

A New Series of Papers on Teacher Compensation from the University of Wisconsin CPRE Group

There is strong consensus around the country that talented and capable teachers will be needed in all classrooms in order to accomplish the nation's goals of teaching all students to high standards, and closing the achievement gap. Although there are many policy and practice issues that have to be addressed in order for the nation's education systems to recruit and retain the quality of individuals that are required, including schools and classrooms in many of the country's large urban and poverty impacted districts, the teacher compensation system itself must be changed. Teacher salary levels will have to be hiked in many places to enable school systems to compete for the quality of talent required to be successful, and the salary structures themselves need to be changed in order to pay teachers for the knowledge, skills and responsibilities to be successful, including bonuses for improved student performance.

With support from the College Board, the Consortium for Policy Research in Education (CPRE) Group at the University of Wisconsin-Madison is producing a series of papers that addresses the compensation aspect of the strategic management of human capital in public education:

1. **New Teacher Pay Structures: The Compensation Side of the Strategic Management of Human Capital**, by Allan Odden
2. Do Teacher Pay Levels Matter?, by Anthony Milanowski
3. How to Design New Teacher Salary Structures, by Herbert G. Heneman, III and Steve Kimball
4. How to Pay Teachers for Student Performance Outcomes, by Anthony Milanowski
5. How to Fund Teacher Compensation Changes, by Allan Odden
6. Exploring a Federal Government Role in Funding Increased Teacher Compensation, by Andrew Reschovsky

This paper is available in the Resources section of <http://www.smhc-cpre.org>.

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NEW TEACHER PAY STRUCTURES: THE COMPENSATION SIDE OF THE STRATEGIC MANAGEMENT OF HUMAN CAPITAL

By
Allan Odden

For the past several years if not decades, the United States has been engaged in an ambitious and far reaching education reform agenda. The rationales cited for reform include increased international economic competitiveness and enhanced civic and family opportunities for individuals, as well as the moral imperative of an equal and adequate public education as a stepping stone to civic progress and economic growth. The goal is to educate the vast majority of all children to rigorous student performance levels. This goal includes high levels of attainment for low income and minority children, as well as for all girls and boys. The aspiration is to have children learn to “world class” performance standards—to be able to know, think, problem solve and communicate at high proficiency levels in all major subjects—mathematics, science, reading/English/language arts, history and geography.

The education system will need to change in many ways in order for the country to attain these lofty goals. All schools will need to adopt rigorous curriculum programs and engage in a continuous cycle of instructional improvement. The education system will need smart and capable individuals to implement these strategies. But the current education system does not recruit, select, deploy, train, pay or retain the appropriate human capital to implement an effective cycle of continuous instructional improvement, suggesting that the entire human capital development system in public education, particularly in large urban districts, needs to be redesigned. A major component of any strategic human capital management system is the compensation system. The compensation system can be designed to reinforce the strategic goals of the organization or be neutral with respect to those goals.

This paper argues that the compensation system for teachers can and should be changed to reinforce an aligned human capital management system (see Odden & Kelly, 2008) and thus more supportive of the goal of teaching all students in all classrooms to high and rigorous performance standards. In many districts, teachers, particularly the most effective teachers, are both underpaid and ineffectively paid. In most states, teachers are paid less than jobs that require similar knowledge, skills and responsibilities, disadvantaging the education system in recruiting the best and the brightest into education. In most districts, teachers receive annual pay increases on the basis of factors that have little or no relationship to increases in student performance, so that the pay system sends the wrong signals about what teachers should do to earn higher pay. Even states and districts that experience obvious shortages of mathematics, science, and special education teachers rarely recognize that the teacher labor market is segmented and pay such teachers more as a result. Similarly, often times, the toughest schools have the lowest paid and least effective teachers, rather than the highest paid and most effective teachers. Though rising in use, few states and districts provide any pay for improved student performance, although this is the most important goal of the education system. In places that have stepped into the lead in implementing pay innovations, rarely have they used the entire arsenal of their overall human capital management system to execute the pay innovation. As a result, the pay change remains an isolated initiative with blunted impact.

No organization that pays its key employees in these unproductive ways can hope to double or triple its performance over the short, medium, or long term. If the country's education system is to make headway on education reform, it must revamp how and how much teachers are paid. The pay system for teachers will need to send signals about what teachers need to know and be able to do, and link pay to those teacher assets—knowledge and skills—that are linked to student learning gains. The pay system must also send the message that student achievement to rigorous performance standards is the primary goal; therefore, some aspect of pay should be linked to gains in student achievement. Many other aspects of the teacher pay structure also will need to be altered so that the structure of teacher—and principal—pay will reinforce and strengthen the system's objective of educating all children to high performance standards.

To be sure, other aspects of the education system also will require change. Current teachers and others the nation must recruit to teaching are quite clear that working conditions matter. Teachers, particularly the best teachers, want strong principals who create a safe and orderly environment and manage the school with a focus on improving instructional practice and increasing student achievement.

A multiplicity of anecdotal evidence suggests that many teachers also want to break the egg-carton tradition of teaching in isolation; they want to work collaboratively with other teachers on the instructional program, they want feedback on how to improve their performance, and they want career ladders that move them into teacher leadership roles that provide them more responsibility and accountability for improving instructional practice. They also want decent class sizes and sufficient resources for instructional materials. Finally, they desire better salaries, but salaries that are more linked with their contribution to the success of the organization.

This paper provides an overview of multiple issues related to redesigning educator compensation systems for teachers as well as administrators.¹ It addresses the role of compensation in recruiting and retaining quality teachers; getting good teachers into low performing schools and subjects that now experience shortages; the link between a new compensation structure and related efforts to change and improve teacher's instructional expertise; the rationale for why educators should have some pay contingent on improvements in student academic achievement and an overview of multiple ways such incentives can be designed including incentives provided on a school wide basis as well as targeted to individual teachers; why compensation change should also apply to administrators; and, an assessment of the most effective ways to alter teacher and administrator pay structures.

This paper also addresses other aspects of the education system that should be changed—particularly human capital development systems—to enhance the effectiveness of changes in teacher and administrator compensation. It discusses what a strategically aligned human capital development and management system would look like and how performance management for the entire school district could be structured, and underscores the importance of aligned and enhanced professional development.

¹ For additional information and more detail on how to design the pay changes addressed in this paper, readers are encouraged to read the CPRE handbook on redesigning teacher compensation systems (www.wcer.wisc.edu/cpre) and a new book, *How to Create World Class Teacher Compensation*, by Allan Odden and Marc Wallace, available to download for free at www.freeoadpress.com.

1. OVERVIEW OF ISSUES

This section first discusses the various components of teacher wages, and then discusses the issue of how much teachers should be paid, strategies for getting quality teachers into low performing and high poverty schools as well as into subject areas experiencing shortage, how to link the teacher salary structure to organizational strategies to improve instructional practice, and whether some aspect of teacher pay should be linked to student achievement outcomes.

Components of Teacher Compensation

Teacher compensation consists of five key elements: base pay, base pay progression, variable pay, benefits, and working conditions.

Base pay is the monthly check. It is the most important element of pay with regard to recruiting and retaining individuals in teaching or pretty much any profession or occupation. Individuals use base pay to pay their rent or home mortgage, to buy food, to maintain a car, to purchase clothes, etc. It is the pay element that is viewed as predictable so that the person—teachers in this case—can securely budget for their ongoing living expenses. In nearly all professions, base pay comprises the vast bulk of an individual’s cash compensation.

Base pay progression is the means by which a teacher earns a pay increase over time. In nearly all districts in the United States, teacher salary increases are triggered by years of experience and education degrees and units. Unfortunately, neither of these factors is strongly linked to student learning gains, except for years of experience beyond the first three years. Thus, teachers earn pay increases for factors that are not linked to their increased effectiveness. As we show below, one goal of a new pay system for teachers is to replace or augment these with factors that are linked to improved teacher effectiveness.

Variable pay is by definition a pay element that might or might not be earned. Usually, variable pay is provided as a bonus for improving organizational performance, such as improved student achievement in education. Variable pay cannot be counted on to fund ongoing living expenses; it generally is used for something “extra” because it might not be received in subsequent years.

In redesigning a teacher pay system, attention must be paid to overall average pay levels or average teacher base pay, the factors that trigger base pay progression, and variable pay, each being a different aspect of a teacher’s cash compensation.

One error too many critiques of teacher pay systems make is to confuse variable pay with base pay. The most common critique of teacher pay is that the factors of base pay progression – years of experience and education units – are not linked to organizational goals, specifically, increased student achievement. The solution, according to most critics, is to provide bonuses for improved student achievement. The problem with this logic is that though the criticism is of base pay progression, and is a valid criticism, the solution ignores base pay progression and proposes a variable pay element. If the problem is with base pay progression, the remedy lies in developing new factors for base pay progression, factors that reflect teacher characteristics (such as

knowledge and skills) that do contribute to improved instruction. (This is discussed further below.)

Some do argue that increases in base pay should be triggered by measures of increased student performance. However, if base pay increases for the future are provided on the basis of student achievement gains in the past, i.e., to roll what normally would be a bonus into a permanent increase in base pay, then every year in the future a teacher would be rewarded for student learning gains in some past year. Most compensation experts suggest that this strategy is not wise. In order for a performance bonus to incent teachers to continuously improve student achievement, the bonus needs to be re-earned each year, and not rolled into base pay. In short, other factors need to trigger base pay increases. This paper discusses new and better incentives to use for base pay progression, as well as the need for a new element of pay linked to student performance.

Nearly all of the pay issues discussed below relate to ideas about how to change base pay, base pay progression and variable pay for teachers. Though benefits and working conditions are important and cost money to provide, and though the paper will mention trade-offs between teacher pay and working conditions, the paper does not directly address teacher benefits or working conditions.

Teacher Wage Levels²

Teacher pay levels matter. Actually, wage levels matter for the numbers and quality of individuals who decided to enter and remain in every profession. Generally, the higher the wage level, the higher the quality of individuals entering and remaining in the profession, and the greater the number of individuals wishing to do so. The same generally is true for teachers. Both research and recent experience shows that wage levels matter.

Research has shown that as teacher wages increase to levels that make teaching more attractive economically relative to other professions, more and higher quality individuals decide to enter and remain in teaching. Further, at the margin, teachers migrate from lower paying to higher paying districts, often from large city to suburban districts, although movement from lower to higher paying districts exists among suburban districts as well. Inadequate pay is mentioned as one factor, though one of many, for the movement of many teachers out of the teaching profession. Inadequate pay levels are also mentioned as one culprit in the low level of teacher quality in many of the nation's urban districts and high poverty or high minority schools.

The impact of teacher pay levels is illustrated by recent experience in both New York City and Baltimore. When New York City raised average teacher salaries by about 45 percent over a five year time period, it reduced the percentage of teachers without a full teaching credential from 17 to 2 percent, and has had much less trouble filling all teaching positions. The same happened in Baltimore when it hiked beginning teacher pay levels early in the 2000s.

² The second paper in this series addresses more comprehensively the issue of how and why teacher pay levels matter.

It is important for the education system to have the resources to recruit and retain its share of high quality talent, because as noted above, it will take smart, capable, and well trained teachers and administrators to accomplish the nation's ambitious student achievement goals, particularly for the nation's largest urban district. Adequate teacher wage levels will need to be part of the strategy to attract and keep this high level of talent. In short, teacher wage levels need to be competitive.

But what are the benchmarks for making teacher salaries competitive? There could be many. We suggest, however, that a competitive wage level for teachers would be the same as wage levels for jobs with similar knowledge, skills, and responsibilities or of all college graduates. Fortunately, the Bureau of Labor Statistics has developed a detailed database that allows one to compare jobs across knowledge, skills and responsibilities.³ We have conducted analyses of such jobs and find that on average teachers nationally earn about \$10,000 below individuals in comparable jobs, particularly when appropriate incentives for teachers in mathematics and science as well as performance bonuses are considered. This suggests that to make teaching competitive on a national average basis, overall teacher wages should be hiked by \$10,000.⁴

Since teacher benefits generally are more generous than benefits on average in private sector jobs outside of education, it could be argued that a full \$10,000 wage hike is not necessary.⁵ Nevertheless, the wage comparisons suggest that some overall wage hike is needed to make teaching more market competitive; the range is probably from \$5,000 to \$10,000. The disparity in teacher wage levels versus wage levels in comparable jobs varies substantially by state, so any overall wage adjustment would need to be considered on a state-by-state basis, and within states on a regional basis.

As the remainder of this paper argues, however, we do not recommend an across the board teacher wage hike. That has been tried in the past without success. Such an approach simply increases the cost of the current system and does not produce, except over the very long term, either a flow of more individuals into education, or a higher quality of individuals entering education, or a higher quality of individuals remaining in education. It keeps the current teacher workforce in place but at a higher cost level.

Thus, although we would argue that average teacher wages should be hiked by between \$5,000 and \$10,000 a teacher, we strongly recommend that it be done through newly designed teacher wage structures, and not the current single salary schedule. We elaborate on these points below.

³ Our analyses showed that jobs similar to teaching in knowledge, skills and responsibilities include instructors in community colleges and vocation institutions, college professors, counselors, social workers, nurses, psychologists, and many positions in the health care professions

⁴ There is debate in the field about whether teacher salaries should be "adjusted" for the shorter work year for teachers. This paper takes the position that they should not. In the longer term, however, if teachers could choose to accept a 12-month job offer or a 10-month job offer, then the 12 month teaching job would be the appropriate comparison. But until that becomes an option, this paper compares extant average teacher salaries to extant average salaries in comparable jobs, many of which are teaching jobs as well.

⁵ Unfortunately, neither the O*NET data base nor other data bases include salary and benefits data, particularly at the state or regional level, so comparisons of compensation – salary *and* benefits – cannot be made.

Getting Teachers into Low Performing Schools and Subjects Experiencing Shortages

One of the most acute problems in America is the shortage of high quality teachers in many of the nation's large, urban districts that enroll high numbers and concentrations of students from low income and minority backgrounds. Research has shown that too many classrooms in these districts are staffed by teachers with limited expertise and in part as a result student achievement is low. This is one major cause of the achievement gap among groups of students in the country.

Labor market economists argue quite eloquently that if an organization experiences shortages of certain employees, one problem is that pay levels are too low. They also argue that such individuals in the shortage areas are in a different labor market or, more precisely, that the labor market is segmented. One important factor in remedying this problem is to provide higher pay levels for those in the shortage areas.

To be sure, pay equity across jobs with similar responsibilities is an important value in all organizations, not just public schools. Yet, when private sector organizations began to experience shortages of individuals in technical and computer areas, they realized they had two choices: keep pay levels similar and have a shortage of and/or lower quality technology and computer employees, or recognize that such high-demand employees were in a different labor market and increase their pay levels in order to recruit and retain the quality technical employees they needed to succeed.

Public schools, through the single salary schedule, have long valued pay equity for teachers. The goal has been to pay teachers with similar qualities – years of experience, education units, and degrees – the same wage. But as districts, again particularly large urban districts and the high poverty and minority schools within them, experience shortages of capable individuals willing to teach in those districts and schools, many are coming to the realization that such teachers are in a different education labor market and might need to be paid more.

Initial pay differentials for high need schools were in the \$1000-2000 range; however, most districts now realize that that is not a sufficient differential and are beginning to provide incentives in the range of 10-15 percent, or at least \$5000. Fairfax County (VA), Miami-Dade County (FL), and Chattanooga (TN) offer salary differentials of this magnitude for teachers willing to teach in high poverty and low performing schools. These salary differentials, together with several other linked initiatives, have resulted in the schools' being able to staff all classrooms with good teachers and in most cases their students' achievement has risen significantly.

A similar argument can be made for specific subjects experiencing teacher shortages, again largely in many of the nation's big city school districts. The most common subjects are mathematics, science, special education and expertise in working with English Language Learners (ELL). Again, many districts around the country are providing incentives for individuals teaching in these subjects. Research has shown that incentives at the level of \$1000-2000 have small, marginal impacts, but incentives at \$5000 and above get more attention and have much more impact.

The new Denver ProComp program has incentives for both mathematics and science, and for hard to staff schools, which is their label for schools with higher concentration of low income and minority students and/or low student performance. Initial results suggest that the program has had some modest success in recruiting more individuals into these subject areas and schools. The Denver plan provides \$1000+ for the math and science incentives, and a similar amount for the hard to staff schools. The federal Teacher Incentive Fund (TIF) program also provides funds to states and districts to design incentives for teachers and principals who teach in high poverty, high minority schools, though the plans must also condition most of the pay incentives on improved student test scores (discussed below). The TIF grantees are providing much of the incentive in the form of bonuses, rather than base pay add-ons.

Having made the argument for incentives for both hard to staff schools as well as for certain subjects, it also should be noted that economic incentives are not the only factor needed to encourage teachers into these schools and subjects. CPRE research in one large city found that new teachers were more interested in the quality of the principal and the success of the inner-city school than a salary incentive; they said that leadership and working conditions were more important to them than a salary differential. These factors – principal leadership and school working conditions – have emerged in other research as well.

Further, recent successful experiences in recruiting graduates of some of the country's top colleges into large urban districts, poverty impacted schools, and mathematics, science, special education, and ELL classrooms suggest that initial salary differentials might not always be needed. Many of these districts have partnered with Teach for America (TFA), which recruits thousands of graduates of top colleges and universities each year into inner-city schools, or The New Teacher Project (TNTP), which recruits and places thousand of additional candidates largely in mathematics, science, special education, and ELL at the high school level. Others have created their own “grow your own” training program, and have found large numbers of capable individuals who have not needed a salary incentive. These districts and their partner organizations have different recruitment strategies. They sometimes tend not to recruit from typical undergraduate programs or undergraduate teacher training programs.

TFA recruits individuals who have just received their bachelor's degree, and most from the nation's top 50 universities, which prepare very few teachers on average; these young people have a desire to teach in a large urban district for at least two years. TNTP recruits individuals who have worked for five plus years in the private sector and have become disillusioned with 80-hour work weeks, intense pressure to produce, and a focus on making money. Few school districts, and probably no university teacher training program, recruit actively for these individuals. In New York City, 20,000 such individuals apply to TNTP each year, and the organization believes there is an endless supply of such individuals. TNTP's recruitment strategy is to encourage a shift to a meaningful teaching job, in which the individual can be a role model to children that need a better chance, do work that has a moral purpose, and have a private life as well. Few of these individuals demand a salary differential as they enter the system.

Anecdotal evidence from several sources, however, suggests that once in the system, these individuals want to be successful in the classroom, to be in schools led by instructionally oriented principals, and to be in an organization with high expectations for the achievement of all

students and that relentlessly pursues that goal. The individuals also want career ladder structures that put them in positions of responsibility around the instructional program, such as a teacher team leader role, an instructional coach role, a content expert role, etc. They also want a pay system that is based on their performance, taking into account both their level of instructional expertise and improvements in student achievement. They do not want to have to wait several years for a leadership position as an assistant principal, nor wait 20 years to get to the top of the salary schedule. They want a performance-based career ladder and salary structure that lets them move up to higher pay either based on new and increased responsibility or their own performance and/or the performance of their students.

In any state or district, there will be a fixed amount of salary money. Each place will need to make its own decisions about how a new salary schedule should be created, and what elements are to be included, such as salary differentials for teachers in high poverty and low performing schools, as well as differentials for mathematics, science, special education, and ELL classrooms. In some cases a better strategy might be to provide alternative career paths, including multiple performance- and responsibility-based routes to higher salary levels more quickly.

Linking Teacher Salaries to Instructional Improvement Strategies⁶

Since research is quite clear that improved student achievement is largely produced by better classroom instruction – both what teachers teach and how they teach it – factors that are directly linked to improved instructional practice should be a major part of any new teacher salary schedule, particularly the factors producing base pay increases or annual raises. Such factors are teacher knowledge and skills— the “instructional assets” or “knowledge, skills, and instructional expertise” that the education system is buying with a teacher’s base pay. The overall goal would be to redesign teacher salary structures so that, unlike years of experience and education units, base pay progression is linked to student learning gains.

All organizations need to provide employees with an adequate base pay plan. Seniority based pay plans, the most prevalent structure of pay in both private and public sectors, including education, assume that more years of experience produce a more valuable employee that is worth more pay. This assumption, in organizations that are restructuring and focused on dramatically improving performance, might not be valid in today’s world. The same is undoubtedly true in education, particularly since research is quite clear that after the first three years of experience subsequent years of experience are not linked strongly if at all to greater teacher effectiveness in producing student learning. The same is true for miscellaneous education units that often are not even directly related to the subject or grade a teacher teaches.

Thus, the objective for redesigned teacher salary structures is to trigger teacher base pay increases on factors that are linked to student learning gains. Moreover, for the last several years, the country has initiated multiple efforts to identify these new factors.

⁶ The third paper in this series addresses a wide range of ideas for how teacher salary schedules could be redesigned to strengthen the education system’s ability to have base pay buy the teacher assets that matter.

One major multi-million dollar effort has been to develop performance assessment systems that actually measure a teacher's instructional practice. Spawned by the National Board for Professional Teaching Standards (NBPTS), the country has created several such performance evaluation or performance assessment systems, all of which measure a teacher's instructional practice, or in other words, provide a measure of a teacher's instructional assets.

The National Board for Professional Teaching Standards measures whether the teacher's practice meets the high and rigorous standards for National Board Certification. Though the number of Board Certified teachers is rising, only a small percentage of the nation's teachers have earned Board Certification. Large numbers of teachers who seek Board Certification do not earn it because their professional practice does not meet the high and rigorous standards of practice the Board sets out. Most states provide some salary incentive for Board Certification, running as low as just \$1,000 and as high as \$10,000 annually, or 20 percent of base pay. If districts or states want to recruit and deploy teachers with high instructional assets, providing a hefty incentive for National Board Certification is a good option. We would recommend incentives in the \$5,000-10,000 a year range, or 10-15 percent of base salary. In states with higher incentives for Board Certification, more teachers seek that recognition and more teachers are certified.

Several additional performance assessment systems have been developed and are in various stages of use across the country, including the assessments of the Interstate New Teacher Assistance and Support Consortium (INTASC) of the Council of Chief State School Officers, the BEST system which was developed in Connecticut and is also used in Indiana, the Framework for Teaching developed by Charlotte Danielson, and the Teaching Standards and Scoring Rubrics created by Teaching Excellence through Compensation, developed explicitly to operate a knowledge and skills-based teacher salary structure (Odden & Wallace, 2007a). The Teacher Advancement Program (TAP) of the National Institute for Excellence in Teaching uses an assessment system similar to the Danielson Framework. Many of these assessment systems measure a teacher's instructional practice at four different levels—beginner, novice, professional, and master.—based on their instructional expertise or instructional assets, though each system gives the various performance levels a different label.

These measurement systems all collect multiple forms of instructional data, including lesson plans, formal and informal student assessments, video clips or direct observations of actual instructional practice, and reflections by the teacher on their practice. The data are scored by trained scorers according to a system of teaching standards and rubrics.

The Consortium for Policy Research in Education has conducted research in several places using variations of these kinds of assessments and has found that districts operating these systems can produce scores for teachers that are reliable across teachers, grade levels, and assessors. Further, CPRE research has shown that these instructional practice measures are successful in identifying teachers whose students are likely to have higher levels of student learning improvements. The research shows that master teachers as a group produce more learning gains than professionals, who produce more learning gains than novices, who produce more learning gains than brand new teachers as a group. As such, we recommend that these measures be used in redesigned teacher salary structures.

Other districts have decided not to engage in the performance measurement process and instead provide salary increases on the basis of a teacher's simply engaging in specified professional development programs. For example, the Denver ProComp system provides a 2 percent salary increase (about \$680) if a teacher creates and implements a professional development program, with a principal's approval. The assumption is that engagement in such professional development will improve a teacher's instructional practice.

The Denver program has another element that can produce about a 2 percent salary increase, called a student achievement project. If an individual teacher or a group of teachers create and implement a project designed to improve student achievement, the teacher earns an increase in their base pay. If student achievement actually improves, the teacher receives an additional, one-time 1-2 percent pay bonus.

Most districts continue to use years of experience and education degrees as the basis for salary increases. The trend for the latter is twofold: first to require the earning of a degree, either a Master's Degree or a Doctorate or Specialist Degree, rather than just earning a number of miscellaneous units, and second a stipulation that the degree be in the area of a teacher's license. So, for example, a math teacher would need to earn an MA or doctorate in mathematics or mathematics education; a degree in educational administration would not count because it is not directly related to the teacher's area of licensure. We endorse both of these practices: to limit pay increases to the actual earning of an advanced degree, and only if the degree is directly related to the teacher's area of licensure.

In certain circumstances, some pay based on years of experience is also warranted. For a variety of reasons, at times districts want to condition some advanced pay options on an individual's staying with the district a certain number of years.

The pay schedule below (Figure 1) is an example of a dramatically redesigned teacher pay structure. Movement across performance categories produces the largest increases in base pay; however there are increases based on years of experience that are provided at a small level within each performance category. The highest step within any performance category is always lower than the first step in the next performance level, so the structure sends the signal that improved classroom instruction is the prime way to earn the highest pay level. The structure also includes pay increases for a Master's Degree and a Doctorate Degree, but not for miscellaneous units that do not add up to a degree. It could also include an additional incentive for National Board Certification.

Various points in such a salary schedule, such as the lowest beginning salary and Step 1 for the master category, could be determined by benchmarking salaries at similar levels for comparative jobs in the broader labor market. But this structure, while having the "look" of the single salary structure, is much more performance oriented, as the prime base pay increases are determined by a measure of instructional expertise, and only degrees and certifications in the licensure area earn additional pay differentials.

It should be clear that a salary structure such as that depicted in Figure 1 needs a strong teacher performance assessment to decide when and whether teachers could move up the different

performance levels of the schedule. Such a system should reflect the district’s vision of good instructional practice, and teachers would need to be assessed on at least a 3-5 year basis (see Heneman, Milanowski, Kimball and Odden, 2006).

Figure 1

A Knowledge-and Skills-Based Pay Plan

	Step Within Level	BA	MA	MA 60/ Doctorate
Entry	1	\$40,000	\$41,600	\$43,264
	2	\$40,600	\$42,224	\$43,913
	3	\$41,209	\$42,857	\$44,572
Emerging Professional	1	\$45,330	\$47,143	\$49,029
	2	\$46,010	\$47,850	\$49,764
	3	\$46,700	\$48,568	\$50,511
	4	\$47,400	\$49,297	\$51,268
	5	\$48,112	\$50,036	\$52,037
	6	\$48,833	\$50,787	\$52,818
Professional	1	\$53,716	\$55,865	\$58,100
	2	\$54,522	\$56,703	\$58,971
	3	\$55,340	\$57,554	\$59,856
	4	\$56,170	\$58,417	\$60,754
	5	\$57,013	\$59,293	\$61,665
	6	\$57,868	\$60,183	\$62,590
Master	1	\$63,655	\$66,201	\$68,849
	2	\$64,610	\$67,194	\$69,882
	3	\$65,579	\$68,202	\$70,930
	4	\$66,562	\$69,225	\$71,994
	5	\$67,561	\$70,263	\$73,074
	6	\$68,574	\$71,317	\$74,170

Percent Increase for Step	1.5%
Percent Increase for Skill Level	10.0%
MA, MA60/Doctorate	4.0%
National Board Certification	10.0%

Districts and states could probably identify several other ways to provide base pay increases, again different from the role that years of experience and education units play in current single salary schedules. We would suggest that the goal for all new elements would be to find factors that are directly linked to student learning gains, such as the score on a performance-based teacher evaluation system. In this way, teachers would earn base pay increases for factors that

are connected to the prime goals of the education system – higher levels of student learning. Furthermore, the base pay structure for teachers, which is the way the system pays for teachers’ instructional assets, could be a strategic support for the overall system’s strategic directions and goals.

Paying Teachers for Improving Student Achievement Outcomes

There also has been considerable movement in education to provide new pay elements that are directly based on improvements in student achievement, largely state and district student achievement test scores. Though controversial wherever they have been developed and implemented, these new pay elements are rational in the current education reform environment. Since the prime goal of America’s education system has been to improve student achievement in the important subjects of mathematics, science, English/reading/writing/communication, and even history and geography, it makes sense that some aspect of pay should be linked to improvements in measures of these important system results.

As stated above, since improved student achievement is the prime outcome of the education system, and attaining the level of achievement desired will require school systems to become continuous improvement systems for several years, these pay elements are most effectively provided as a bonus in the year they are earned. Thus, each year the improvement bar can be hiked, and the performance bonus is earned the next year only if the new and higher level of achievement is attained. This type of pay element would undergird the education system’s efforts to boost student performance year after year, and would provide an economic incentive – a pay bonus – for school systems’ becoming continuous improvement organizations.

Kentucky began this movement in the early 1990s by providing bonuses to schools that met pre-set improvement targets for student achievement gains. The Kentucky program compared the achievement of student cohorts (e.g., this year’s fourth graders versus last year’s fourth graders) over time to determine school eligibility. Teachers and principals could earn up to \$2500 in annual bonuses. Charlotte-Mecklenburg was one of the first districts to design such a program, which continues today, and provides bonuses up to about \$1800 a teacher. Charlotte’s system had several measures of student achievement and aggregated each student’s gain score to determine school eligibility. North Carolina designed a system in the mid-1990s using individual student test scores and an early version of value-added. Bonuses in the range of \$1500 were provided to all teachers in schools that met the improvement target. When the initial appropriation would have under funded the program in the first years, the legislature went back in session and added funds so that all teachers in eligible schools received the full bonus. Cincinnati also created a school-based incentive program in the mid-1990s that provides a \$700 or \$1400 bonus. The lower bonus was provided to schools that “almost” met the improvement target, i.e., schools that boosted student performance in a significant way but not quite as much as desired.

CPRE and other research on these programs found that pay for performance has multiple, positive impacts on schools. Most importantly, they helped teachers understand what the most important goals of the education systems were – student performance in the areas included in the performance bonus systems – and they helped teachers channel their time, effort, and energy

towards producing improvements in student performance in these areas before working on other aspects of schools. Indeed, teachers reported that such programs helped clarify how they should allocate fixed time and energy in systems that before the programs were unclear about what outcomes mattered most and where effort should be directed. These programs also helped retain teachers in the schools earning the bonuses. Not only did teachers experience the intrinsic rewards of seeing their students' performance rise and working in a school that was successful in improving student achievement, but also they experienced the aligned extrinsic reward of a monetary bonus for helping to produce the outcomes. Finally, these programs were part of these system's accountability that were now outcome oriented and reinforced the notion that the prime outcome of the education system should be higher levels of student performance in the most critical subjects.

Currently, almost all of the 34 federally funded TIF grantees are providing, or planning on providing, annual bonuses to teachers based on improving student achievement. A substantial number are providing bonuses to individual teachers based on classroom-level value-added student achievement, while others are providing bonuses based on school wide improvements in attainment. A new wrinkle is that some are providing bonuses to grade level or departmental teams, based on either value added or attainment improvements. As the TIF program plays out, we should learn a lot more about how teachers react to the various types of bonuses, and which incentive program designs are more likely to lead to improvements in student learning.

Forms of incentives based on student learning outcomes. There are two major design issues for programs that provide some pay element based on student learning outcomes. The first, which this paper does not discuss at length, is determining how to calculate change in student performance.⁷ There are simpler and more complex ways to accomplish this task. The CPRE handbook cited above suggests using a simple balanced scorecard approach, but there also are many in education who argue for a more statistical value-added approach. We have concluded that both can work.

The other major issue is whether to provide the bonus to all individuals or teachers in a school, to drive the bonus to each individual teacher, or to use some combination of these two approaches. We recommend that districts and states consider both approaches. The most popular and least contentious approach is to provide the bonuses to teachers on the basis of school wide eligibility, i.e., all teachers or staff in the school would receive a bonus if the school as a whole met some preset target for improved student performance. The above-noted balanced scorecard in the handbook shows how this approach could work. The research on the operation and impact of student performance-based bonus programs were all conducted on school-based programs. Although a major criticism of such a program is that there could be teachers who do not contribute to school wide learning gains, our research found this to be more of a possibility than an actual problem. In schools successfully working collaboratively to boost student learning, everyone gets involved, including secretaries and lunchroom staff. And as noted above, such programs have been very successful in making teachers aware of the school's most important goals.

⁷ The fourth paper in this series discusses the multiple technical issues involved in how to pay teachers for student outcomes, including the challenges and alternative ways change, value-added or gain scores can be determined.

Kentucky operated a school-based bonus program for about ten years in the 1990s, North Carolina's program is nearly 12 years old, Charlotte Mecklenberg's program is over 15 years old, and the Vaughn Charter School's program now is a decade old.

Providing bonuses to individual teachers based on the scores of their own students seems an obvious strategy to most casual observers outside of education, but it has been quite controversial within education. There are internal and external political dynamics and substantial technical issues to consider. The primary internal political issue concerns teacher opposition, and technical issues feed political opposition. Much of the opposition for individual bonuses based on student achievement stem from teacher skepticism about standardized student test scores being valid and reliable indicators of their performance. Current political opposition is also fueled by major, but avoidable, technical glitches.

In most places where such programs have been proposed and implemented, teachers have strongly opposed them. This reality should be considered seriously. If the goal of a bonus program based on improvements in student performance is to enhance the effectiveness of a school system's producing even more student learning, controversy and battles over the design of the program are unlikely to help.

Several years ago, for example, Colonial (PA) implemented a bonus program directed to individual teachers; the intense controversy over the program led to the district's dropping it after one year.

Launched amid significant teacher opposition in 2006-2007, the STAR program in Florida also met a quick demise. However, one of the first initiatives of the newly elected Governor Crist was to have the legislature modify the program so districts could design bonus strategies that were not targeted to individual teachers, though the overall program might be delayed a year because of funding shortfalls. The controversy surrounding the Houston bonus program targeted to individual teachers was intensified when the calculations for which teachers earned the award in the first year were in error. After sending out the checks, the district asked teachers to return the amounts over paid. District efforts to explain the calculations used to determine the awards were unclear and led to further teacher consternation.

The Houston experience points out other caveats in designing and implementing performance bonus programs. First, make sure the data and all calculations are accurate before sending out the checks. Second, be sure that the measurement system is clearly explained to teachers so that they understand how their efforts lead to a bonus. Making operational mistakes on these matters can kill a program.

On the other hand, Denver has shown how including such a program in a broader pay system provides external political support for the much broader pay program, and even considerable more money for teacher salaries. Indeed, the Denver program has been labeled the first and only teacher pay program in the country that – finally – links some of teacher pay to the performance of the students in their classroom. This characterization of the Denver ProComp program has been made even though this element of the program was not operating as of summer 2007 and will only trigger a small portion of the dollars in the overall new salary structure.

In addition to the technical issues that have affected individual teacher bonus programs referenced above, there are at least two other major issues to consider in developing a pay element based on the improvements in student performance in individual teacher's classrooms. The first is that current test scores exist only for about one-third of all teachers in a district. Assuming the district or state tests all students in reading and mathematics in grades 3-8, there are change scores or value added scores only for teachers in those subjects in grades 4-8. There are no test score changes for teachers in grades K-3, nothing for high school teachers unless additional testing is conducted, and nothing for social studies, art, music, physical education, career/technical teachers or guidance counselors, social workers, nurses, librarians, etc. Thus, two-thirds of teachers in most districts and states would automatically be excluded from a pay element linked to test score changes for a teacher's own students.

The second technical point is that because of measurement error in any student testing system, at least two and probably three years of change data are needed to produce reliable and stable change scores for individual teachers.

Despite these issues, we suggest that districts and states consider having both school-based and individual teacher-based student performance bonus programs. More money should be provided for the former than the latter, but the latter will provide external political support for all possible changes in the teacher pay system, and could be *the* element that eases the ability of states and districts to add significant money to the teacher salary pot.

The Teacher Advancement Program (TAP) is one of the most successful programs in the country that includes student performance-based bonuses for both school wide improved performance and improved performance for each individual teacher's students. When possible, the TAP program sub-contracts the value-added calculations for both the school and individual bonuses to Bill Sanders, who has become widely known for his value-added model and who developed the Tennessee system that tracks value added for all classrooms in that state. The Value-Added Research Center (VARC) in the Wisconsin Center for Education Research at the University of Wisconsin-Madison also has become known for its work on value added, and is providing technical advice on value-added technical issues to many districts with TIF grants.

Size of bonuses. There is no hard and fast rule about the size of bonus programs. The initial programs around the country provided about \$1000 a teacher. After taxes, that left a check in the \$600-700 range, but teachers in CPRE research on these programs felt the actual check should be higher. That is why the initial school-based Cincinnati program provided \$1400 a teacher; after taxes, the actual size of the bonus check was closer to \$1000. The variable pay programs supported by federal TIF programs appear to be providing somewhat larger bonuses, with many providing bonuses in the \$2,000 - \$3,000 range.

CPRE's book and handbook suggest bonuses in the range of 4-8 percent of base salary, which would be \$2000 to \$4000 at an average base salary of \$50,000. The book and handbook, and programs like those in Charlotte-Mecklenburg, also suggest a range of bonus levels depending on whether the school or teacher came close to but did not hit the target level of improvement, or even significantly exceeded the target level of improvement. So if the target improvement

produced a bonus of \$4000, the program could provide a \$2000 bonus to teachers if they came close too (which would need a specific definition) or \$6000 if they significantly exceeded (which also would need a specific definition) the target improvement expectation.

Districts and states also should consider providing bonuses to everyone in a school if they take the school-based approach and have the funds to do so. The size of the bonus could be lower for classified staff reflecting lower wage levels for those individuals; a standard practice is to make those bonuses about half the size of the teacher bonus. Many districts also include principals and other school-based administrators at the same bonus level as teachers. However, as we note below on change in administrator pay, some districts are providing bonuses for improved student achievement only to principals, and the amounts can be large. In New York City, for example, principals can earn up to \$25,000 a year if the school meets the target for improved student achievement.

Summary

Teacher salaries constitute the largest portion of every school district's budget. Teacher salary levels and the way pay is provided impact teacher recruitment, turnover, and retention, and send signals about what the system expects teachers to do and produce. Most importantly, it impacts student performance.

The conclusion in this paper is that at the national average, teachers are paid less than individuals in jobs that require a similar level of knowledge, skills, and job responsibilities. On average the difference is between \$5,000 and \$10,000. However, these pay level differentials vary widely both across states and across districts within states.

So we have concluded that there is a national need to increase teacher salaries. The education system needs to recruit and retain capable individuals to teaching, and one aspect of this imperative is to raise overall teacher salary levels.⁸

However, *the paper does not recommend that salaries be increased through the current single salary schedule* that most districts and states use. This salary structure provides pay increases on the basis of two factors – years of experience and education units – neither of which is strongly linked either to improved instructional practice, the factor that primarily produces better student achievement, or to student learning gains, the prime outcome of the education system.

Increased dollars for teacher salaries should be provided through new elements incorporated into the base pay structure for teachers that are directly or indirectly linked to improved instructional practice, such as the score on a performance evaluation of teachers, engagement in professional development that is known to improve instructional expertise, design and implementation of a student achievement project, as well as Board Certification from the National Board for

⁸ As discussed briefly in Section 3 on a strategic approach to the development and management of human capital in public education, even with higher salaries the education will not recruit more talented individuals into teaching without better recruitment and selection both into teacher education programs and school districts. A pay increase without aligned changes in the human resource management system runs the risk of producing a labor pool with the same qualities as teachers today, but just paid at a higher level.

Professional Teaching Standards. In addition, states need to provide funds to allow, where appropriate, districts to provide salary differentials in the range of \$5000 a teacher both for teaching in a high poverty, low performing or otherwise defined hard to staff school, as well as to teach in areas experiencing shortages of quality teachers, such as mathematics, science, special education, and ELL. We also recommend that on top of enhanced and redesigned base pay programs for teachers, districts and states add a bonus program for improved student performance, based both on school wide student performance gains as well as achievement gains for students in each individual teacher's classroom.

In terms of allocating an overall \$5,000 to \$10,000 pay increase, the suggestion is to put \$4,000 of the increase into bonus programs based on improved student learning, and \$6,000 into enhanced or completely redesigned base pay structures for teachers, including structures that include differentials for hard to staff schools and subject area shortages. In this way, *all new money* and, over time, a considerable portion of extant money is provided on the basis of factors, such as improved instructional expertise, that are linked by research to improved student performance.

2. ADMINISTRATOR PAY ISSUES

Districts should also consider making similar changes to administrator pay structures, including principals. In fact, to the degree principals are part of the district's management structure and that structure makes a decision to change the structure of teacher pay, principals and other administrators could be role models for teachers by altering their pay structure as well.

Many districts experience the same issue for principals as for teachers in trying to staff high poverty, high minority, chronically low performing or otherwise hard to staff schools. Thus, providing additional salary differentials to recruit and retain individuals willing to tackle the more difficult education challenges in these schools might be required in some contexts. Bonuses for improved student performance in such schools might also be attractive, and an appropriate reward for districts implementing performance management systems.

Indeed, many districts start bonus programs for increased student performance first with principals only. In the mid-1990s, Cincinnati took this approach. As mentioned above, New York City provides significant annual bonuses just to principals. And Miami-Dade County also started a bonus program last year which only impacted principals. Such programs require that the district collect all the data and implement all of the statistical procedures that would be needed to provide teachers a school-based bonus program as well, and work out the wrinkles in such programs initially with just principals' being eligible. In most districts, management's hope is that at some point teachers could be included in the program as well, but usually this inclusion needs to be developed through collective bargaining.

There are two lessons from the experience of Cincinnati from which other districts can learn. The first performance bonus program in Cincinnati was not heavily based on improvements in student learning; as a result, the central office received "boxes" of material from each principal showing things they thought would be worthy of a performance bonus. Further, this artifact-showcasing system was not that popular. When the district created a simpler bonus program for

teachers, based largely on student performance, principals asked that their program be dropped and that the same program for teachers include principals and other school administrators as well. The district agreed and made the change. The two lessons are that: first, the criteria for bonus programs for principals should focus largely on student performance, and second, it is wise to have a school-based bonus program operate for principals and other school administrators as well as for teachers. Two different programs send a mixed message; one program for all is more efficient and helps send a clearer message about the system's view of the most important outcomes – those included in a single bonus program.

There has been some development in creating standards and rubrics for principals and other school administrators which, if used in a district, could produce a performance evaluation score for principals, analogous to such systems for teachers. But we are not aware of any state or district operating such systems to trigger base pay increases for principals, though under TIF grants, Pittsburgh, Miami-Dade and Lake County (FL) plan to do so in the future. Thus, we suggest that districts work on ways to provide more of principal base pay, particularly base pay increases, for knowledge, skills, and competencies it views as key for principals to be successful. The goal would be for the base pay program for principals to buy principal assets the districts has concluded makes principals more effective, and to “top off” base pay with an annual bonus program based on improved student performance for the school as a whole.

3. MAKING PAY INNOVATIONS WORK TOGETHER

This paper has addressed the issue of change in teacher and administrator compensation in ways to align the pay systems with the overall strategic goals of the education system, which in every state and just about every district is to improve student achievement in the important academic subjects of mathematics, science, English/reading/writing/ communication, history, and geography, and to close the achievement gap between groups of students in the process. The paper shows that while the current single salary schedule is pretty much unaligned with these strategic goals, salary systems can easily be designed in ways to help the system accomplish these ambitious and important goals. A high performance organization is usually characterized by having all its key pieces – including the compensation system – aligned with and reinforcing its strategic directions.

But changing the pay system by itself is not sufficient to accomplish the goals of the system. As noted at the beginning of this paper, all schools and districts will need to adopt rigorous curriculum programs and engage in a continuous cycle of instructional improvement to accomplish these goals. It will need smart and capable individuals to implement these strategies. But to recruit and retain the individuals needed to carry out the instructional strategies of the district and produce the student performance that is desired, most systems will need to redesign and make more strategic its overall human resources management system and its approach to developing and managing its human capital, particularly teachers and principals.

Within this broader strategic human capital development frame, states and districts will need to give new attention to how they recruit, select, train both pre-service and in-service, deploy, evaluate, promote through career ladders, and pay teachers and leaders (Odden & Kelly, 2008). These strategic human capital development issues are problematic in many districts in the

country, but particularly problematic in many of the country's large, urban districts, where the vast bulk of children from low income and minority backgrounds are educated. The power of any change in teacher compensation will depend on the degree to which they are embedded and managed within a more strategic approach to human capital development and management than is the case today.

For example, we have worked in districts that have developed knowledge and skills-based pay structures, using a performance evaluation of teachers with a specific set of teaching standards and scoring rubrics, but for the first ten years did not align the professional development with the teaching practice embedded in the new evaluation system. Other districts have implemented performance incentive programs but felt the bonus programs alone would incent different performance and did not simultaneously train principals how to manage the school around instructional change that would boost student achievement as measured in the performance bonus program. Other districts and states provided incentives for teachers in hard to staff schools or in subject area shortages but did not have a way to determine whether the teachers getting the incentive were effective and did not strengthen recruitment for those individuals.

Others, as discussed above, identified problems with the current teacher salary structure – the fact that base pay progression is not based on factors linked to student learning gains – and then remedied them by proposing something for a different aspect of cash compensation – a variable pay bonus. This represents a misalignment within the compensation system itself.

This sort of misalignment can be fixed, though it will take a comprehensive understanding of the connections among all the pieces and willingness to work hard. If there is an instructional vision for a district, which there is in most districts producing large, quantum improvements in student performance, it should inform all aspects of the human resources management system (Odden & Kelly, 2008). Recruitment information should describe and discuss the vision and be explicit that all teachers are expected to learn and use instructional practices appropriate to the vision. One aspect of selection should be the degree to which the new teacher understands the instructional vision and either has expertise in those instructional practices or is eager to learn and use them. The new teacher induction program, like that in Connecticut which has a statewide instructional vision that anchors its performance-based licensure system, should be structured to help teachers acquire instructional expertise that reflects the instructional vision. Ongoing professional development in each content area should consciously reflect the district's approach to instruction. Evaluation, particularly a performance evaluation, should focus heavily on the key elements of that approach to instruction. And as teachers become more and more competent in using the instructional strategies, their pay should rise, as it can in a knowledge- and skills-based pay structure such as the one discussed above. With the support of the Carnegie Corporation, we have developed an alignment tool to help districts start the process of aligning the human resources management system around the instructional vision (Heneman & Milanowski, 2007).

The bottom line is that the state's and district's entire human capital development systems in most places, including the pre-service training and teacher and principal professional licensure programs, need to be redesigned in ways to provide the talented and expert teachers and principals the system needs to implement the instructional program and boost student

achievement. A revised teacher and principal pay structure can and should be part of this system. But a revised teacher and principal pay structure by itself will have a modest effect if the other parts of the human resource management system are not realigned so that all parts of the human capital development system in education, including the pay system, send the messages that high expectations for academic achievement are needed for all students, that instructional expertise needs to be enhanced in multiple ways to educate more students to high performance standards, and that getting all or nearly all students up to and beyond proficiency and even advanced performance bars is the prime goal of the education system and should be pursued relentlessly. A new compensation system, then, would handsomely reward everyone who heard and acted on these system messages. The result, then, would be more expert as well as higher paid teachers and administrators and higher levels of student academic achievement.

Additional Key CPRE Resources

- Heneman, H. G., III, Milanowski, A. T., Kimball, S.M., & Odden, A. (2006). *Standards-Based Teacher Evaluation as a Foundation for Knowledge- and Skill-Based Pay (RB-45)*. Philadelphia, PA: University of Pennsylvania, Graduate School of Education, Consortium for Policy Research in Education.
- Heneman, H.G., III., & Milanowski, A.T. (2007). *Aligning Human Resource Management Programs with Teacher Performance Competencies*. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education.
- Heneman, H.G., III., Milanowski, A., & Kimball, S. M. (2007). *Teacher Performance Pay: Synthesis of Plans, Research, and Guidelines for Practice (Policy Brief RB-46)*. Philadelphia, PA: University of Pennsylvania, Consortium for Policy Research in Education.
- Odden, A. & Kelly, J. (2008). *Strategic Management of Human Capital in Public Education*. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education, Strategic Management of Human Capital.
- Odden, A., & Wallace, M. C., Jr. (2007a). *How to Create World Class Teacher Compensation*. St. Paul, MN: Freeload Press. Available from www.freeloadpress.com
- Odden, A., & Wallace, M. C., Jr. (2007b). *Rewarding Teacher Excellence: A Teacher Compensation Handbook for State and Local Policymakers*. Madison: University of Wisconsin, Wisconsin Center for Education Research, Consortium for Policy Research in Education.