedule that rewards two attributes: years of experience and higher education, such as earning master's degrees. Advanced credentials in education, while certainly a worthy pursuit, do not translate into improved student learning, according to research studies. Teaching experience appears only loosely related to teaching quality, especially beyond the first few years of teaching.

Further, this system affords little flexibility to entice the most desirable candidates into the

profession, or to provide special encouragement for the best teachers to stay. It doesn't give school or district officials the flexibility to use pay to attract great teachers to tough assignments or reward exceptional accomplishments, because it rewards teachers without regard to the challenge or results of their teaching. And, coupled with woefully inadequate measures in most communities for effectively helping or removing under-performing teachers, it provides an incentive for ineffective teachers to stay in classrooms by raising pay steadily over a teacher's career regardless of the quality of instruction.

It's time to move beyond a pay method designed early in the last century and to begin building an innovative system that addresses the realities of public schools in the 21st century. Reforms to address these issues—which at first glance might appear commonsensical but are actually quite controversial—include:

- ▶ providing higher pay or bonuses for teachers who take on tough school assignments;
- ▶ paying more to teachers in certain disciplines, such as math and science;
- ▶ paying for demonstrated knowledge and skills, rather than only experience and degrees;
- ▶ tying rewards to the student learning achieved by a teacher, group of teachers, or school; and
- ▶ giving school leaders more authority to set teachers' pay.

There is great resistance in some quarters to ideas that deviate from a pay system based on education and experience. Some concerns about new methods of compensation are well intentioned. Critics worry about fairness, unintended consequences, and whether such proposals are simply ruses to avoid investing more in teacher pay. Other critics, however, fear a loss of institutional leverage if teachers are paid more in accord with other professionals and less like wage earners in a factory or other industrial settings, despite the obvious benefits of these

changes for teachers. It is this latter category of critics who damage, rather than enhance, the professional status of teachers and hobble efforts to raise teacher income.

As this paper shows, sound policy demands that we modernize compensation systems for teachers. Teachers should be paid on par with other professionals but also in the same manner as other professionals. In addition, the politics of education finance also demand that reform accompany demands for greater teacher pay. The public thinks teachers are underpaid but that increased compensation should be tied to improved teaching and learning. Teacher-pay reform and salary increases amount to a “grand bargain” for our nation’s teachers. The public will invest in raising teachers’ income when such hikes are tied to reform goals and results.

It is tempting to suggest that we should replace the current system with a one-size-fits-all approach, but such a change would be unwise for two reasons. First, though schools, districts, and states have toyed with different pay systems over the years, we know very little about “what works” in teacher compensation. For now, we need experimentation; once we learn what works, we’ll be better able to make broader recommendations.

Second, even with considerable research, we would be unlikely to arrive at the single best way to compensate instructors. Research in the private sector suggests that for pay systems to support organizational goals, they need to be *aligned with the organization’s culture and how people are organized to work toward those goals*. Though certainly there are common elements of culture and how teachers and staff work together across districts and schools, there is also much variation. We need a pay system that allows leaders to use compensation as one of many tools in alignment with their broader strategies to increase student performance via quality teaching.

As a result, this paper does not advocate a single alternative compensation system. Instead, it lays out the critical design choices and options, discussing the advantages and pitfalls of different designs. It aims to serve as a roadmap for leaders from the schoolhouse to the statehouse interested in redesigning teacher earnings in ways that will increase the quality of instruction.

The following principles should guide the policy dialogue about the design of pay systems:

1. **Widespread experimentation.** Currently, departures from the conventional pay system are the exception. They should be the norm. Literally every state, district, and school—not just a select few—should be trying to improve on the current system of compensation.
2. **Flexibility.** Alignment is most likely to come about when the people setting pay policy are close enough to “the action” to devise compensation systems that make sense in the context of their overall strategies for improvement. Though state and district policymakers have key roles to play, school-level flexibility (with accountability) should be central to any teacher-pay reform.
3. **Fairness and “hold harmless.”** States and school districts should not reduce the current salaries of teachers to finance these reforms. Rather, the goal should be increased *and* more effective compensation.

Within these broad recommendations, certain principles should guide thinking about appropriate policies:

- ▶ **Intense focus on results.** Though experiments may take different forms, they should all seek a common goal: to create compensation systems designed to increase student learning by enhancing the quality of teaching. More specifically, they should directly support achievement of one or more of the teaching quality goals listed above.
- ▶ **Alignment.** Policymakers should not consider teacher income in isolation. Compensation policies should be aligned with broader school improvement strategies as well as comprehensive “human resources” policies including organizational design, recruitment, selection, goal setting, professional development, school culture, and evaluation.
- ▶ **Rigorous documentation.** States, districts, and private funders should invest heavily in documenting alternate approaches to compensation and assessing their effects on teacher recruitment, retention, practices,

and effectiveness in raising student achievement.

This paper proceeds in six sections. The first makes the case for change in more detail. The second describes the key dimensions of pay policy: what factors drive pay and who sets pay. The next section takes up the first dimension, discussing a variety of potential compensation systems that base pay on different factors. The following section takes up the other dimension, exploring different ways of allocating authority to set pay within the education system. The final section returns to recommendations and conclusions. An appendix designed to serve as a toolkit includes more detailed analysis of design options to guide policymakers as they construct programs. Subsequent PPI papers will examine and propose national and state-level options to support reform in this area.

Teacher Compensation: The Case for Change

Why Pay Matters

Some observers argue that other issues such as school choice, student testing, or professional development are paramount, and that discussion of teacher income is merely a distraction or at best a secondary issue. While successful school improvement requires addressing a number of issues in concert, the way we pay teachers can affect teaching quality through two channels: compositional effects and behavioral effects.

First, the way we pay instructors affects the *composition* of the teaching force: who goes into teaching in the first place and who stays. Though people consider a wide range of factors when deciding whether to enter teaching and whether to stay, pay is a major factor. Individuals look at the compensation system not only to see what financial rewards they will reap, but also for signals about what kinds of attributes and contributions are valued.

Second, the way we pay affects the *behavior* of teachers: how they teach and how they develop their teaching capabilities over time. Like all professionals, teachers have some level of control over their own practices and develop-

ment. How they choose to direct their energies—inside the classroom and out—will be in part driven by what kinds of practices and capacity-building habits are rewarded by the pay system.

But does income really matter that much to teachers? If it doesn't, then it's hardly worth undertaking the considerable technical and political challenges involved in refashioning teacher compensation.

According to one line of argument, pay is less of a motivator for teachers than "intrinsic rewards" such as the satisfaction they derive from seeing children learn. For decades, studies involving extensive interviews with and observations of teachers have supported the primacy of such rewards.⁶ As Susan Moore Johnson writes: "The primary attraction of teaching and the incentive for good work continues to be the prospect of achieving success with children."⁷ Econometric analyses of teacher turnover using large-scale teacher databases also suggest that working conditions are more important than pay in determining teachers' decisions to switch schools and exit the profession.⁸ A recent study of early-career Massachusetts teachers finds that the support teachers receive has more of an impact on teachers' satisfaction than financial rewards.⁹ In a large-scale Public Agenda survey, large majorities of teachers said they would choose schools with well-behaved students and supportive parents and administrators over schools that paid more.¹⁰

All of this research makes one point abundantly clear: No one should regard pay reform as some kind of "silver bullet" that can, by itself, overcome our teaching quality challenges. Improving the effectiveness of teaching requires multifaceted policy development, encompassing preparation, recruitment, selection, professional development, working conditions, and evaluation.

But should we conclude therefore that pay is irrelevant? Should policymakers and practitioners not consider pay within the context of this larger task? Surely not. For one thing, studies citing the importance of noncompensation factors often go on to say that pay, while not most teachers' primary consideration, is still important.¹¹ And broader studies of the use of external incentives find that extrinsic rewards are *more* effective motivators for workers, like teachers, who tend

to have high levels of intrinsic motivation as well.¹²

In addition, the sheer scale of expenditures on teacher pay is enormous. According to a 1999 survey by the American Federation of Teachers, K-12 teacher salaries alone accounted for over \$109 billion—more than 37 percent of the nation’s total expenditures on K-12 public education. Surely it makes sense to try and optimize the impact of such a considerable sum.¹³

Finally, we do not know what kind of impact pay policy *could* have on teaching quality if it were redesigned in the context of the new push for results-based accountability. Though there have been numerous experiments with changes in teacher compensation over the years, they have been limited in scale and scope and mostly incremental relative to the existing system. And most were instituted prior to the current era of statewide standards and accountability for results. It’s not hard to believe that in a system with few accountability demands, changes in pay policy would have little effect on teaching. But now is the time to refocus experimentation in the new context.

The Current System

Teachers in the United States, by and large, are paid according to a clearly defined salary schedule that allows teachers to increase their pay in two ways. First, pay rises steadily with experience. In the North Carolina example in Table 1, salaries rise by about 1.5 percent in a typical year, in addition to whatever general inflationary or cost-of-living increase the legislature provides. After 29 years, salaries plateau. Teachers with a master’s degree earn \$2,500 to \$4,500 more than those with a bachelor’s degree (the increment also rises with experience). Teachers with doctoral degrees earn an additional \$2,530 annually.¹⁴

States and districts have adopted innumerable variations on this basic theme. Some salary schedules, for example, plateau earlier than North Carolina’s 29 years. Others provide smaller increments for higher degrees. The North Carolina schedule offers larger raises for teachers entering their third through seventh years of teaching—career points at which many choose to leave the profession. And some states

and districts have experimented with even more significant permutations, examples of which are described later. But these variations aside, the basic fabric of compensation is similar across most jurisdictions.

This dominant system of teacher pay dates back about 80 years. According to one author, Des Moines and Denver were the first to adopt it in 1921. By the 1950s, some 97 percent of schools paid teachers according to such a scale.¹⁵ This change in teacher wages mirrored broader trends of the hiring and compensation practices for government employees of all kinds and, to some extent, private-sector workers. Throughout government, public agencies began to pay staff based on graded schedules that rewarded workers based on objective measures, such as years of experience and levels of education.¹⁶ Undoubtedly, this kind of single-salary schedule was an improvement over previous pay systems, which differentiated compensation based on such factors as race and gender.¹⁷

Proponents of the system make two basic arguments in support of it. First, the typical salary scale provides two kinds of incentives for teachers: to remain in teaching to take advantage of rising pay, and to seek out higher degrees. To the extent that teaching experience and graduate education make one a better a teacher, the two incentives serve to enhance the quality of teaching in schools. According to Kathleen Lyons, a spokeswoman for the NEA, “the single-salary schedule serves us well—it recognizes that teachers become more proficient over time.”¹⁸

Second, the system is fair and simple. Raises are based on objective, easily verifiable factors rather than subjective, and thus potentially arbitrary and capricious, judgments by principals or central office staff. Two teachers with the same level of experience and education earn precisely the same salary, at least within a given district or state. Arguably, such a system is likely to gain the approval of teachers, because they can understand it and know they will not be mistreated under it. Alternative systems with less built-in fairness could worsen teacher morale or induce more teachers to leave the profession. They could also be costly and complicated to administer, and require much higher capacity on the part of administrators.

Table 1: North Carolina Teacher Salary Schedule 2001-2002

Years of Experience	Bachelor's Annual Pay	Master's Annual Pay	Ph.D. Annual Pay	Years of Experience	Bachelor's Annual Pay	Master's Annual Pay	Ph.D. Annual Pay
0	\$25,250	\$27,780	\$30,310	16	\$37,220	\$40,940	\$43,470
1	\$25,670	\$28,240	\$30,770	17	\$37,770	\$41,550	\$44,080
2	\$26,110	\$28,720	\$31,250	18	\$38,340	\$42,170	\$44,700
3	\$27,640	\$30,400	\$32,930	19	\$38,920	\$42,810	\$45,340
4	\$29,040	\$31,940	\$34,470	20	\$39,500	\$43,450	\$45,980
5	\$30,360	\$33,400	\$35,930	21	\$40,110	\$44,120	\$46,650
6	\$31,640	\$34,800	\$37,330	22	\$40,720	\$44,790	\$47,320
7	\$32,660	\$35,930	\$38,460	23	\$41,360	\$45,500	\$48,030
8	\$33,140	\$36,450	\$38,980	24	\$42,000	\$46,200	\$48,730
9	\$33,620	\$36,980	\$39,510	25	\$42,640	\$46,900	\$49,430
10	\$34,120	\$37,530	\$40,060	26	\$43,300	\$47,630	\$50,160
11	\$34,610	\$38,070	\$40,600	27	\$43,980	\$48,380	\$50,910
12	\$35,110	\$38,620	\$41,150	28	\$44,670	\$49,140	\$51,670
13	\$35,610	\$39,170	\$41,700	29	\$45,380	\$49,920	\$52,450
14	\$36,140	\$39,750	\$42,280	30+	\$45,380	\$49,920	\$52,450
15	\$36,670	\$40,340	\$42,870				

Source: North Carolina Department of Public Instruction
http://www.ncpublicschools.org/salary_admin/SalSched01-02.pdf.

The Value of Seniority and Advanced Degrees

The first argument makes the case that in rewarding experience and higher education, the typical salary schedule is, in effect, rewarding *high-quality teaching*. Experience and graduate education are, according to this argument, good proxies for teaching quality. But research suggests that a teacher’s experience and educational levels are, at best, only weakly related to how much her children learn. One review looked at hundreds of studies of the relationship between teachers’ characteristics and student achievement. Most of them, according to the review, were of poor design in the first place. But of the studies that explored the link between teacher experience and student outcomes, only 30 percent found one correlation. Of those probing for a connection between a teacher’s master’s degree and student

achievement, only 10 percent found one such link.¹⁹

Further, even when research supports the idea that experience and degrees matter, it often finds that they don’t matter very much. One study, for example, found that only “3 percent of the contributions teachers make toward explaining student achievement is associated with teacher experience, degree level and other readily observable characteristics . . . [T]he remaining 97 percent is made up of teacher qualities and behaviors that could not be separately isolated and identified.”²⁰

At best, a teacher’s level of experience and educational attainment are poor proxies for the quality of instruction the teacher is likely to deliver. Few would dispute that there are many highly experienced teachers who are, nonetheless,

ineffective in their classrooms. There are many with master's diplomas on their walls whose teaching lags behind that of their less-credentialed peers. Conversely, among the ranks of the best teachers one would surely find many who are early in their careers, or who have only bachelor's degrees.

In short, experience and education are an extremely weak basis for determining teaching pay. The only plausible argument for using them as such is that, despite their limitations, *they are superior to all alternative proxies*, such as more direct measures of teachers' skills, knowledge, and actual success with students.

Perhaps this was the case 80 years ago, when these pay systems were first enacted. But today's environment is different. States and private entities have developed elaborate systems of teaching standards and ways of assessing teachers' skills, knowledge, and performance. And the establishment of student learning standards and corresponding assessments, while still evolving, have made it much more feasible to assess schools' and teachers' contributions to student learning. It is difficult to believe that in this context, experience and education proxies are the best we can do.

Fairness and Simplicity

The current pay system is "fair" only in a very limited sense. It is fair in that it treats people with similar levels of education and experience (within a state or district) similarly, regardless of irrelevant characteristics like race, gender, or their personal relationships with their principals. In other ways, though, it is grossly unfair. While it ignores *irrelevant* differences between teachers, it also ignores *relevant* ones, like their levels of knowledge and skills, their actual success with students, and the difficulties of the assignments they take on.

What about teachers themselves? Do they regard the current system as "fair"? In a Public Agenda survey, large majorities of teachers said they would favor paying more to teachers who take on "hard-to-educate" students (84 percent) and teachers who are "effective in improving academic performance" (69 percent). Fewer (44 percent) supported paying more for teachers "in subjects like math and science."²¹ These results provide little support for the notion that teachers

regard the current system as fair.

The typical system is certainly simple. It does not require complicated evaluations, analyses of test scores, or other measures of student performance, or judgments on the part of administrators. Any plausible new system would require one or more of these complications.

But it's wrong to think of these complications as new tasks that would have to be undertaken under a new system of pay. Are teachers not already evaluated? Is student performance not already analyzed? Do administrators not already make judgments about the quality of teaching in their classrooms? If we are not willing to introduce these "complications" into the work of schools, it seems unlikely that we will be able to achieve our goals for teaching quality, regardless of how we pay teachers.

The Current System and Teaching Quality Goals

To see the shortcomings of the typical pay scale, it helps to consider it in light of the six aforementioned widely agreed upon teaching quality goals:

- ▶ **Enticing more people with high teaching potential to enter the profession.** An individual considering a teaching career will consider the likely trajectory of income over time. Under the current system, that trajectory is relatively clear. But it is not sensitive to the individual's success as a teacher. A candidate who expects to be unusually effective cannot expect a corresponding financial reward. The prospect of intrinsic rewards may well still attract her, but the pay system contributes nothing to recruitment. If the pay scale ramped up more quickly and/or topped out at a higher level for excellent performers, professionals might be more likely, all else being equal, to say "yes" to teaching.
- ▶ **Convincing effective teachers to stay in their classrooms.** The same analysis applies to incumbent teachers. After a short time in the profession, teachers are likely to have a good sense of their relative potential for excellence. But regardless of that potential, they face the same set income trajectory. Again, a more rapid ascent or a higher maximum for top

performers would make them more likely to stay. In addition to whatever financial rewards it metes out, the pay system also sends a powerful *message* about what is valued in schools. The current system's message—that experience and graduate degrees are valued—does little to show recognition for the specific attributes and contributions of high performers.

- ▶ **Inducing more great teachers to take on tough assignments.** Though some districts and states are beginning to experiment in this area, most pay systems provide the same compensation to teachers regardless of the challenge of the assignments. Faced with equal pay, why not seek out an assignment where the students behave better and learn more easily, where parents are more supportive, or where the facilities are more comfortable? The pay system works at direct cross-purposes with this goal.
- ▶ **Enhancing the capacity of teachers to use effective practices.** In most teacher pay scales, the only incentive relative to capacity-building practices is the add-on pay for a graduate education. But graduate coursework may or may not contribute to a teacher's capacity to use effective classroom practices. Research on professional development makes clear that it is most effective when it is integrated with teachers' daily work, followed up on immediately and in an ongoing fashion in the classroom, and designed specifically to close identified gaps in teachers' capabilities.²² Of course, teachers can pursue such in-service opportunities, even as they take graduate-level courses. But given teachers' limited time and energy, a pay system that rewards *only* graduate education is likely to tip the scales away from other, potentially more productive, forms of professional growth.
- ▶ **Increasing teachers' consistent use of such practices.** The typical pay system contributes nothing to the achievement of this goal.
- ▶ **Encouraging or requiring chronically ineffective teachers to leave teaching.** Unless chronically ineffective teachers believe their prospects are better in another field, they have strong incentives to remain in teaching. Income levels will rise steadily, whether or not

they are able to improve teaching skills. So the current pay system works against the achievement of this goal as well.

One possible avenue for policymakers is to simply increase the overall level of teacher pay while retaining the basic structure of experience- and degree-based compensation. But this approach should not be the centerpiece of pay reform. Raising overall pay levels would at best contribute to only the first two teaching quality goals listed above—enticing talented people to enter teaching and inducing successful teachers to stay. Across-the-board pay increases would do nothing to raise the relative attractiveness of currently hard-to-staff schools where the teacher quality problem is most severe, nor would they make it easier to attract particular individuals or classes of teachers with higher earnings potential outside teaching. They would do nothing to change the way teachers teach in their classrooms or their incentives to enhance their capacities over time. And overall pay increases would worsen the current system's tendency to encourage ineffective teachers to remain in the classroom.

In sum, the current system contributes little to the achievement of critical teaching quality goals, and actually makes some goals *more* difficult to achieve. In this light, it is clear that the typical compensation system is enormously wasteful in terms of its potential to drive reform. Redirecting this large amount of funding toward compensation systems that directly support teaching quality goals must become a national priority.

Rethinking Pay: Two Elements of Policy

Most proposed changes to the teacher compensation system in public schools involve change in at least one of two independent elements: what factors drive pay and who makes decisions about pay. This section briefly describes those elements and major proposals for change.

What Factors Drive Pay?

In the predominant system, two factors are the primary drivers: years of experience and level of education. Proposals for change include basing at least *some portion* of teachers' pay on:

- ▶ their knowledge and skills;
- ▶ the subjects they teach, with higher pay to teachers in shortage disciplines;
- ▶ the difficulty of the assignments they take on; and
- ▶ their actual performance in the classroom.

Who Makes Decisions About Pay?

In most pay systems, state or district policymakers make decisions about pay when they set the single-salary schedule and the rules governing it, usually through some sort of bargaining process. Beyond that point, there is little discretion for district or building administrators in setting pay. In fact, a key aim of the typical pay system is precisely to *eliminate* such discretion.

One set of proposals for change grants more discretion over pay policy to people closer to the action—from states to districts, or from states or districts to school leaders.

The following two sections consider each of these two elements of pay policy in turn.

What Factors Drive Pay?

Background

In thinking about what factors should drive pay, it is helpful to have a framework in mind for evaluating different proposals. The framework used here is based on the six teaching quality goals mentioned above. When considering any proposal for changing the factors that drive pay, we ought to ask: How will basing pay on that factor help us achieve our goals for teaching quality?

Stated simply, this discussion groups the goals under two headings: compositional effects and behavioral effects. With compositional effects, the key question is how a proposed pay system is likely to affect who enters teaching, who stays over time, and who leaves. With behavioral effects, the key question is how a proposed system is likely to affect the assignments teachers take on, the ways they develop their capabilities over their careers, and the practices they use in classrooms.

What standard should be applied to proposals for change? It would be nice if we could use a standard based on research, considering only those pay plans that have been proven by scientific methods to boost student achievement. But the truth is that no pay system, including the status quo system, can boast such basis in sound research. One of the reasons we need more experimentation with compensation policy is that we know very little about “what works” in teacher compensation. For the moment, we have to rely more on theory and plausibility than on hard evidence.

As in most policymaking, most real options on the table will have disadvantages or pitfalls associated with them. The following discussion seeks to illuminate those. But in thinking about these disadvantages, the benchmark we should set is relative, not absolute. We are not seeking the perfect pay system—such a system would require the kind of perfect information, foresight, and judgment that we can only dream about. Instead, we should seek *improvement* relative to the status quo. We should ask: Would this change do a better job of contributing to our teaching quality goals than the current system does?

In addition, it’s essential that the challenges associated with these proposals be viewed as just that, challenges, rather than insurmountable obstacles. There is a tendency among those who defend the current system to use these challenges as a defense of the status quo rather than as an opportunity to improve upon it.

The following subsections explore four different sets of proposals for changing the factors that drive pay. For each proposal, the subsection provides:

- ▶ an explanation of the proposal;
- ▶ one or more examples of current experiments with the idea; and
- ▶ why we might expect the approach to boost teaching quality (by affecting composition or behavior of the teaching force).

These subsections provide a basic overview, but the more detailed appendices on each proposal delve more deeply into the design issues and options that policymakers face.

Douglas County, CO Knowledge- and Skills-Based Pay

1. What knowledge and skills are rewarded?

A teacher's base pay (similar to the traditional salary structure) is considered "pay for knowledge." Additional incentives and increases are based on the number of years of proficient experience the teacher has. In order to receive periodic salary increases, a teacher must earn at least a "proficient" rating on his/her annual teacher evaluation. Teachers rated "unsatisfactory" on any single criterion are subject to remediation and not eligible for pay increases.

The school district also periodically identifies skills it believes are important and provides training for teachers interested in acquiring the skill. In the first year of program implementation, incentives were given for teachers who became proficient in the desktop publishing system ClarisWorks, which is used by the district. Additional skills are identified annually.

2. How are the knowledge and skills measured?

A teacher's base salary is determined by the number of education credits s/he has earned, as well as years of proficient experience. Each year teachers are evaluated by the school principal or other administrator. Teachers are determined to be either proficient or unsatisfactory on several evaluation criteria. Any teacher rated "unsatisfactory" on any single criterion is ineligible for any salary increases for a period of one year, during which time s/he is subject to remediation.

3. Does the knowledge and skill scale supplement or supplant the traditional salary schedule?

In Douglas County, the knowledge and skill plan supplants the traditional salary schedule.

4. How much does movement along the knowledge and skill scale pay?

Pay for competence in skill blocks identified by the district ranges from \$250-500.

knowledge and skills. In essence, this is a proposal to replace the current salary schedule with a new one in which the "steps" up the pay scale are based on measured capabilities rather than experience and education.²³ In such a system, relatively inexperienced teachers and those with only bachelor's degrees might earn more than they do now—if they demonstrate high levels of knowledge and skills. More experienced teachers or those with higher degrees might earn less than they would have under the current system if they cannot demonstrate the valued capabilities.

Relationship to Teaching Quality

Moving to a salary schedule based on knowledge and skills might improve the *composition* of the teaching force in three ways. First, prospective teachers who believe they will enter the profession with valued capabilities—or who believe they will acquire them rapidly—will be more likely to enter the profession. They will face a steeper earnings trajectory and, depending on the structure of the system, a higher ultimate pay level than they would under a traditional pay system. Second, for the same reasons, teachers who have high levels of knowledge and skills—or who gain them quickly—will be more likely to stay with the profession over time. Not only will they reap financial benefits; they will also see that their contributions are valued and rewarded. Finally,

teachers whose knowledge and skills do not improve over time will find teaching increasingly less lucrative. They will also receive a tangible signal about their own contributions. All else being equal, they will be more likely to leave the profession in search of other opportunities for which they are better suited.

A knowledge- and skills-based system could also alter the *behavior* of teachers. At a basic level,

Pay for Knowledge and Skills

Explanation

Years of experience and levels of education are highly imperfect proxies for the knowledge and skills teachers need to be effective. So it's quite natural that one set of proposals tries to improve on this system by more directly measuring—and then paying for—valued

such an approach provides an incentive for teachers to improve their teaching capabilities continuously, an incentive notably absent in traditional pay scales. And when teachers are considering how to allocate their scarce time and energy for development, a knowledge- and skills-based system encourages them to focus on capabilities that are explicitly rewarded by the system, rather than on accumulating credits toward a graduate degree that may or may not contribute to their effective teaching.

One behavior a knowledge- and skills-based system might *not* explicitly encourage is *routine use* of knowledge and skills, or of actual effective teaching practices in their classrooms. Such a system *could* encourage such routine deployment if the assessment system were to rate teachers based on their everyday practice. But if the assessment system is based more on isolated demonstration by teachers of knowledge and skills, then it contains no such incentives.

Examples

States, districts, and individual schools have begun to experiment with pay based on teachers’ knowledge and skills. Numerous states now offer higher pay for teachers who gain certification from the National Board for Professional Teaching Standards, an external signal of their knowledge and skills. Districts such Douglas County, Colorado, have gone farther, replacing their experience- and degree-based salary schedules with scales based on knowledge, skills, and performance. Charter schools such as

The Vaughn Next-Century Learning Center Knowledge- and Skills-Based Pay

What knowledge and skills are rewarded?

Teachers are rewarded for becoming National Board certified, earning a Master’s degree, and/or demonstrating expertise in the following four competency areas:

- ▶ instructional expertise in literacy
- ▶ sheltered English, language development
- ▶ technology
- ▶ special education inclusion

How are the knowledge and skills measured?

A Peer Assessment Review (PAR) committee, comprised of peer and administrative evaluators, observes and evaluates the teachers using a rubric designed by the committee. Teachers are rated from 1 (unsatisfactory) to 4 (exemplary).

Does the knowledge and skills pay scale supplement or supplant the traditional salary structure?

The knowledge and skills pay scale supplements the traditional salary scale, which was modeled after the Los Angeles Unified School District, the public school district within which Vaughn holds a charter.

How much does movement on the knowledge and skills scale pay?

Teachers are rewarded for knowledge and skills as follows:

- | | | |
|---|---|--------|
| ▶ instructional expertise in literacy | — | \$1300 |
| ▶ sheltered English, language development | — | \$1300 |
| ▶ technology | — | \$400 |
| ▶ special education inclusion | — | \$300 |

Additional compensation for teachers for knowledge and skills, as well as for earning a Master’s degree or National Board of Professional Teaching Standards certification, can total \$13,000 per year.

Source: Kellor, E., Milanowski, T., Odden, A., Gallagher, H.A.. (2001). How Vaughn Next Century Learning Center Developed a Knowledge- and Skill-Pay Program. Madison, WI: Consortium for Policy Research in Education.

Vaughn Next-Century Learning Center in Los Angeles have enacted school-based systems that reward specific knowledge and skills valued by the school. See the accompanying sidebars for additional information about these examples.

Cincinnati, OH Knowledge- and Skills-Based Salary Schedule

What skills and knowledge are rewarded?

The Cincinnati knowledge- and skills-based salary schedule would have rewarded teachers for excellence in the following 4 “domains”:

Standard	Evaluation Method
<i>Domain 1: Planning and preparing for student learning</i>	
1.1. Acquire and use knowledge about students as individual learners in preparing lessons which consider the student's cultural heritage, interests, and community.	Lesson plans, unit plans, Form 1.1*
1.2. Write clear, instructional objectives that will enable all students to meet or exceed Promotion/Credit Granting standards, establish high expectations, address individual learning needs, and make connections within and among disciplines.	Lesson plans, unit plans
1.3. Design lessons and use clearly defined assessments that align with performance standards and select/adapt instructional resources appropriate for the developmental level of students.	Lesson plans, unit plans
<i>Domain 2: Creating an environment for learning</i>	
2.1. Create an inclusive and caring environment in which each individual is respected and valued.	Classroom observation
2.2. Establish a classroom culture where high expectations for learning and achievement are communicated to students and all students are invited and encouraged to participate.	Classroom observation
2.3. Establish, maintain, and manage a safe and orderly environment in which time is used to maximize student learning.	Classroom observation
2.4. Manage and monitor student behavior to maintain a safe and orderly environment.	Classroom observation
<i>Domain 3: Teaching for learning</i>	
3.1. Know the content, content specific pedagogy, and the background knowledge and skills students need prior to learning new concepts.	Classroom observation, unit plan, Pre- and post-conference, lesson plan
3.2. Communicate learning objectives, performance standards for those objectives, and assessments effectively.	Classroom observation lesson plan
3.3. Pose thought-provoking questions, foster classroom discussion, and provide opportunities for each student to listen and speak for many purposes.	Classroom observation
3.4. Engage all students in relevant learning activities that encourage conceptual understanding and connections, challenge student thinking, and address real-life situations.	Classroom observation unit plan, lesson plan, student work
3.5. Provide timely, constructive information on student performance through a variety of assessment strategies.	Classroom observation student work
3.6. Reflect upon and adjust instruction to respond to differences in student knowledge, experiences, cultural heritage and traditions, and persist in finding effective instructional strategies to meet individual needs.	Classroom observation form 3.6,* Post-conference
<i>Domain 4: Professionalism</i>	
4.1. Track student progress toward Promotion/Credit Granting Standards, maintain records to show how decisions are made about rubric scores and grades, and keep accurate non-instructional records.	Plan book, grade book, attendance records
4.2. Inform families about the academic and social progress of their child and events in the classroom, and encourage parental involvement in a child's education	Form 4.2*
4.3. Establish and maintain a professional relationship with peers/teens; function as a member of an instructional team, department, or level; and participate in school and district initiatives.	Form 4.3,* team/department documentation
4.4. Improve content knowledge and pedagogical skills by participating in professional development activities and applying what is learned.	Post-conference, record of professional development, form 4.4

* Form 1.1: Evidence of Acquiring Knowledge of Students as Individual Learners, Form 3.6: Reflection Sheet, Form 4.2: Family Contact Log, Form 4.3: School and District Contribution Log, Form 4.4: Individual Professional Development Plan.

Cincinnati, OH Knowledge- and Skills-Based Salary Schedule

How are the knowledge and skills measured?

The system has five levels. To move from one level to the next, teachers must show skills and knowledge through some combination of teacher test results, evaluations, and/or formal observations.

Apprentice teacher	—	Obtain temporary license.
Novice teacher	—	Pass Praxis III, obtain teaching license, and an overall “2” rating in all domains.
Career teacher	—	Approved IPDP and an overall “3” for all domains.
Advanced teacher	—	Approved Master’s and an overall “4” in domains 1 and 2, and at least a “3” in the other two domains.
Accomplished teacher	—	An overall “4” rating on evaluation.

Does the Cincinnati knowledge and skills plan supplement or supplant the traditional salary structure?

The knowledge and skills plan supplants the traditional salary structure. The new structure has steps within each of the 5 new teacher categories, and has additional bonus pay opportunities within each category.

How much does movement along the knowledge and skills scale pay?

Following is the salary range for each of the five new teacher categories:

Apprentice teacher	—	\$30,000
Novice teacher	—	\$32,000-35,750
Career teacher	—	\$38,750-49,250
Advanced teacher	—	\$52,500-56,250
Accomplished teacher	—	\$60,000-62,500

Following are examples of additional incentive pay opportunities:

Master’s degree in content area	—	\$4,600
Ph.D. in education or content area	—	\$9,375
NBPTS Certification	—	\$1,000
Dual certification	—	\$1,250
Technology expertise	—	\$750
Comprehensive Reform Model Training	—	\$750/year for 3 years
Team skills	—	\$750/year for 2 years
Leadership skills	—	\$500/year for 2 years
Specific curriculum training	—	\$500 for 1 year
Content specific	—	\$750/year for 3 years
Lead teacher roles	—	\$5,000-5,500/year

Source: Odden, A., Kellor, E. (2000). How Cincinnati Developed a Knowledge- and Skills- Based Salary Schedule. The Consortium for Policy Research in Education: Madison, WI.

Differential Pay I: Hard-to-Hire Teachers

Explanation

One widely proposed change to the traditional pay system is to offer higher pay to teachers in certain fields, like math and science, whom school systems typically have difficulty attracting. This additional compensation could come in the form of a permanently higher pay scale for people in such fields, one-time signing bonuses, student-loan forgiveness, or a similarly valued benefit.

Relationship to Teaching Quality

This proposed reform focuses exclusively on the *composition* of the teaching force. Prospective teachers with a background in certain fields like math and science arguably have more lucrative alternatives to K-12 teaching than do candidates in other fields. A talented young chemist, for example, might have opportunities in private industry or in higher education that would pay more than a typical K-12 teaching position. As a result, school districts find it difficult to fill their math and science jobs and are forced to use “out-of-field” teachers in these areas. Providing additional compensation to such individuals could make it easier for districts to put qualified people in math and science classrooms. If the pay increment is ongoing rather than one-time, it also makes it easier for districts to retain such teachers over time.

This kind of differential pay does not have any purported effects on teachers’ *behavior* in classrooms.

Examples

Various states and districts have sought to attract different kinds of teachers using a variety of compensation schemes. See the accompanying sidebars for examples.

Differential Pay

Utah

What kinds of teachers or assignments are rewarded?

New math and science teachers who agree to teach at least four years within their districts.

Form of differential pay

One-time signing bonuses of \$5,000.

New York City

What kinds of teachers or assignments are rewarded?

Teachers who agree to work in high-needs, predominantly low-income schools are rewarded.

Form of differential pay:

Fifteen percent pay raises granted to teachers who agree to work in targeted schools.

North Carolina

What kinds of teachers or assignments are rewarded?

Teachers who agree to work in hard-to-staff schools. These are schools with 50 percent or more students below grade level, 50 percent or more students eligible for free and reduced price lunch, an annual teacher turnover rate of 15-18 percent, and 25 percent of the teachers holding provisional licenses.

One-time bonuses or ongoing additions to base salary?

North Carolina Teaching Scholarships

- ▶ Teacher assistant scholarship—\$1,200/year for practicing teaching assistants to become fully licensed.
- ▶ North Carolina Teaching Fellows—\$6,500 awarded annually for four years to 400 outstanding high school seniors who agree to teach in North Carolina Public Schools for four years after graduation.
- ▶ Prospective Teacher Scholarship-Loan program—\$2,500/year allocated for participants attending four-year institutions or \$900/year for community college coursework leading to transfer to a university program. Two hundred total participants each year. Payback is waived after four years of public school teaching or three years in a low-performing school.

Source: For more information on differential pay see the National Clearinghouse for Teacher Quality at <http://nctq.org/issues/pay.html>.

Differential Pay II: Hard-to-Staff Schools

Explanation

School districts often have great difficulty staffing schools with high percentages of disadvantaged and/or low-performing students.²⁴

When teachers have a choice about where to teach, they tend to seek out schools that have fewer of these challenges.²⁵ So one brand of pay proposals seeks to offer extra pay to induce good teachers to take on these assignments.

Relationship to Teaching Quality

This kind of pay reform would affect primarily the *distribution* of good teachers in the system by influencing teachers' choices about where to work. So-called hard-to-staff schools would find it easier to fill teaching slots with qualified instructors.

This kind of differential pay does not have any purported effect on teachers' behavior in classrooms.

Examples

Various states and districts have sought to attract teachers to different kinds of schools using a variety of compensation schemes. See the accompanying sidebars for examples.²⁶

Linking Pay to Performance

Explanation

A final category of pay proposals seeks to make "performance" a factor that drives pay. Under such proposals, teachers would receive one-time bonuses or larger-than-average raises if particular performance conditions were met. Tying pay to performance is one of the most controversial issues in teacher pay policy debates, as well as one of the most complex from a design perspective.

Relationship to Teaching Quality

Linking pay to performance might affect the *composition* of the teaching force in the same three ways that linking it to knowledge and skills could. First, future teachers who think they are likely to be high performers will be more likely to enter the profession in the first place. Second, teachers who *do* perform well (and expect to continue to do so) will be more likely to stay. Finally, teachers whose performance lags behind others will be more likely to leave the profession. As with knowledge- and skills-based compensation, these effects occur through two channels—the *actual financial rewards* reaped by people with different levels of performance and the *signal* sent by performance-based pay that the system values teachers who perform well.

North Carolina's School-Based Performance Award Program

How does the program measure performance?

Student performance on end of grade (EOG) and end of course (EOC) tests is measured.

What is rewarded? At what level?

Student growth over the course of an academic year is rewarded—one year of growth is expected for one year of schooling. Schools that achieve expected or exemplary growth are eligible for awards. A school achieves "expected" growth if the statistically adjusted average growth of its students meets a pre-set target for a given year. A school achieves "exemplary" growth if this average exceeds the target by 10 percent or more.

What is the size of the rewards?

Awards are typically given to full-time certified teachers and support staff (\$1,500 and \$500 respectively for schools achieving exemplary growth; \$750 and \$375 respectively for schools achieving expected growth), though schools can decide to use the funds for non-compensation purposes.

Source: Johnson, A., Potter, P., Pughsley, J., Wallace, C., Kellor, E., Odden, A. (1999). A Case Study of the Charlotte-Mecklenburg Public Schools School-Based Performance Award Program. Madison, WI: Consortium for Policy Research in Education.

More powerful, though, is the potential effect of performance-based pay on teachers' *behavior*. If performance-based awards are large enough, they give teachers a powerful incentive to engage in practices that are likely to contribute to the kind of performance that is rewarded. They also induce teachers to enhance their knowledge and skills in ways that help them contribute to that kind of performance.

Examples

Performance-based pay experiments are highly varied in ways discussed in the accompa-

The Vaughn Next-Century Learning Center School-Based Performance Award Program

How does the program measure performance?

Student achievement is measured by schoolwide improvement on Stanford-9 achievement tests, as well as schoolwide performance on Terra Nova (English and Spanish versions) reading and math tests.

What is rewarded?

Rewards are given if schoolwide test scores improve at least three percentile points over the previous year's Stanford-9 average and meet at least one of the other two achievement goals: an average schoolwide score in 37th percentile or higher on the Terra Nova test and/or a schoolwide report card grade of "C" or better. Additionally, the school has set as a future goal the redesignation of its Limited English Proficient (LEP) students.

What is the size of the rewards and at what level are they distributed?

Lump sum payments are awarded to all certified staff including administrators. Classified staff are eligible for a pro-rated bonus. During the 1999-2000 academic year, the budget included provisions for bonuses of \$2,000.

Source: Chan, Y., Galarza, G., Llamas, S., Kellor, E., Odden, A. (1999). A Case Study of the Vaughn Next Century Learning Center's School-Based Performance Award Program. Madison, WI: Consortium for Policy Research in Education.

nying appendix. See the nearby sidebars for some examples.

Who Makes Decisions About Pay?

The previous section discussed potential changes to one hallmark of the traditional teacher pay system—its reliance on experience and graduate education as the key determinants of compensation. Another key feature of the status quo, though, is its *centralization*. Typically, state- or district-level policymakers set the salary

schedule for teachers. School-building leaders have no authority to set the pay of the people who teach in the school. Some critics have called for much greater, if not total, delegation of teacher stipend decisions to school principals.²⁷ As the Thomas B. Fordham Foundation's 1999 "manifesto" on teacher policy states: "All key personnel decisions (including hiring, promotion, retention, and compensation) should be devolved to schools. Quality control should be the responsibility of school leaders, who have freedom to hire from a wide pool of teaching candidates and pay teachers based on marketplace conditions or individual performance."²⁸ This section discusses the merit of such proposals and the design issues that surround them.

The Debate Over Who Decides

As noted earlier, the argument for a centralized pay system rests on the notion that a widely applicable pay scale is fairer, more equitable, and simpler than one granting more discretion to principals. A decentralized system would inevitably lead to situations in which similar teachers have different salaries. Further, the argument goes, the typical principal lacks the capacity to do the complicated job of setting pay. At best, most principals will be bumbling, making poorly conceived pay decisions, or falling back on traditional pay scales. At worst, some would dole out rewards illegitimately, such as by over-rewarding teachers who are their buddies or who "go along" with their leadership. In addition, some principals may not want the ability to set pay. It's comfortable to be able to tell teachers, "Hey, don't blame me for your pay—that's the school board's, or the state legislature's, decision."

If all schools faced identical teaching quality challenges, these arguments might be compelling. But they don't. In fact, schools differ vastly in this respect. Consider a hypothetical example by

way of illustration. Pleasantview Elementary School is a suburban school with a long history of high test scores and an excellent reputation in the community. It has a veteran teaching staff, most of whom would score high on any assessments of teacher knowledge and skills. But the student population has begun to shift as demographic change has brought more low-income (and lower-performing) students to the suburbs, many of whom do not speak English as their first language. Principal Diana Jones sees the need for change at the school to meet these new needs, but teachers are complacent, resting on their historical laurels. Jones doesn't see them focusing much effort on the new kids' challenges. She worries that these new students will fall farther behind, and that the school will come under increasing scrutiny in the state's new accountability system.

Pleasantview's state has just overhauled teacher compensation to offer signing bonuses to math and science teachers, extra pay to teachers working in hard-to-staff schools, and a revised pay scale that rewards "knowledge and skills" of teachers, measured by an externally judged portfolio. From Principal Jones' point of view, these reforms are of little value. Recruiting new math and science teachers is not a priority—the school already has a good math and science faculty and doesn't have much problem recruiting new teachers to fill those slots. Pleasantview doesn't qualify for "hard-to-staff" bonuses. The new knowledge- and skills-based pay works well for the experienced faculty, but then they were highly paid under the old system anyway.

What Jones would like to do is use pay to achieve other objectives: (1) recruiting more faculty who have proven themselves effective with Pleasantview's new population mix, and (2) providing incentives for existing faculty to achieve better results with the new subpopulation of kids. She'd like to be able to offer higher base pay to candidates meeting the first objective, and to use money that would go into automatic annual raises to pay bonuses for schoolwide success specifically with low-performing students. But the new state pay system, although revamped, doesn't allow these approaches. Jones can use other strategies to achieve her results, but she can't align pay with those other strategies.

Pleasantview is just one hypothetical example. Examining a host of real schools would reveal a wide range of teaching quality challenges that pay

systems could help address. But no single pay system would give all school leaders the tools required to address their own schools' unique needs. No one pay system would be aligned with all of the more inclusive strategies school leaders use to improve overall school performance. And, no one pay system would support the vastly different school cultures we would observe from one school to the next.

This likely misalignment argues for a pay system that is more flexible—a system that allows school leaders to use compensation as one tool within their broader toolboxes. They would likely use many of the mechanisms explored in the previous section—paying for knowledge and skills, using differential pay to respond to market realities, paying for performance, or some combination thereof. But they would be able to align those approaches with whatever comprehensive strategies they are using to improve the performance of their schools. Pay would support their overall approaches, rather than being irrelevant to them or, worse, undermining them.

Such arguments are especially compelling as the nation moves toward systems in which schools—and school leaders—are held accountable for results. The more the system holds school leaders responsible for outcomes at the school, the more important it is for school leaders to have the tools and authority they need to pursue results. Compensation is just one such tool, but in concert with others can be a powerful instrument for change.

When we think of school leaders, we tend to think of principals making these decisions. But this document uses the phrase "school leaders" deliberately, to leave open other possibilities. One example is a new and growing phenomenon known as "teacher ownership." In a small number of charter schools, such as Minnesota New Country School, a cooperative of teachers runs the school. The school's own faculty makes decisions about all aspects of the school's operations, including how to structure salaries. Such a structure defuses some teachers' worries about giving principals too much authority over pay, since teachers themselves decide matters of compensation. It also creates an opportunity for teachers to raise their overall compensation—if doing so makes sense in the context of other budget priorities.²⁹ Other schools—both charter

and district public schools—are governed by diverse forms of leadership bodies that could also have a role in compensation policy.

Key Complements to a Flexible Pay System

For a flexible pay system to work, other complementary policies would need to be in place. These include:

- ▶ **Holding school leaders accountable.** As noted above, one of the worries about a school-set pay system is that principals could hand out rewards on an illegitimate basis—such as to their friends on the faculty. But in a system that holds school leaders accountable for student learning through formal accountability methods and family choice, principals would engage in such shenanigans only at their grave peril. They would face strong incentives to use pay (and other tools) in the service of student achievement, not more petty pursuits.
- ▶ **Granting related autonomy to school leaders.** School-level flexibility concerning pay makes the most sense in the context of overall school autonomy concerning important decisions. Two areas are especially critical: extensive “human resources” policies and the school budget. First, school leaders can use pay most effectively when they also have flexibility in hiring, professional development, evaluation, and dismissal. Such broad flexibility makes it easier to align all of these policies in a coherent strategy for achieving results. Second, school leaders can achieve the best alignment when they set the school budget—not just for compensation, but for all operations. School-level budget authority is especially important to schools that see the need to raise the overall level of compensation for teachers. These schools need the authority to reallocate funds from other areas of the budget into teacher pay, not just flexibility in the use of teacher pay policy.
- ▶ **Building the capacity of school leaders.** Since school leaders have not historically had to

make decisions about pay, most probably lack technical skills related to compensation. States and districts seeking to move toward more flexible pay systems would do well to consider ways of building the capacity of school leaders to carry out this responsibility (and others implied in the previous bullet). Some of these capacity-building skills could be achieved through traditional training and preparation. But there are other possibilities. States and districts could create cadres of consultants to work with school leaders on these matters. And they could also encourage the development of more external assistance providers to schools, as discussed in the next bullet.

- ▶ **Fostering an “industry” of external providers.** Since many school leaders would likely seek to use systems that reward knowledge, skills, and/or performance of teachers, they will need access to highly reliable, affordable systems of measurement and evaluation. Some may want to develop such systems themselves, but most will want to adopt or adapt an externally developed system. There are some such external systems now, such as the National Board for Professional Teaching Standards process and the Milken Family Foundation’s Teacher Advancement Program. But schools need access to a wider variety of options—approaches that focus on different knowledge and skill sets, that use different methodologies to rate teacher capabilities, and that evaluate teacher performance in different ways. Such diversity would not only give more options to schools, which face different needs; it would also spur *all* providers to prove the relative value of their approaches more eagerly (e.g., by showing research linking their ratings to student achievement gains) and to improve their approaches over time.³⁰
- ▶ **Addressing equity issues.** In most current pay systems, money follows teachers to the schools that employ them. So a school with a high percentage of experienced faculty will receive, in effect, more financial resources than a school with less experienced teachers. In practice, this system ends up funneling more resources to schools with higher-performing

and higher-income populations, where experienced teachers tend to end up teaching.³¹ Moving to a more decentralized system, policymakers would need to consider how to address this equity issue. One approach would be to provide resources to schools on some kind of per-pupil basis, perhaps weighted to reflect levels of disadvantage, and then allow schools to deploy dollars according to their chosen strategies.³² Such a method would reverse the current *de facto* practice of providing more resources to the most advantaged schools. It would contribute to the important goal of making “hard-to-staff” schools more attractive to teachers.

Middle Grounds

Despite the appeal of a decentralized approach to setting pay, such proposals are likely to face stiff political opposition and technical challenges in implementation. As a result, it makes sense to consider some middle-ground approaches that involve some elements of decentralization while retaining components of central control. Some examples are as follows:

- ▶ **Partial decentralization.** A state or district could divide teacher compensation funds into two streams—one that flows to teachers according to some prescribed central scale and one that goes to school buildings for allocation according to school priorities.
- ▶ **School-level discretion, within parameters.** A state or district could decentralize pay decisions, but require schools to create and follow compensation policies that meet centrally set standards. For example, schools seeking to reward knowledge, skills, or performance could be required to show that they are using reliable, valid methods for measuring valued traits and outcomes.
- ▶ **Phase-in.** A state or district could phase in localized pay-setting procedures. For example, states could allow a certain number of districts to participate in localized pay-setting systems. A district could do the same for a subset of its schools, perhaps based on a demonstration

of willingness and readiness on the part of school leaders.

Conclusion

Two generalized recommendations emerge from this analysis. First, *states and districts should experiment more widely and deliberately with alternatives to the traditional experience- and degree-based pay system.* The conventional system contributes little to the achievement of the nation’s pressing goals for teaching quality and does much to undermine progress toward better teaching.

Second, *experiments should include granting significant flexibility in pay-setting to school-level leaders.* School leaders are in the best position to align teacher compensation with broader strategies for school improvement in ways that meet their schools’ unique needs. Policies set at the district or state level are likely to help *some* schools address *some* of their teaching quality challenges, but miss the mark with other schools’ needs.

Within these experiments, policymakers should focus relentlessly on *results*, designing new systems in ways that are likely to increase student achievement by enhancing the quality of teaching. They should seek *alignment* between pay policies, comprehensive human resources, and school improvement approaches. And policymakers, along with private funders and school system leaders, should support *rigorous documentation and evaluation* of new pay systems’ effects on teaching quality and student outcomes.

If done right, this kind of experimentation could contribute significantly to the achievement of critical teaching quality goals: enticing more people with high teaching potential to enter the profession, and to stay; persuading great teachers to take on the toughest assignments; inducing teachers to build their own capacity to use effective practices, and to employ those practices more routinely; and encouraging less effective teachers to seek other careers.

Finally, successful experimentation will help make the case for a long-cherished goal of teachers and teachers’ organizations: further increases in the overall level of teacher pay. If policymakers and citizens can see that certain approaches to teacher compensation, in concert with other reforms, “pay off” in student learning, they are likely to be much more eager to devote more funds to teacher pay.

Appendix I

Pay for Knowledge and Skills: Key Design Issues and Options

The Teacher Compensation Project of the Consortium for Policy Research in Education (CPRE) has devoted considerable energy to probing the design issues and options surrounding pay based on teachers' knowledge and skills. This review draws heavily on that work and readers with an interest in this approach to pay are encouraged to consult CPRE's resources directly.³³ Several design issues are essential to consider in fashioning a knowledge- and skills-based pay system:

- ▶ **What skills and knowledge to reward?** The foundation of any knowledge- and skills-based pay system is the specification of what knowledge and skills the system will reward. One basic choice is whether to adopt some external set of definitions (such as the National Board for Professional Teaching Standards [NBPTS] or a state's teaching standards), to devise a homegrown specification of knowledge and skills, or to adapt an external set to meet local needs.³⁴ The central tradeoff in this decision is between the potential advantages of tailoring to a jurisdiction's specific needs and the cost-and-effort savings of adopting an external set of standards.
- ▶ **Is there a link to student learning?** Whether choosing a homegrown or external approach, a critical question is the extent to which the rewarded knowledge and skills actually contribute to student learning. Ideally, teachers possessing the chosen knowledge and skills would have been shown by solid research to produce greater learning gains than teachers without them. Typically, however, there is weak empirical support for these linkages.³⁵ One approach is to select specific knowledge and skills to reward, and then monitor over time the relationship between these capabilities and student learning actually changing pay. The results of that evaluation can be used to modify the matrix if certain knowledge and skills show little relationship to achievement gains.³⁶ The benefit of *seeking out* meaningful, performance-predictive skills and knowledge should be immediate: teachers focused on improving their own skills, knowledge, and resulting performance will feel at home in organizations that pay attention to these matters.
- ▶ **How to measure knowledge and skills?** Finding a reliable, cost-effective way of measuring teachers' knowledge and skills can be challenging. One approach is to use some kind of external body, like the NBPTS. One advantage of this option is that such agencies may have already invested in the development of reliable assessments and rating systems. They also have a strong incentive not to be over-generous with their ratings, since they want to preserve the integrity of their "brands." The drawback is that such reviewers are far removed from "the action" of the classroom. While they can review portfolios of teachers' work, including written samples and videos of classroom activities, they cannot observe the routine daily practice of a teacher. Teachers' portfolios may or may not be a good representation of what their teaching looks like from day to day.³⁷ Teachers who obtain NBPTS certification may or may not put their full capabilities to use over the 10 years the certificate is in force. As noted above, relying on isolated demonstrations of knowledge and skills—rather than routine use of them—blunts the behavioral effects of this approach.

Assessments performed by local actors, such as the school principal or a teacher's peers, make it more *possible* to assess routine practice. But, they raise challenges of reliability, as local assessors need to be given tested guidelines and training on conducting the measurements. Local assessors may also tend to overrate teachers, if they lack strong incentives not to do so. In a system based on peer review, for example, peers may face pressure to give high ratings to their colleagues.³⁸ Unless the system includes some kind of counter-incentive, like random "audits" of peer ratings, teachers would have little reason not to overrate their peers.

- ▶ **Supplementing versus replacing the existing scale?** In the most thorough knowledge- and skills-based pay system, a new scale would replace entirely the old experience- and degree-based schedule. Teachers' base salaries would be determined in total by how they rate on the knowledge and skills continuum. Many actual systems, however, just use knowledge and skills ratings to determine *part* of a teachers' base pay. The more emphasis a system places on the knowledge and skills component, the more powerful effect the system is likely to have on the composition and behavior of the teaching force. But replacement may be too radical for many jurisdictions to consider.
- ▶ **Transition issues.** For jurisdictions considering a move from a traditional pay scale to one based entirely on knowledge and skills, transition issues arise. Should teachers who have entered the profession under a certain set of assumptions about their pay trajectory be subject to potentially large changes in their future compensation? One recommended approach is to protect existing teachers by not lowering pay on account of the new system, but to make future pay *increases* based on the new model. Therefore, initially highly paid teachers' salary would not go down, but would instead rise if their knowledge and skills justified increases. This approach is legally and politically feasible, but also frees up all pay-increase dollars to devote to the new system.
- ▶ **How much does moving up the knowledge and skills continuum pay?** On this design issue, the simplest knowledge- and skills-based programs are the add-ons some states and districts provide for teachers with NBPTS certification. These policies simply provide teachers receiving National Board certification with some amount of additional annual pay. More complex systems that include whole continua of knowledge and skills require a more complicated pay scale that links dollars to demonstration of particular knowledge and skills. The Cincinnati system, which was recently rejected due in large part to union opposition to the specifics of the proposal,³⁹ uses five categories of teachers, from "novice" to "accomplished," each with its own salary range. Within categories, there are substeps from the bottom to the top of the range. Douglas County, Colorado, uses a different approach: Teachers earn one-time bonuses for demonstrating mastery of particular areas and earn annual raises only if rated "proficient" in all areas by an administrator. Whatever the approach, steps on the pay scale need to be large enough to induce teachers to take their own development seriously. The overall scale, however, needs to fit within budget constraints, as discussed in the next bullet.
- ▶ **How to fund knowledge- and skills-based pay?** If all teachers can potentially advance on a knowledge- and skills-based pay scale, and can advance rapidly, it is possible that the total teacher salary bill for a district or state could rise more quickly than policymakers have come to expect under more predictable experience- and degrees-based systems. As a result, it is essential for policymakers to think through how they are going to fund the program if levels of attainment exceed expectation. Having to renege on promised pay increments or prorate them could undermine teachers' support for the plan and undercut the plan's power to affect the composition and behavior of the teaching force. Having a "fixed pot" that only a fraction of teachers can tap into can undermine teachers' willingness to help one another achieve knowledge and skills gains.

Beyond the actual pay increments associated with attainment, a system based on knowledge and skills may also require other resources, such as the costs of assessment in dollars or staff time. Any plan needs to budget for these expenses as well.
- ▶ **Alignment.** As with any pay system, it is vital to align a knowledge- and skills-based approach with other human resources "systems" in a school, district, or state. The knowledge and skills rewarded by the system, for example, should also be those that are calculated in teacher evaluations and are the focus of professional development offerings. The school schedule needs to allow for whatever observation and assessment routines underpin the approach. Whoever plays a key role in assessing teachers' knowledge and skills needs to be trained and supported in that work.

A final, and most important, alignment issue is the knowledge and skills rewarded need to be those that will help educators achieve results with children. This kind of alignment is more difficult to achieve if the system is established at a “high” level, such as the state. The higher the level at which it is established, the more removed the system is from the knowledge and skill needs of a particular school or classroom setting. In a statewide system, for example, some schools are likely to find that the knowledge and skills they really need to focus on are not necessarily the ones rewarded. Similarly, alignment is more difficult to achieve the more formal and rigid the system is, especially if knowledge and skill needs change over time. These issues are addressed more fully in the above section “Who Makes Decisions About Pay?”

Appendix II

Differential Pay I: Hard-to-Hire Teachers Key Design Issues and Options

- ▶ **What kinds of teachers should be rewarded?** The most often cited shortage areas to target with “hard to hire” incentive pay are math and science teachers. But jurisdictions considering this kind of pay would benefit from careful market analysis before deciding where to focus their resources. Math or science may not in fact be a priority for a given school system; other disciplines or other attributes altogether may present greater challenges. Further, it may be that it is *secondary* math and science teachers that are in shortest supply. If so, officials may want to target differential pay at that level. A more flexible system would allow school leaders to make determinations about what kinds of teachers (or even specific candidates) were “hard to hire” for that school, rather than limiting the extra pay to a predetermined set of teachers.
- ▶ **Who qualifies?** Are current math and science teachers eligible for the pay increment, or just new hires? Granting higher salaries to incumbent teachers obviously raises the expense of such a program, but if *retention* of staff is important, there is a strong argument for doing so. Considerations of internal equity also argue for universal application. Is differential pay offered to anyone who meets basic standards for a position in math or science? Or is there some higher standard (e.g., a college major in math or science, or demonstrated mastery) for collecting the additional pay? If basic standards are not high, the availability of such differential pay might encourage teaching candidates with limited qualifications to seek out math or science credentials. Setting a higher bar helps ensure value for money spent on the added pay.
- ▶ **One-time/short-term versus ongoing increments.** Many experiments with this kind of differential pay offer one-time signing bonuses, or added pay that lasts for a few years. But if long-term retention of these teachers is important, officials should consider longer-term inducement. Long-term programs might condition the extra pay on performance, so that it is effective teachers who are encouraged to stay (discussion of pay for performance follows).
- ▶ **How much extra pay?** How much money is enough to attract a sufficient number of qualified teachers in a shortage discipline? Labor market surveys of teaching candidates’ other options could shed some light on this question, but the truth is that jurisdictions will have to use trial and error to determine the optimal “market clearing” pay increment for a given type of teacher.
- ▶ **Responsiveness to the market.** At the core of this kind of differential pay is the notion that compensation should be set in response to labor market realities; however, these realities differ from place to place and change over time. Shortages of math and science teachers, for example, are more acute in some places than others. Districts with less acute needs in this area could probably spend the differential pay more usefully on something else. In this context, setting specific differential pay increments through, say, state legislation, is of questionable value. This topic receives more discussion in the above segment, “Who Makes Decisions About Pay?”

Appendix III

Differential Pay II: Hard-to-Staff Schools Key Design Issues and Options

The design issues and options for setting teacher pay for hard-to-staff schools are quite similar to those relating to differential pay for hard-to-hire teachers:

- ▶ **What kinds of assignments should be rewarded?** A key design issue for school-staffing incentive pay is how to define a “hard to staff” school. One option is to use school performance data, increasingly available as part of state accountability systems. These systems typically have category schemes that identify low-performing schools in some way, and those falling in lower categories could be designated as hard to staff for purposes of such rewards. If such a category system is not available or appropriate, officials could set their own thresholds (e.g., the bottom decile of schools on performance data). Another option is to use demographic criteria, providing incentives for teachers to select schools with high-poverty populations. Again, officials could set appropriate thresholds for designation.
- ▶ **Who qualifies?** As with differential pay for hard-to-hire teachers, questions arise concerning whether the system should reward incumbent teachers or just new hires in hard-to-staff schools. Either way, will all potentially eligible teachers receive the reward, or just those that meet some higher quality standard? Refer to this point in the previous discussion on hard-to-hire teachers for some design considerations on these issues.
- ▶ **One-time/short-term versus ongoing increments.** As with differential pay for hard-to-hire teachers, if long-term retention of these teachers is important, officials should consider longer-term inducement. Again, long-term programs might condition the extra pay on performance, so that it is effective teachers who are encouraged to stay (discussion of pay for performance in hard-to-staff schools follows).
- ▶ **How much extra pay?** How much money is enough to attract a sufficient number of qualified teachers to take on tough assignments? Early experience with this kind of program has provided little evidence that the kind of incentives offered are sufficient to change teachers’ choices.⁴⁰ Eric Hanushek’s analysis of a large-scale teacher database in Texas further finds that the typical teacher would require a 20 percent to 50 percent pay increment to select a tough assignment.⁴¹ As with hard-to-hire differential pay, jurisdictions will have to use trial and error to determine the optimal “market clearing” pay increment for a given type of teacher.
- ▶ **Alignment with noncompensation policies.** The evidence cited above suggests that pay alone is unlikely to make hard-to-staff schools sufficiently attractive to great teachers. As with all compensation policies, then, it is particularly important for officials to look at a broad range of approaches to making hard-to-staff schools more appealing—not to just raise the pay of teachers who select them.⁴²

Appendix IV

Linking Pay to Performance: Key Design Issues and Options

- ▶ **What kind of performance should be rewarded?** The central design question is how to define “performance.” The nation, of course, is in the midst of a larger effort to define performance for the system as a whole. The same issues that animate that debate are relevant to this design question for teacher compensation.⁴³ Here are some of them:
 - Should performance be defined as the proportion of students meeting a set standard, the rate of growth students achieve, a more sophisticated calculation of “value added” by a school or teacher, or a combination of these measures?
 - Should the metric be students’ scores on standardized tests, or should other indicators of student performance be part of the calculation? If other reliable indicators of student performance are in use in a school, district, or state, there is no reason why they could not be incorporated into a teacher compensation system.
 - Should student performance be the only basis for the system, or should schools or teachers be rated on other factors as well? We tend to think of “performance” as student performance, but there is no *a priori* reason why a performance-based teacher compensation system would have to be predicated solely on student performance. For example, a school of choice could figure bonuses based in part on the proportion of students who reenroll in the school for the following year. A district with a teacher-mentoring program could reward mentors based in part on progress made by their “mentees” on a scale of knowledge and skills.

There are no hard and fast answers to these questions, but there are some important design principles to keep in mind. The first almost goes without saying: Whatever kind of “performance” is rewarded should be something that is *highly valued* by the school, district, or state. This principle argues for including student performance in the system, or for ensuring that any nonstudent indicators are closely linked to valued student outcomes. But there is no reason why performance has to be defined solely in terms of student results on standardized tests. Second, performance incentives are likely to be more powerful (and more widely accepted) the more *control* an individual has over the performance variable. For example, granting performance bonuses only to teachers at schools where more than 90 percent of students meet grade-level standards is likely to provide minimal incentives for (and quite a bit of grumbling among) teachers at schools starting with fewer than 10 percent at grade level. Third, *alignment* of performance pay with the greater organizational culture and structure of a school or district is critical. If a school, for example, is seeking to foster collaboration among teachers, performance pay should not undermine such collegiality. Better yet, it should be designed to support collaboration. In this context, there is no “ideal” performance pay system—different approaches will make sense in different schools and districts.

- ▶ **What level (e.g., school or individual) should be rewarded?** One design issue in which alignment is especially important is deciding the *level* at which to grant performance-based awards. When many people think of performance-based pay, they immediately conjure up a vision of awards based on individual performance. The most common current approach, though, is “school-based performance awards” (SBPAs) which teachers receive according to *how well the school as a whole performs*. Since many schools seek to encourage cross-staff collaboration, considerations of alignment lead some analysts to suggest that school-based awards are *always* the most appropriate. As Kelley and Odden write: “Competition among teachers works against the collaborative culture found in highly effective schools and thus is at odds with strategies to improve school performance.”⁴⁴

But there are also options beyond school-based and individual-based rewards. In a school using grade-level teams or departments as units for planning, professional development, and peer support, it may make sense to reward teachers based on their team or departmental performance. Such a system would reinforce the cultural push for collaboration at the sub-school level. Finally, hybrid approaches are common in the private sector. A teacher's bonus, for example, could be calculated in part on the basis of schoolwide performance and in part on the basis of individual or team contributions.

In making this design choice, policymakers and education leaders face a tradeoff. Making awards based on the performance of larger units (like schools) provides support for norms of collegiality. But doing so also decreases the degree of control any one teacher exerts over the performance. As a result, the overall effects of performance-based pay on the composition and behavior of the teaching force are likely to be smaller than they would in a system rewarding performance at the individual or team level. The larger the unit on whose performance awards are based, the more vulnerable the system is to classic "free rider" problems of collective action. Since each individual can make only a small difference in the unit's performance, the incentive created by the award is blunted.

- ▶ **Who is part of the performance-based system?** Decision makers also have to grapple with the question of whom to include in performance-based systems. Some of the complications include: how to treat teachers outside the core academic areas, especially if student test scores in core academic subjects are the basis for awards; how to treat secondary school teachers, who often teach larger numbers of children in a more limited subject area; and whether to target performance incentives exclusively or more heavily to teachers in hard-to-staff schools, or some other priority.⁴⁵
- ▶ **How to measure performance?** Measuring the performance of students and teachers is an enormous topic in its own right, far beyond the scope of this report. But a performance-based pay system will only be as good as the mechanism it uses to measure performance. If student test scores are part of the system, rewards are ideally based upon a measure of "value added"—the contribution a school or teacher has made to individual students' learning. Such measures are difficult to craft and make reliable, especially within small units like schools or classrooms or when students are highly mobile.⁴⁶

If more indirect performance measures—such as assessments of teachers' actual classroom performance—are to be used, many of the same issues raised in the previous discussion of knowledge- and skills-based pay will apply. External ratings may bring greater reliability to the process, but at the cost of limiting the ability to observe routine practice. Ratings by local supervisors or peers provide the opposite tradeoff.
- ▶ **How to link pay with performance levels?** In one form of performance pay, a unit must hit a certain threshold of performance in order to receive the award. Under a different approach, the performance-based reward rises continuously with the level of performance. The advantage of a threshold system is that it can set a high bar, discouraging teachers from being satisfied with mid-level performance. But if teachers believe they cannot meet the high bar, the system loses its power. A more continuous system has the advantage of encouraging greater levels of performance whether or not teachers believe they can hit some high threshold.
- ▶ **One-time bonuses versus performance-based raises.** How teachers receive performance-based pay is also important. One approach is to provide one-time bonuses, with no effect on teachers' base salaries. Another is to make performance a factor in determining next year's base pay. For example, a system might allow high-performing teachers to move up a traditional salary scale at a more rapid rate—taking two steps up in a year rather than one. Performance-based raises are more valuable to teachers: Since the increase becomes part of the base pay, it stays with the teacher

beyond the particular year of the award. But these future-year payouts are also the downside of such a system—they are potentially costly with no ongoing effects on teachers' behavior.

- ▶ **Size of rewards.** How large must a performance-based award be to have significant effects on the composition and behavior of the teaching force? Without further experimentation and research, it is impossible to state any kind of definitive number. The awards in the two examples in this section are between \$1,500 and \$2,000 per teacher—just under 5 percent of an average salary.
- ▶ **Performance incentives and hard-to-staff schools.** One criticism of performance-based pay is that it will further discourage teachers from taking assignments in more challenging schools. As discussed above, many teachers already avoid such schools because teaching is more arduous. If it is also more difficult to win a bonus in such schools, teachers will be even less likely to sign up. Therefore, it is vital to design performance-based pay systems so that they do not create this perverse incentive. Defining performance based on gains, rather than absolute performance, is one key design element. But systems could more explicitly build in inducements to take on tough assignments—such as offering larger bonuses for high-performance in hard-to-staff schools.
- ▶ **How to fund performance-based rewards?** As with knowledge- and skills-based pay, policymakers need to think carefully about how to provide adequate funding for performance-based rewards. If all teachers can potentially win the maximum award, the potential liability is high. In private enterprises, companies can tie performance awards to the achievement of financial objectives; if many workers win performance awards, the company by design has the funds to make the payouts. Public education doesn't work that way. If an unexpectedly high number of teachers hit their targets, that does not mean the system has somehow garnered extra revenue to make the payments. But if there is a "fixed pot" for rewards, what will happen if the bonuses teachers qualify for exceed the funds available? Failure to follow through on promised awards can seriously undermine support for and the value of a performance-based system.

Endnotes

¹ According to research from Tennessee (Sanders, 1996), the effectiveness of an individual classroom teacher has a greater impact on student learning than other indicators of school quality, including school socioeconomic status, class size, and student variability within classrooms.

² According to a 2000 RAND study, disadvantaged students benefit more from additional expenditures on educational resources than their more advantaged counterparts. This is alarming given the findings from research conducted by Paul Hill for the Hoover Institute, which show that district budgeting practices, coupled with procedures for allocating teachers among district schools, lead to inequities in per-pupil spending between schools serving disadvantaged and advantaged students (Hill, 2001). Given this disparity in spending, it is not surprising that low-income and minority students are more likely to be taught by inexperienced and unqualified teachers. For more information on the quality of teaching in hard to staff schools, see "Improving Student Achievement: What State NAEP Scores Tell Us", RAND, 2000; Hill, Paul, "A Conspiracy of Science," Hoover Institution weekly essay, 2002, http://www-hoover.Stanford.edu/pubaffairs/we/current/hill_0201.html; and "Good Teaching Matters," *Thinking K 16*, Summer 1998 (a publication of the Education Trust).

³ NCES, Statistics in Brief, "Public School Student, Staff, and Graduate Counts by State, School Year 1999-2000."

⁴ Frederick M. Hess, *Tear Down this Wall: The Case for a Radical Overhaul of Teacher Certification*, Progressive Policy Institute, 2001, www.ppionline.org.

⁵ American Federation of Teachers figures. See AFT's Survey and Analysis of Teacher Salary Trends (<http://www.aft.org/research/survey99/tables.html>) for more information.

⁶ Lortie, 1975; Johnson, 1986; Johnson, 1990.

⁷ Johnson, 1990, p. 320.

⁸ Hanushek, Kain, and Rivkin, 2001.

⁹ Johnson et al. "Retaining the Next Generation of Teachers: The Importance of School-Based Support," Harvard Education Letter, Cambridge, MA, 2001, <http://www.edletter.org/past/issues/2001-ja/support.shtml>.

¹⁰ Public Agenda, *A Sense of Calling*, <http://www.publicagenda.org/specials/teachers/teachers.htm>.

¹¹ Johnson, 1990, p. 321; Hanushek et al.

¹² Kreps, 1997.

¹³ AFT documents.

¹⁴ North Carolina scale document, http://www.ncpublicschools.org/salary_admin/SalSched01-02.pdf.

¹⁵ Protsik, 1995.

¹⁶ Michael Barzelay, *Breaking through Bureaucracy*, University of California, Berkeley, CA, 1992; Jack H. Knott and Gary J. Miller, *Reforming Bureaucracy: The Politics of Institutional Choice*, Prentice-Hall, Englewood Cliffs, NJ, 1987.

¹⁷ Protsik, 1995. For more on the broader evolution of management systems in the earlier part of the century, see Tyack, David, "The One Best System," Harvard University Press, Cambridge, MA, 1974.

¹⁸ Delisio, Ellen R., *School Systems and Teachers Unions Mill Over Performance Pay*, Education World, 2000, http://www.education-world.com/a_issues/issues135.shtml.

¹⁹ Weglinsky, Harold, "How Teaching Matters: Bringing the Classroom Back into Discussions of Teacher Quality," Education Testing Service, Princeton, NJ, 2000.

²⁰ Goldhaber et al., NCES selected papers 2001.

²¹ Public Agenda, *A Sense of Calling*, <http://www.publicagenda.org/specials/teachers/teachers.htm>.

²² Hawley, Willis D., and Valli, Linda. "The Essentials of Effective Professional Development: A New Consensus," 2001. (chap. 1 of this book: Boesel, David (Editor). *Improving Teacher Quality: Imperative for Educational Reform*, Office of Educational Research & Improvement, Washington, DC, Pages 1-18. <http://www.ericsp.org/pages/digests/ConProfDev.pdf>; National Staff Development Council, NSDC Standards for Staff Development, 2001, <http://www.nsd.org/library/standards2001.html>.

²³ For a thorough treatment of knowledge- and skills-based pay, see Odden and Kellor, 2000; Odden et al., 2001; Odden et al., 1997.

²⁴ For example, according to NCES data, low-income schools had higher levels of out-of-field teaching in several core academic fields than did more affluent schools (22 percent and 11 percent respectively). NCES, October 1996, p xi.

²⁵ Hanushek, Kain, and Rivkin, 2001.

²⁶ For more examples from Southern states, see "Recruiting Teachers for Hard-to-Staff Schools: Solutions for the Southeast and the Nation," The Southeast Center for Teacher Quality, 2002, <http://www.teachingquality.org/resources/articles/hstsbrief.htm>.

²⁷ For example, Podgursky and Ballou in *Education Next*; the Thomas B. Fordham Foundation, *The Teachers We Need and How to Get More of Them*, The Foundation, Washington, DC, 1999.

²⁸ The Thomas B. Fordham Foundation, *The Teachers We Need and How to Get More of Them*.

²⁹ For more on teacher ownership, see Edward J. Dirkswager, ed., *Teachers as Owners: A Key to Revitalizing Public Education*, Scarecrow Education, Lanham, MD, 2002.

³⁰ Such a provider-set would be similar to, and likely dovetail with, the industry of teacher preparation and certification organizations envisioned by Frederick M. Hess in *Tear Down this Wall: The Case for a Radical Overhaul of Teacher Certification*, Progressive Policy Institute, (Hess, 2001). www.ppionline.org.

³¹ Marguerite Roza, "The Challenge for Title I," *Education Week*, April 4, 2001.

³² For a discussion of such systems of finance, see Odden, A., and C. Busch, *Financing Schools for High Performance: Strategies for Improving the Use of Educational Resources*, Jossey-Bass Publishers, San Francisco, CA, 1998.

³³ Kelley and Odden, 1995, p. 1.

³⁴ For the National Board for Professional Teaching Standards, see <http://www.nbpts.org>. For the Interstate New Teacher Assessment and Support Consortium's (INTASC) standards for beginning teachers, see <http://www.ccsso.org/intasc.html>.

³⁵ See, for example, Podgursky and Ballou's critique of the lack of evidence linking National Board certification with student achievement results. Ballou and Podgursky, 2001.

³⁶ One district using a knowledge- and skills-based system, Cincinnati, has conducted such research and found that teachers possessing the rewarded capabilities do produce greater learning gains. For more information see "Cincinnati Public Schools Study Links Teacher Evaluation System to Student Achievement," <http://www.cpsboe.k12.oh.us/general/tchnngprof/TES/TESstudy.html>.

³⁷ Ballou and Podgursky, 2001.

³⁸ Ibid.

³⁹ The Cincinnati public school district's pay-for-performance plan, which was scheduled to link pay to teacher evaluation beginning next year, was recently rejected by Cincinnati teachers in a vote of 1,892 to 73. In April, just a month before the vote was scheduled to take place, Cincinnati Federation of Teachers union leaders recommended that teachers vote down the plan, citing evidence from teacher interviews that showed a majority of teachers were against the plan. Steven Adamowski, Superintendent of Cincinnati Public Schools, believes that the union helped secure a "no" vote on the plan by not disseminating adequate information about the specifics of the evaluation and three proposed alternative options. Adamowski maintains that, if teachers were aware of the alternatives, support for the pay plan would have greatly increased. For more information see: Mrozowski, Jennifer, *Teachers Reject Merit-Pay Plan*, http://enquirer.com/editions/2002/05/18/loc_teachers_reject.html, May 21, 2002; and Mrozowski, Jennifer, *Decision Near on Teacher Pay Plan*, http://enquirer.com/editions/2002/05/13/loc_decision_near_on.html, May 21, 2002.

⁴⁰ "Recruiting Teachers for Hard-to-Staff Schools: Solutions for the Southeast and the Nation," The Southeast Center for Teacher Quality, 2002, <http://www.teachingquality.org/resources/articles/htssbrief.htm>.

⁴¹ Hanushek et al., 2001, p. 19. The authors conclude that schools serving academically and demographically disadvantaged schools would have to pay "an additional 20, 30 or even 50 percent more in salary" than less challenged schools.

⁴² For one exploration of such strategies, see <http://www.teachingquality.org/resources/articles/htssbrief.htm>.

⁴³ For a probing recent discussion of the broader systems-design issues, see Gong, 2002.

⁴⁴ Kelley and Odden, 1995.

⁴⁵ One scholar has proposed dividing teachers into those who teach basic skills and those who focus on problem-solving and other "higher order" skills. Basic skills teachers, whose performance can be more readily assessed, would be paid in part on a performance basis, while higher order skills teachers would receive more conventional compensation. See Jane Hannaway, "Higher Order Skills, Job Design, and Incentives: An Analysis and Proposal," *American Educational Research Journal*, 29, 1 (spring 1992), 3-21.

⁴⁶ For a thorough discussion of measurement issues in performance-based pay for teachers, see Kellor et al., 1999. For a more general analysis of problems with accountability systems based on measures of student gains, see Kane, T.J., D.O. Staiger, and J. Geppert, "Randomly Accountable," *Education Next*, Spring 2002.

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