Chapter 9

Compensation for Teachers

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INTRODUCTION

Two main questions arise about compensation for teachers. First, can monetary incentives attract and retain a sufficient number of qualified teachers? Second, does the compensation structure affect teachers’ performance? The research on these questions, as they pertain to public elementary and secondary school teachers in the United States, is reviewed in this chapter.

Questions about the power of money to attract and retain teachers have arisen because most practicing teachers say they are in the profession for other reasons, mainly having to do with their intrinsic desire to teach (see Bacharach, Lipsky, & Shed, 1985). Social norms also prescribe some altruistic dedication on the part of teachers. However, the evidence reviewed in the next section consistently indicates that both prospective and practicing teachers are influenced by salary levels. Whether material incentives complement or conflict with teachers’ intrinsic motivation is considered in the final section of this chapter.

Questions also are raised about the structure of teachers’ compensation. In the period from 1917 to 1950 almost all public school districts in this country adopted some version of the uniform or single salary schedule (Miller, 1985). This is a two-dimensional grid on which a teacher is positioned according to years of service and formal educational attainment. Salary increments are automatically awarded for each year or two of additional service, but usually no increments are given beyond the 15th or 20th year. In addition, teachers receive higher pay when they accumulate credits for education beyond the bachelor’s degree. The accumulation of seniority and educational credits results in higher salaries for older teachers than for younger ones. However, as will be shown, the age-earnings profile for teachers is relatively flat compared to college graduates in other occupations.
Several models of efficient compensation will be presented. According to one model, it is efficient for employees with more seniority to receive larger salaries even if they are no more productive than employees with less seniority—provided that meeting minimum standards of performance is a necessary condition for an individual to keep accumulating seniority. This has direct implications for teachers, as will be explained. Other models reviewed are extra pay for superior performance, and skill-based pay. The application of these models to teaching is also discussed. The general conclusion is that certain changes in the structure of teachers’ compensation would probably help to make schools more effective, but only if combined with other organizational changes.

EFFECT OF SALARY LEVELS ON RECRUITMENT AND RETENTION

Trends in the level of teachers’ salaries follow trends in student enrollment. The number of students in the United States enrolled in kindergarten through 12th grade grew continuously from 1946 through 1969, then declined. The average salary of public school teachers, in constant dollars, also rose continuously through this period, and did not reach its peak until 1972 (Everett, 1985). There is a lag between growth in enrollment and the rise in teachers’ salaries because it takes time for school authorities to respond. The continued rise in teachers’ inflation-adjusted salaries for three years after enrollment had reached its peak represents the lagged response to shortages a few years earlier. After 1972, however, the level of teachers’ salaries declined, not only relative to inflation, but also relative to salaries in other occupations requiring a bachelor’s degree. According to Feirstiter (1983, Table 41), starting salaries of public school teachers in current dollars (not adjusted for inflation) increased by 65% between 1973 and 1981—compared to a 99% increase in starting salaries for engineers, 84% in business administration, and 75% for liberal arts graduates. In Feirstiter’s list of 10 fields other than teaching, only accounting had smaller growth (60%) in starting salaries. Additional evidence of the relative decline in teachers’ salaries following the drop in student enrollment is provided in the next section.

The fact that trends in teachers’ salaries follow trends in student enrollment does not necessarily imply that higher salaries bring about an increase in the number of people available for teaching jobs. Conceivably, local school districts could raise salaries in an attempt to bid teachers away from each other without having any effect on the total supply available.

However, the evidence consistently indicates that the total supply of teachers does in fact respond to salary levels. Zarkin’s (1985b) analysis of trends in total supply and demand in the United States found that the number of people available to teach is positively related to the level of teachers’ salaries and negatively related to the level of salaries in alternative occupations. Zarkin’s (1985a) analysis of aggregate trends also indicates that more people enter teaching when they expect salaries to rise due to growing enrollments.

The data on individuals are consistent with these findings from aggregated data. Manski (1985) analyzed information on individuals from the National Longitudinal Study of the High School Class of 1972. Among college graduates who were employed in 1979, Manski found a positive association between salary and SAT score for nonteachers, but not for teachers. He also found that individuals with higher SAT scores were less likely to be teaching. These findings are consistent with the theory that salaries influence occupational choice in general, and, in particular, that individuals with high SAT scores are relatively unlikely to choose teaching because they can obtain bigger salaries in other fields. Manski’s analysis implies that raising teachers’ salaries would make it feasible to establish a minimum SAT score for teachers and still attract the same number of young people into teaching. For instance, he estimated that setting the minimum SAT score (verbal plus math) at 1,000 would require raising teachers’ salaries approximately $90 per week (in 1979 dollars), if the fraction of high school graduates who eventually enter teaching were to be held constant.

The likelihood that an individual will leave teaching for another occupation has been found to be positively related to the amount by which the individual is underpaid as a teacher, compared to potential earnings in other fields (Baugh & Stone, 1982). Additional corroboration comes from analysis of data from the United Kingdom by Zabalza, Turnbull, and Williams (1979). They found that the level of teachers’ salaries relative to other fields was positively related to the number of new entrants into teaching, and negatively related to the number of teachers who left the profession.

All these results are consistent with economic theory and common sense. They clearly indicate that both prospective and practicing teachers respond to monetary considerations. Raising salaries will attract and retain more teachers. Manski’s (1985) results also suggest higher salaries can be used to recruit new teachers with higher SAT scores. Whether monetary inducements will also attract more teachers of “virtue” (Jackson, 1985) is not known, but some discussion of intrinsic and extrinsic motivations for teachers is in the concluding section of this chapter.

RELATIVE EARNINGS OF TEACHERS, BY AGE

A young person considering a career in teaching could find out how much money teachers make, relative to other occupations, by looking at U.S. Census reports. Bits and pieces of this information can also be obtained, with varying degrees of accuracy, from newspapers and magazines, placement of-
ices, families, and acquaintances. One way or another, the basic facts about teachers' pay are easily discovered. They are presented in Figure 1.

The age-earnings profiles shown for different groups in Figure 1 vary in height, steepness, and curvature. With regard to height, the most striking difference is between males and females. In both 1969 and 1979, the average man, whether in teaching or not, earned more than the average woman. This was true for earners with 4 years of college (solid lines) or with 5 or more years (broken lines).

The large male-female difference in annual earnings in Figure 1 is due in part to the fact that the proportion of earners who work for pay less than 50 weeks a year is larger among women than among men. But the comparisons in Figure 1 could not be restricted to full-time, year-round earners because most teachers, both male and female, work for pay less than 50 weeks a year.

Earnings profiles for male teachers were much lower than for all male earners in both 1969 and 1979. However, among females there was very little difference between teachers and the college-educated labor force as a whole. The similarity of earnings profiles for female teachers and the whole group is due in part to the fact that female teachers comprised a large fraction of the whole female college-educated labor force: 50% in 1969 and 33% in 1979. If teachers' earnings profiles were compared with nonteachers' separately, the differences would be more pronounced than in Figure 1, but still less pronounced for women than for men.

It has been said that increasing participation of college-educated women in occupations other than teaching is making it more difficult to recruit women into teaching. Indeed, the sharp decline in the proportion of college-educated female earners who are teachers—from one half in 1969 to one third in 1979—was part of a general decline in occupational segregation by sex (Holden & Hansen, forthcoming). If the occupations women are entering in larger proportions pay more than teaching, the earnings of female teachers relative to all female earners should decline, especially in the younger age groups where desegregation is occurring more quickly, and the decline in relative pay should be greater for female teachers than for male teachers. However, the numbers charted in Figure 1 do not show a greater decline for female teachers than for male teachers. Among 25–34 year olds, female teachers' relative mean earnings fell between 1969 and 1979, from 97.6 to 89.4% of mean earnings of all women with 4 years of college; for those with 5 or more years of college, teachers' earnings fell from 102.7 to 97.3% of the overall mean. But the decline in relative pay for teachers between 1969 and 1979 was just as large among 25–34 year old males: from 72.5 to 69.8% among earners with 4 years of college, and from 81.2 to 75.9% for those with 5 or more years. Whether they were female or male, young teachers did relatively less well in 1979 than in 1969.

It remains to be seen whether the entry of more women into previously

![Figure 1. Mean earnings by age for male and female K-12 teachers, and experienced civilian labor force, by years of education, 1969 and 1979.](image-url)
TABLE 1


<table>
<thead>
<tr>
<th>Category</th>
<th>Age group with highest mean earnings</th>
<th>Ratio to mean earnings of 25–34 year-olds</th>
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<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
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<tr>
<td>1969 Labor force</td>
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<tr>
<td>4 yrs. college</td>
<td>55–64</td>
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<tr>
<td>Teachers</td>
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<tr>
<td>4 yrs. college</td>
<td>35–54</td>
<td>55–64</td>
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<td>5 yrs. college</td>
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<td>1979 Labor force</td>
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<td>4 yrs. college</td>
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male-dominated occupations (e.g., law, medicine) will cause the earnings profile for teachers to fall below that of other earners in the older age groups. This is clearly the pattern for males in Figure 1: the earnings gap between teachers and other college-educated earners grows wider with age. In other words, age-earnings profiles are much steeper for men who do not teach than for men who teach. However, among college-educated women there has been no such difference in steepness of the earnings profile among teachers and nonteachers. This may change in the future, as more college-educated women work in previously male-dominated occupations.

Table 1 presents a simple measure of steepness for each of the profiles in Figure 1. It is the mean earnings in the age group where mean earnings are highest, divided by mean earnings of 25–34 year-olds. According to this measure, female teachers’ age-earnings profiles became slightly steeper between 1969 and 1979, while the profiles for all college-educated female earners actually became less steep. The age-earnings profile for females who do not teach therefore became less similar to the male profile during the 1970s. The steepness or flatness of earnings profiles may have important behavioral implications, which are discussed in the next section.

At this point, what conclusion would a young person draw from this information about teachers’ pay? For a young man it is clear: teachers’ pay starts bad and gets worse. No improvement is evident from recent data. For a college-educated woman, prospective earnings in teaching still look very similar to earnings in other fields. In the next 20 to 30 years, women who have recently entered nonteaching occupations that were predominantly male may raise average earnings in the older age groups more than in the past. But implementation of “career ladder” plans for teachers (see the final section) may have the same effect for those who choose teaching.

MODELS OF EFFICIENT COMPENSATION

Does the relative flatness of teachers’ age-earnings profiles affect their behavior? What difference does it make if teachers’ salaries are tied to seniority, knowledge, or performance? While some research pertaining to these questions has been done on teachers specifically, a great deal more research has been conducted on compensation in settings other than schools. This section presents five distinct models or principles of efficient compensation drawn from the literature in economics, organizational psychology, and personnel management. The aim here is to extract ideas that are relevant to compensation for teachers. Readers interested in more comprehensive reviews are referred to the sources cited, especially International Labour Office (ILO, 1984), Lawler (1971, 1981), Yellen (1984), Henderson (1979), and Heneman (1984).

Predetermined Pay, with Minimum Standard of Performance

The most common kind of employment contract in capitalist economies commits the employer to pay an agreed upon amount of compensation periodically, in exchange for which the employee promises to do a certain job. If the employee fails to perform at or above some minimum standard, the employer may terminate the contract by firing the employee.

Unless employees have some intrinsic motivation to do the job (an important proviso in thinking about teachers; see the concluding section), it is not rational for them to perform above the minimum standard since higher performance requires effort that is presumably unpleasant. With this kind of employment contract, therefore, performance at the minimum standard, or only a little above it, would be expected.

Prevailing practices in the labor market determine a range of acceptable “effort bargains” for each kind of work. If an employer sets a high standard of minimum performance but does not pay a high enough wage or salary, the employer will be unable to recruit or retain the desired number of qualified workers. In determining levels of pay and performance for a particular job, the employer therefore has some range of choice, within which both pay and minimum performance standards can be set either relatively high or relatively low.

Economists have analyzed this choice problem for a profit-seeking employer. In theory, the firm’s profit-maximizing solution is to set pay and performance levels at the point where an additional 1% increase in pay would
permit an increase in required performance of exactly 1% (see Solow, 1979; Stiglitz, 1976). If different firms offer an array of effort bargains, workers can sort themselves into jobs where each obtains the most preferred combination of earnings and effort, given the available technology of production.

In practice, the most explicit application of this kind of contract—predetermined pay with minimum standards of performance—has been to production workers in manufacturing, mining, or trade. Here an employee may perform the same operation, day after day. "Measured daywork" is a term sometimes used in this context to describe contracts with explicit minimum standards (Henderson, 1979, p. 364; ILO, 1984). Where contracts are written down in collective bargaining, provisions for enforcement of minimum standards are sometimes spelled out. For example, one contract specified:

> When an employee is charged only with inefficiency, such employee and the union shall have 10 work days written notice thereof. If the inefficiency shall not have been corrected within 10 work days from the period of said notice, such employee (if hourly paid) may be subject to discharge (U.S. Bureau of Labor Statistics, 1979; p. 8).

Another stipulated:

> The right of the company to establish and enforce production standards is recognized. Such production standards shall be fair and equitable and the time allowed for performing an operation shall be the time necessary for a normal experienced operator, familiar with the operation, tools, equipment, and material provided, and the quality of the finished part shall be up to the standard required with the operator working at a pace he can maintain day after day without mental sickness or physical injury to himself or his fellow employees (U.S. Bureau of Labor Statistics, 1979, p. 23).

For managerial and professional employees, or for production workers in service industries, minimum performance standards are usually more difficult to define in precise, objective terms. However, large employers almost always conduct periodic, formal appraisals of performance by managerial, professional, and service workers. These appraisals are most often written by supervisors. They inevitably include subjective judgment, but employers have incentives to make the appraisals as valid and reliable as possible, both for more efficient management and to avoid lawsuits or grievances (see Henderson, 1979, chap. 14). An employee who receives bad ratings is more vulnerable to discharge, especially at times when business is slack and the company is eliminating jobs. Though far from perfect, performance appraisals do permit employers to enforce minimum standards.

**Extra Pay for Superior Performance**

In addition to (or instead of) enforcing minimum performance standards by discharging employees who do not meet them, employers may also provide extra pay for employees who perform at a high level. There are two main forms of positive incentive pay: the one-time bonus and the recurrent salary increase.

In the first version, extra pay is awarded as a one-time bonus at the end of the period when the employee's performance was high. This kind of bonus pay based strictly on current performance has been applied mainly to production and sales employees in profit-seeking firms, but there have also been attempts to apply it to public employees (Greiner, Dahl, Hatry, & Millar, 1977; National Commission on Productivity and Work Quality, 1975), and to managerial and professional workers in the private sector (Heneman, 1984). Usually, the bonus is paid immediately but then is given again only when the individual's performance again rises to the meritorious level.

Bonus pay for production workers in the United States and other industrialized countries became more widespread from the 1920s to the 1950s (ILO 1984, chap. 8). This was a period when base wages were becoming more "sticky" due to changing social norms and direct governmental restraints on employers (Mitchell, 1985). By making more use of bonus pay for high performance, employers could maintain some flexibility in payroll costs so that payroll obligations would not exceed revenues, but without resorting to cuts in base wages. The spread of bonus pay incentives also reflected growing acceptance of "scientific management" principles.

Since the 1950s there has been some decline in the use of bonus pay to reward current performance, especially for individual employees (ILO 1984, chap. 8). The period from approximately 1955 to 1970 was a time of relatively steady growth for the western industrial economies. Miles (1976) has suggested that prevailing practice, especially in large corporations, accordingly came to emphasize planning and attainment of minimum production targets, rather than cost-effectiveness. Tying pay to performance might motivate employees to increase productivity, but would also add an undesired element of unpredictability. Instead, the concern was to achieve mass production targets and to prevent failure by enforcing minimum standards.

Now the economic climate has become less stable again. There is evidence that employers in the 1970s and 1980s have again made more use of bonus pay for production workers—but increasingly now for groups rather than individuals (ILO 1984, chap. 8; Lawler, 1981). Group incentives will be described further below.

The second major form of individual incentive pay is a raise in salary for the high-performing employee. This is the more relevant form of reward for managerial and professional workers. At the beginning of each pay period the level of compensation for that period is predetermined. But superior performance may lead to higher compensation in the future, and once the level of compensation rises, it ordinarily will not fall back to the previous level.

It is surprisingly difficult to verify in practice whether salary increases for managers and professional workers are really tied to their performance. Un-
like one-time bonus payments, which are triggered automatically by an explicit formula, salary raises are not tied to performance in such a mechanical way. Lawler (1971, p. 158) reported several studies that failed to confirm a link between salary and performance even in companies where pay based on merit was the stated policy. More recently, studies by Medoff and Abraham (1980, 1981) and a review by Abraham and Medoff (1983) have found that corporate managers and professional workers within a given job classification obtain higher salaries if they have been there longer—but those who have been there longer do not obtain higher performance ratings on average. Medoff and Abraham conclude that most salary increases are in fact attributable to seniority itself, not to performance. A limitation of their studies, and those reported by Lawler, is that they compare employees only within the same job classifications because performance appraisals cannot be compared across different job categories. Therefore, these studies do not rule out the possibility that promotion from one job category to another is determined by merit. Even so, these studies cast serious doubt on the proposition that salaries are strongly tied to performance among managers or professional workers within the same job classification in large private firms.

Is a compensation system that awards higher pay for superior performance more efficient for the organization than one that does not? Psychological theory and common sense imply that tying pay to performance is efficient if workers’ performance can be clearly linked to the organization’s objectives; financial incentives are sufficiently large; workers have sufficient control over their own performance; the measurement of performance is seen as legitimate by employees but is not too costly or time-consuming; and workers trust management not to raise standards when performance improves (ILO 1984, chap. 3 & 4: Lawler, 1971). Unfortunately, clear empirical tests of these propositions have not been conducted (see Heneman, 1984), since compensation practices in actual organizations are not amenable to rigorous experimentation. However, if a certain practice has been widely used by firms in a competitive environment, this is at least prima facie evidence that the practice is efficient. On these grounds, one-time bonus payments tied to current performance appear to be efficient for some production and sales workers.

As for the second form of performance-based pay—building performance awards into recurrent salary—it is not even clear that it has been widely practiced. If this kind of incentive does operate in practice, it is mainly by promotion from one job grade to the next. Competing for promotion may motivate individuals who are still contenders, but those who feel their chances for promotion have come and gone may give up and stop working hard if there is no other incentive (Rosenbaum, 1984). This may be one reason why salary differences within large organizations have been found, in fact, to depend more on seniority than on performance.

Pay for Seniority

When an employee is expected to continue working for the same employer for a number of years, it may be efficient for the employment contract to promise steady increases in pay from year to year, as long as performance meets minimum standards. Failure to meet minimum standards is grounds for dismissal. Other than that, pay does not depend on performance.

To see why this kind of contract may be efficient, consider an extreme counterexample. Suppose the employment relationship is expected to last for a number of years, but the employer foolishly offers to pay the whole present value of the expected future salary in one lump sum on the first day. This would create a strong temptation for the employee to pocket the money and flee. Even if the employer succeeded in recovering the money, this kind of contract obviously is not going to result in getting a maximum amount of work done.

More generally, Lazear (1981) has constructed an ingenious theoretical demonstration that rational employees and employers would agree to long-term contracts that pay employees less than the value of what they produce during the early part of their career, but then pay more than what they produce toward the end of the contract, as long as they meet minimum performance standards. This is rational because by not paying employees much money up front, the contract avoids tempting them to take the cash and run. The contract also gives senior employees a strong incentive to keep working, at least up to minimum standard, because they can collect the full amount of extra pay that comes with seniority only by remaining with the same employer. This kind of contract therefore results in more work getting done, and thus more total income for employees.

A good deal of evidence about labor markets is consistent with this theory of seniority pay. Many studies have demonstrated that additional years of work experience are associated with larger earnings, but that an employee who has remained with the same employer tends to earn more than one who has changed employers (see Chapman & Tan, 1980; Duncan & Hoffman, 1979). Within organizations, Lawler (1971) and Medoff and Abraham (1980, 1981) found, as mentioned earlier, that seniority increments were not related to performance ratings.

Abraham and Medoff (1983) also conducted a survey of large corporations, which indicated a widespread commitment to giving senior workers more protection in the event of layoffs. This protection was strongest for unionized, hourly employers. But even for nonunion or managerial employees, seniority provided some protection against layoff, as long as they were not significantly less valuable to the company. Existence of this protection is necessary if the kind of long-term contract described by Lazear is really going to work, as
employees would have no reason to accept low pay early in their careers if employers did not honor the bargain by keeping senior workers on the payroll to collect their reward. However, if senior employees are paid more than the value of what they produce, the employer will not agree to a contract that allows employees to stay on the payroll as long as they like—and this, Lazear points out, can logically explain why there is mandatory retirement.

Pay for Know-How

In most large organizations, the amount of pay a person receives is determined by the job classification to which he or she is currently assigned. Formally, pay depends on the job, not on characteristics of the person, although personal qualifications influence eligibility for various jobs. In the conventional personnel system, an employee’s pay can change relative to others in the organization only if the employee’s job classification changes.

Pay for know-how changes all that. This innovative concept, often called “skill-based pay” (Gupta, Jenkins, & Curington; forthcoming; Jenkins & Gupta, 1985; Lawler & Ledford, 1985), makes a person’s current rate of pay depend on demonstrated mastery of certain skills and knowledge—not on the job being performed during the current pay period. Employees advance up the pay scale by progressing through a sequential “curriculum” of skills and knowledge used in the particular workplace.

The first organization to install a full-fledged system of pay for know-how seems to have been General Foods, at the pet food factory built in Topeka, Kansas in 1971 (Lawler, 1981, pp. 66–68; O’Toole, 1973; Walton, 1980). The concept has spread rapidly since then. A 1985 survey by Gupta et al. (forthcoming) found more than 7% of companies listed on the New York or American Stock Exchange were operating at least one workplace with pay for Exchange were operating at least one workplace with pay for know-how.

To date, the concept of pay for know-how has been applied mainly in new manufacturing plants where production workers are given a large amount of responsibility for running the operation. It seems especially applicable in highly automated, continuous-process industries such as chemicals, food, and paper where the work consists largely of monitoring controls and solving problems. Unlike a conventional assembly plant, where operators handle materials and the speed of the line depends on how fast employees move, in a continuous-process facility the pace of production depends on how fast employees think.

The “curriculum” in a system of pay for know-how can include some diffuse behavioral objectives in addition to highly specific skills and concepts. For example, a Procter & Gamble factory in Modesto, California, offers technicians two alternative career paths in advanced assembly line skills. One path is called “mechanical,” the other “operational.” To reach advanced level one in the operational sequence, a technician must first acquire prerequisite skills in 4 functional areas, then demonstrate mastery of 21 specific additional parts of the line operation, as well as satisfying 16 behavioral expectations. The 21 specific proficiencies include some that are tested by actual performance, and others tested by answering questions. For instance, one of the 21 parts of the line is a rotary folding machine. Here the candidate must perform 11 distinct tasks, for example “adjust the clearance between tucker and gripper roll.” The candidate also must answer 6 questions on the rotary folder, including “If you are getting a ‘bull nosed’ pad from the rotary folder, what malfunction might you expect from the opening cam?” In addition to the hundreds of detailed proficiencies in line operation, the technician seeking advancement also has to satisfy behavioral expectations such as “proactively works to eliminate downtime problems,” “trains new technicians on safety in the area,” and “encourages others to join in problem solving discussions of line problems.”

Usually pay for know-how is only one in a set of several organizational features that support employee participation in problem-solving. A list of these features provided by Hirschhorn (1984, pp. 115–117) shows how pay for know-how fits in. The list is worth summarizing here because it represents an increasingly common paradigm for employee participation in high-tech production:

- “Workers are paid salaries, not wages.” A salary is determined not by the tasks a worker is currently performing, “but by how much he or she has learned. The pay-for-learning system is organized on the basis of skill clusters ... for example, there will be separate clusters for line, maintenance, warehouse, and laboratory work.”
- “The workers are organized into teams based on natural segments of the production process, such as packaging, processing, and laboratory work.” Teams have considerable autonomy, sometimes their own budgets.
- “Workers train one another and rotate through the teams to learn the full complement of skills. Since particular teams are limited to particular parts of the plant, a team member must temporarily transfer to other teams to develop new skills. This means that workers and their teams negotiate temporary transfer arrangements with others ... [M]ost often there is one worker on the team who orients new members and sits on a general committee supervised by the training coordinator for the whole plant.”
- “Workers evaluate one another for pay raises.” Based on written tests and on-line performance, teams decide whether individuals have mastered the skills. In some plants a negative evaluation can be appealed.
- “The role of first-line supervision is changing. In some plants the supervisor acts as a facilitator or coordinator assigned to a particular team, while in others he is responsible for a functional area, such as training or health and safety.”
• “An elaborate system of committees and task forces manages the plant. Some of these focus on particular projects and problems, such as training and plant expansion, while others review the entire design.”
• “Few of the plants are unionized. Many were built from scratch in regions where unions are weak.”

In the context of these “high commitment work systems,” as Walton (1980) calls them, pay for know-how has several advantages. From the employee’s point of view, it helps keep the work interesting by rewarding accomplishment of new tasks. From the employer’s standpoint, maintaining employees’ motivation is itself a good thing. In addition, pay for know-how improves the organization’s capacity for problem-solving since each individual comes to understand more of the whole production process (Lawler & Ledford, 1985).
A final advantage for employers is that turnover of experienced employees becomes less disruptive and costly because no employee develops a monopoly on knowledge about a particular part of the operation. To the extent that these advantages can also be realized in other manufacturing and service industries, pay for know-how will continue to spread.

**Group Incentives**

The four preceding models of efficient compensation all pertain to employees as individuals, but the first two can also be applied directly to groups. Minimum performance standards can be defined for a group just as for an individual, although in practice this seems to have been done only in a few organizations as part of work restructuring experiments (ILO 1984, p. 111). The application to groups of extra pay for superior performance is more common in practice. In U.S. collective bargaining contracts, such incentives are in fact mentioned four times more often for groups than for individuals (U.S. Bureau of Labor Statistics, 1979, p. 4).

The other two concepts described above—pay for seniority and pay for know-how—are inherently applicable only to individuals. However, organizations can and do combine these principles of individual compensation with incentives for groups.

Group incentives have obvious advantages when jobs are interdependent. One advantage is the lower cost of monitoring output for a group of related jobs than for each job in the group. In some work settings, the time and effort required to measure performance by individuals can exceed the benefit of improved performance. According to Silverman (1983), this is what happened when individual merit pay was institutionalized for federal government employees. A second advantage of creating incentives for groups instead of individuals is that, if jobs are interdependent, overall performance is likely to be better if individuals are motivated to help each other, instead of each one trying to look good at the others’ expense.

Even if jobs are not highly interdependent, it may be more effective to reward groups rather than individuals for superior performance. A well-known drawback of individual incentive plans is the tendency to create peer pressure against “rate busters”—individuals whose superior performance threatens to cause the employer to raise the standards (Whyte, 1955). These counterproductive sentiments should not arise among members of a group whose performance is rewarded collectively, although such feelings might well exist between groups that compete against each other. Another general advantage of group incentives is the greater inducement for more able and experienced employees to train or coach the others.

In theory, rewarding performance by groups rather than individuals also has the disadvantage of diluting the incentive. Especially in large groups, individuals may feel no inducement to improve their own performance, being content instead to let others bring home the bacon. On the other hand, if the group is small enough so that individual members can perceive each others’ performance, instituting rewards for the group might instead create a new kind of peer pressure against such “free riding.” In the absence of a material incentive for the group, high-performing members can appeal to their less motivated coworkers only on moral grounds. Given a material incentive, the appeal can be made on the basis of shared self-interest. Unfortunately, there is no available evidence on how group incentives affect these group dynamics in practice.

Since approximately 1960, use of group incentives has become more widespread among private firms in the United States and Western Europe (ILO 1984, chap. 8). One form of group reward is profit-sharing. In the United States, employers since 1974 have been able to receive tax credits for sharing profits with all employees (not just top managers), through the mechanism of Employee Stock Ownership Plans (ESOPs). The National Center for Employee Ownership (NCEO) estimates that approximately 8,000 companies had taken steps to establish ESOPs as of 1984. These companies employ approximately 8% of the work force nationwide. The 1984 Deficit Reduction Act contained several provisions that are expected to spur the growth of ESOPs even further.

However, the size of a company’s profits depend not only on employees’ performance but also on exogenous factors such as fluctuations in demand for the company’s product. For this reason, some authors do not consider profit-sharing or stock ownership schemes to be true incentive plans at all.

There is another type of group incentive plan that has also become more widespread in recent years. Often called gain-sharing, this kind of plan is sometimes applied to the firm as a whole, like profit-sharing. Alternatively, gain-sharing can also apply to single establishments in a multiplant firm, or to individual divisions, departments, or work groups. The idea of gain-sharing is to promote improvement in a group’s work procedures by awarding bonus pay to employees in the group when they improve their productivity. The amount paid out in bonuses is a predetermined share of the total monetary
benefit to the company due to the group’s higher productivity (Bullock, 1984).

The best-known version of gain-sharing is the Scanlon plan, which originated in the 1930s. Joseph Scanlon, then a union officer in a Pennsylvania steel mill, devised an agreement between the union and management that brought the company through financial crisis by enlisting workers to improve efficiency. Increased wages ensued. Scanlon moved to union headquarters, and then went to work at MIT with Douglas McGregor. Here the plan was formulated and refined through experience in a number of companies (Katzell & Yankelovich 1975, pp. 355–356).

Scanlon plans have different features in different companies, but there are said to be three defining characteristics: (1) a set of committees to communicate problems and develop ideas for improving efficiency; (2) a formula for distributing money to a group of employees in proportion to measured improvements in productivity, which promotes productive collaboration in a group of employees, and an equitable distribution of gains from higher productivity; (3) the philosophy and practice of cooperation (Moore & Ross, 1978). This includes sharing knowledge and information between employees and management. Ultimately, it may amount to “the merging of personal goals with those of the organization,” so that employees “desire to make higher levels of contributions to the attainment of organizational goals” (Moore & Ross, 1978, p. 4). In sum, the Scanlon plan uses group incentive pay along with other organizational practices to create a high-commitment work system.

The durability of the Scanlon concept, the number of companies that have adopted at least some form of it, and the documentation of success stories in individual companies—for example, Donnelly Mirrors (see Iman, 1975; Rush, 1973)—all testify to the effectiveness of this particular group incentive plan. Furthermore, according to Lawler (1981, p. 148), interest in the Scanlon plan has “increased tremendously since 1970.”

EFFICIENT COMPENSATION FOR TEACHERS

The preceding general principles of efficient compensation have four definite implications for changing teachers’ salary structures: (1) minimum performance standards should be better enforced; (2) the additional education for which teachers receive salary increments should be more closely related to what teachers actually do; (3) it is possible to award higher pay to teachers whose performance is superior, but (4) this should be done in the context of a more general organizational strategy for maintaining teachers’ commitment to their work. This section explains these four propositions.

Enforce Minimum Performance Standards

Some teachers, usually said to be a small minority, fail to perform up to reasonable minimum standards. Unlike their more able or more dedicated colleagues, they lack the necessary talent or intrinsic motivation to give students the kind of instruction and care that is expected. Yet it is hard to dismiss a teacher for incompetence or nonfeasance. After teachers pass through their initial probationary period, laws in most states protect them against dismissal except for cause, and with due process. This statutory right is protected by the Fourteenth Amendment of the U.S. Constitution. In districts with collective bargaining, contractual grievance procedures provide another layer of legal protection. Finally, dismissing a teacher usually requires action by the school board itself (Bridges, 1984, p. 5), and can therefore become entangled in board politics.

In contrast, most employees in the private sector enjoy far less job security. Some large companies do seek to maintain the loyalty and commitment of skilled employees by promising to use layoffs only as a last resort in the event of a business downturn (Stern, 1982). Furthermore, recent court rulings in several states have protected employees against firing that stems from an employer’s demonstrable “bad faith” (Business Week, July 8, 1985, pp. 74–75). But, in spite of these limitations, millions of private-sector employees lose their jobs every year because they did not meet minimum performance standards or their employers cut payrolls.

Since it is relatively difficult to discharge a teacher once he or she has obtained tenure, the main opportunity for enforcing minimum performance standards is during the probationary period after a teacher is newly hired. There is evidence that principals do succeed in weeding out some unsuccessful teachers during this initial period (Murnane, 1984). However, some unsuccessful teachers survive probation, especially in times and places where teachers are scarce. Furthermore, if it is practically impossible to dismiss a tenured teacher, then teachers with tenure have practically no material incentive to exert themselves. Those who do continue to work hard do so despite the lack of material incentive.

Logically, not enforcing minimum performance standards for tenured teachers destroys the rationale for basing pay on seniority. As explained in the previous section, pay for seniority is efficient only if employees can be dismissed for “shirking.” In a long-term employment relationship, awarding higher pay for seniority—over and above any pay differences associated with higher productivity—is likely to deter shirking by senior employees because they will forfeit their seniority bonus if dismissed. While most salary schedules for teachers do include increments for seniority, no efficiency gain can be expected if minimum performance standards are not enforced. This could be the most important reason for better enforcement.

There are other, more obvious reasons. Students benefit directly if substandard teaching is improved, whether by helping unsuccessful teachers upgrade their performance or by replacing them with other, more effective teachers. Enforcing standards also benefits successful teachers, because seeing other teachers perform poorly and get away with it can make successful teachers
wonder about the rationality of their own efforts, and because all teachers are
tarred by the brush of public contempt for the ineffective ones.

Enforcing minimum standards for teaching is not easy. It means adopting
measurable criteria and determining whether teachers satisfy them; ensuring
that supervisors have the time, incentive, and capability to assess teachers' performance; providing help to teachers who need it; and following due process at each step, up to and including a formal hearing, if necessary (Bridges, 1984). All of this, in turn, requires resources, and determination on the part of top management.

Unlike firms that sell products or services in competitive markets, public schools as organizations have no incentive to take on the difficult task of enforcing minimum performance standards for employees. Public schools are not like firms that lose revenues and eventually go out of business if they fail in market competition. If there is any link between what teachers do and how much money the schools have, the connection is too indirect to matter. Schools therefore lack any survival imperative to enforce minimum standards.

For economists and others who see competitive markets as the best mechanism for allocating resources, absence of competition is the public schools' main problem (Friedman & Friedman, 1979, chap. 6). An article in Fortune magazine declared,

... the problems of education are immediately seen as the problems typical of any socialized monopoly. The public school system is the American version of Soviet agriculture, beyond help as currently organized because its incentive structure is all wrong (Brimelow, 1983, p. 64).

In this view, an obvious—though drastic—cure for the problems of schools is a voucher system, which would allocate public money only to schools where parents choose to send their children. The resulting competition, it is said, not only would eliminate substandard teaching and reward superior performance, but also would produce more kinds of good education (Coons & Sugarman, 1978). On the other hand, critics of the voucher idea have pointed to possible negative consequences for social cohesion (Wise & Darling-Hammond, 1983). It is possibly for this reason that voucher proposals in this country have so far been defeated at the polls.

A less sweeping proposal for enforcing minimum standards at the organizational level, without the radical changes entailed by a voucher system, was suggested in a report issued by the Committee for Economic Development (CED, 1985), a group composed mainly of business executives. "When a school district grossly fails to meet its obligations to its students," it should be declared educationally bankrupt and placed in "receivership." The state or local educational authority invoking receivership would take over the schools and bring them "up to standard" (p. 29). The feasibility and effectiveness of this procedure have not been tested. The point is that no such mechanism now exists.

**Award Salary Increments Only for Relevant Knowledge**

Conventional salary schedules for teachers currently have two main dimensions. One is seniority. The other is educational attainment, measured by graduate degrees and "units." As explained earlier, the potential benefit to students of basing teachers' pay on seniority may be lost if there is no enforcement of minimum performance standards. Similarly, the potential advantage of basing teachers' pay on education may be lost if that education is not relevant to what teachers actually do, or try to do.

Numerous studies have looked for statistical relationships between characteristics of teachers and student performance, usually measured by test scores. Hanushek (1981) compiled results from almost 100 such studies. Of 89 studies that tested the relationship between students' outcomes and the amount of education their teacher had, only 5 found a significant positive association, while 4 found a significant negative one. Twenty-five studies reported a negative association that was not statistically significant, and 17 reported a nonsignificant positive relationship. In contrast, the association between student outcomes and teachers' experience was positive in 53 of 92 studies, and statistically significant in 28 of the 53. Evidently, student performance is more strongly related to teachers' seniority than to their educational attainment.

Furthermore, there is a theoretical rationale for paying higher salaries to more senior teachers, even if effectiveness does not increase with seniority (see the previous section)—but the justification for paying more to teachers with more education depends entirely on the presumption that education improves performance. In contrast to the skill-based pay plans described in the preceding section, teachers in fact can progress along the salary schedule by accumulating "units" of education that are only tangentially related to their actual work.

Education for teachers can conceivably improve performance by broadening or deepening their knowledge. Broadening means acquiring additional know-how, expanding their repertory of teaching techniques. Deepening means more "know-why," a better understanding of basic principles related to students' learning and the nature of schools. Districts could map out educational sequences for teachers in different subjects and grade levels, providing choices for individual teachers to reflect differences in professional interests and prior preparation. Unless more districts make the effort to align teachers' ongoing education with their actual classroom practice, it seems unlikely that salary increments for education will buy any benefits for students.
The idea of tying teachers’ pay to performance arouses strong feelings. For example, Genck has proclaimed “Any school board member who is spending the public’s money on teacher salaries without pay-for-performance plans should be thrown out of office” (Cramer, 1983, p. 35). In contrast, Rosenholtz (1985) assails the “fatalistic assumptions that schools can be motivated to improve through pecuniary incentives, that schools now withhold services to students that they would supply if the rewards were greater, and, finally, that schools can improve if only they are properly motivated to do so” (p. 11).

Many school districts at one time or another have implemented pay-for-performance plans. Proponents of the idea cite this as evidence that it can work. However, detractors point out that most plans have been discontinued. Furthermore, evidence about effects on students’ learning is virtually nonexistent. Therefore, like the literature on merit pay in other kinds of organizations (Heneman, 1984), the literature on paying teachers for performance contains much advice that is only tenuously related to findings from actual experience with performance-based pay. Most of the recent advice literature is cautionary, skeptical, or plainly antagonistic to the idea of paying teachers for performance (Bacharach et al., 1985; Johnson, 1984a; McLaughlin, Pfeiffer, Swanson-Owens, & Yee, 1985; Mitchell, Ortiz, & Mitchell, 1983; Thompson, 1979).

Before wading into the controversy, it is useful to attempt some dispassionate description. Fortunately, a picture of recent practice can be pieced together from surveys by the Educational Research Service (Calhoun & Potheroe, 1983; Porwoll, 1979), along with informative case studies and analysis by Hart and Greiner (1985), Cohen and Murnane (1985), Murnane and Cohen (forthcoming), and Johnson (1984b).

Four major types of pay-for-performance plans can be distinguished. First, and most common in practice, are one-time bonus payments for individual teachers whose performance is judged to be meritiorious. These are usually awarded on an annual basis. A teacher who receives a bonus for one year can receive another in a subsequent year only if he or she is once again judged to have earned it. Current or recent examples of such plans are in Bryan, Texas: Lebanon, Connecticut; Penn Manor, Pennsylvania; and Seiling, Oklahoma (Harty & Greiner, 1985). This kind of plan is what seems to be usually meant by “merit pay.”

A second kind of plan also awards one-time bonuses, but to groups rather than individuals. Usually the group consists of all teachers in a school. Group-bonus plans appear in Dallas (Webster & Olson, 1984) and Florida (Abalos, Jolly, & Johnson, 1985). The bonus-pay plan in Houston, Texas, also includes a group-based component (Miller & Say, 1982), and an experimental group-bonus plan has been tried in Norwalk-La Mirada, California (Bruno & Nottingham, 1974).

The third and fourth kinds of pay-for-performance plans are both versions of the career ladder idea. In both varieties, teachers’ salaries increase as they move up the ladder. In one kind of plan, promotion depends mainly or entirely on meritiorious performance of regular teaching responsibilities. Primary among these is actual instruction of students, but teachers’ regular responsibilities also include interaction with parents and the community, helping with extracurricular activities, serving on committees, and sponsoring student teachers. Ladue, Missouri, and Evanston, Illinois, are well-known examples of such merit-based promotion plans (Cohen & Murnane, 1985; Hart & Greiner, 1985). The other kind of career ladder gives teachers distinct new kinds of responsibility as they move up (Burden, 1985; Murphy & Hart, 1985). New responsibilities may include conducting in-service programs for other teachers, developing new curricula, supervising apprentice teachers, and collaborating in research. Examples of this second type of ladder are the Charlotte-Mecklenburg, North Carolina, career development program (Schlechtly, Joslin, Leak, & Hanes, 1985) and the California mentor teacher program.

In theory, the difference between the two career ladder plans is that one keeps all teachers doing essentially the same things but recognizes some individuals for doing a better job, while the other version creates a new structure of roles and responsibilities within a school. The former is more like merit pay, the latter more like the differentiated staffing plans of the 1960s (Bornfriend, 1985; English, 1985; Freiberg, 1985). In practice, the merit-pay version currently predominates, with many of the career-ladder plans in use requiring periodic reevaluation of upper-track teachers as a condition for continuing to receive higher salaries.

All discussions of paying teachers for performance agree that evaluating performance is the central problem. The two most commonly used plans—one-time bonuses for individuals and merit-based career ladders—both require judgments that some individual teachers are performing better than others. These judgments usually are not based mainly on student test scores, because existing tests are assumed not to measure the subtle, multidimensional effects of good teaching, or because attaching pay to test scores would explicitly raise hard questions about the relative value of different kinds of achievement for different students (Murnane, 1985).

In practice, therefore, selection of better teachers depends on observation of the teaching process, and sometimes on dossiers compiled by teachers to document their own accomplishments. Classroom observations are often done not only by the principal, but by others as well, and on more than one day. Selection committees are created to review all the evidence and pick the winners. The evaluation process must be very time-consuming so that judgments of relative merit will be accepted as accurate and fair. If enough attention is not given to this, the pay-for-performance plan is likely to be destroyed by dissension. Even spending a great deal of time and effort on evaluation

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does not guarantee that the outcome will be accepted as legitimate, since there still may be implicit conflict over which parts of the curriculum are more important, and which students should receive more attention. Most districts that have tried but later discontinued a pay-for-performance plan cited failure of the evaluation process as the reason for stopping it (National Education Association, cited in Newcombe, 1983, p. 41; Porperr, 1979).

The difficulty of making fair and accurate evaluations of performance is not unique to teaching. A handbook on compensation, though subtitled “Rewarding Performance,” states frankly, if there is an ambiguous area in the entire compensation process, it is the assessment of worker performance. . . . Performance appraisal has become a ‘damned if you do, damned if you don’t’ process. Appraising performance is one of management’s most important responsibilities. (Henderson, 1979, p. 317)

Given the inherent difficulty of evaluating individual performance, and the importance of using teachers’ evaluations as a guide for professional self-development (Wise & Darling-Hammond, 1985), tying individual evaluations to merit pay may overburden the evaluation process. In fact, districts that have maintained merit-pay systems for relatively long periods of time usually find ways to avoid betting too much on the process of evaluation. They may keep the monetary stakes small, or pass out bonuses to nearly everyone (Cohen & Murman, 1985). Districts also learn to avoid publicizing the winners, not only to spare embarrassment for the losers, but also to avoid causing all parents to request placement of their own children with the winning teachers (Benson, 1978, p. 242).

These tactics help ensure survival of merit pay, but they also subvert its purpose (Cohen & Murman, 1985). Whatever effect cash prizes might have on teachers’ motivation is lost if they are given to almost everyone, are of negligible size, or are so private that no one knows who the winners are.

The conclusion from practice, therefore, seems to be that existing procedures for evaluating teachers cannot adequately justify large, conspicuous, cash awards to individuals for meritorious teaching. Individual merit-pay plans tend to crash either because judgments of relative merit are not seen as legitimate, or because the effort required to maintain legitimacy is not felt to be worth whatever gains are achieved. Merit pay seems to survive only in small, affluent school districts where the public shares a strong desire for high-quality education (Cohen & Murman, 1985).

Pay bonuses to groups rather than individuals simplifies the evaluation problem because it necessarily focuses more on what students learn than on what teachers do. Instead of using classroom observations and teachers’ individual dossiers, group incentive plans rely on students’ test scores, which may be adjusted statistically to control for differences in students’ home back-

ground and prior achievement (Abalos et al., 1985; Webster & Olson, 1984). If achievement tests do not measure what teachers are trying to teach, then group incentives do not solve the problem of legitimacy, especially when statistical adjustment procedures are not used or understood. However, if tests do measure what teachers think they are teaching, then using test scores makes identification of superior performance more straightforward and far less time-consuming than when teachers are judged on classroom behavior and dossiers.

Some of the theoretical advantages and disadvantages of group incentives compared to individual incentives were mentioned in the previous section above. Generally, the relative advantages of group incentives are greater if jobs are interdependent. With regard to schools, it is often said that teachers now are too isolated from each other (Lortie, 1975). For example, Glickman (1985) observes, “It is remarkable that teachers can work in the same building on the same common task (instruction) with the same clientele (students) with virtually no knowledge of what other teachers are doing” (p. 39). Glickman gives a vivid example of how teachers actually impede each other: when one teacher leaves, other teachers often remove any useful materials, equipment, or furniture from the classroom, sometimes replacing them with their own discard, so that the next teacher to use the room finds it full of leftovers. One can easily think of other examples of teachers undermining each other: for instance, seeking to have troublesome students assigned to someone else, or making negative remarks about other teachers to administrators, students, or parents. Incentive pay for individuals can aggravate these divisive tendencies (Rosenholtz, 1985).

Conversely, incentives for groups might promote more collaboration on curriculum, instructional technique, discipline, keeping track of individual students from one year to the next or one subject to the next, relations with parents, extracurricular activities, and other matters that affect students’ performance. If a whole school is rewarded for good performance, then teachers who are already inclined to accept schoolwide responsibility might have more incentive to do so, and they also have an additional argument for their colleagues to do the same. (As noted earlier, however, there is always the possibility of some “free riding.”) The demonstration of school vouchers in the Alam Rock school district in California in the early 1970s provided evidence that group incentives can stimulate creative collaboration among teachers (Stern, deLone, & Murman, 1975). There is evidence that some teachers are more receptive to group incentives than to individual merit pay. The president of Florida’s teacher association, who is also chief negotiator for teachers in Dade County, reported that teachers like Florida’s “merit school” program because “it creates a team effort. . . . It doesn’t pit teacher against teacher” (Currence, 1985, p. 16). If combined with a bigger role for teachers in decision-making, group incentives in schools could produce benefits similar
to the Scanlon plan in private firms.

Despite these theoretical advantages of group incentives—and their increasing prevalence outside education—they are still a rarity in schools. Some of the reasons for this are technical. Available achievement tests often are not closely aligned with school curricula. The importance of testing what is to be taught became evident in a set of field experiments with group performance contracting, conducted by the Federal Office of Economic Opportunity in 1970–71: subjects in which test scores were not explicitly included in performance contracts were underemphasized by teachers (Gramlich & Koshel, 1975). Another technical problem is that statistical procedures to adjust test scores for the background and prior achievement of students in different schools are still the subject of theoretical dispute (Rogosa, Brandt, & Zimowski, 1982). Also, movement of students and teachers in and out of schools complicates the task of giving credit to a particular group of teachers for the achievements of a particular group of students. Whether group incentives become more popular in the future will depend in part on whether current experiments can solve these problems.

The most talked-about pay-for-performance idea in the early 1980s has been the career ladder for individual teachers. While serving as Secretary of Education, Terrell Bell proclaimed it necessary to “provide an opportunity for the most outstanding teachers to earn a new distinction beyond the level of the regular teaching ranks.” He called the absence of such opportunity part of “the fundamental problem with the current condition of the teaching profession” (Bell, 1983, pp. 3–4). The Secretary’s Discretionary Fund in 1984 distributed 51 planning grants to states and localities for the development of teacher incentive structures. Several “education governors,” notably Alexander of Tennessee and Graham of Florida, also attracted attention by initiating proposals to recognize and reward master teachers. As of early 1985, 6 states had career ladders under way, 14 were conducting pilot tests, 15 had plans under consideration, and 8 were developing ideas (Murphy & Hart, 1985).

Career ladders have three stated purposes: (1) to attract talented people into teaching; (2) to provide more inducement for the best teachers to keep at it; and (3) to motivate all teachers to improve. The first purpose is to be achieved by increasing a prospective teacher’s expected lifetime earnings, especially if he or she expects to reach the top of the ladder. This effect depends on how much additional salary is paid, and what the chances of getting it are. In Tennessee, to take a well-publicized example, a top-ranked teacher will be paid up to $7,000 more (for a 12-month contract) than regular teachers with the same education and seniority, but only about 10% of the teachers are expected to reach the top rank (Parish, 1983). An optimistic young person might therefore expect the career-ladder plan to increase his or her peak earnings by about $1,000, in today’s dollars. Referring back to the age-earnings profiles above, and assuming that profiles in Tennessee have a shape similar to the national average, the result of the career-ladder plan would be to increase the average ratio of peak to starting salary from roughly 1.4 to 1.5. This seems unlikely to make much difference in a young person’s perception of the monetary rewards from a teaching career. Furthermore, for a person who is averse to risk, an uncertain payoff with an expected value of $1,000 is worth less than a risk-free payoff of the same amount. For this reason, and also because a given amount of money is worth more if paid now than if paid later, Zabalza et al. (1979) found that it is more cost-effective to recruit new teachers by raising starting salaries than by making the age-earnings profile steeper.

The effectiveness of performance-based career ladders in motivating teachers, and also in retaining those who perform best, will depend in part on whether the process of selecting teachers for advancement is seen as legitimate. This is difficult, as we have observed. In addition, the effectiveness of these plans also will depend on how well they enhance teachers’ intrinsic motivation, the issue to which we now turn.

Support the Art of Teaching

A number of writers have questioned the basic assumption that money can motivate teachers to achieve or maintain a high level of performance (Bacharach et al., 1985; Mitchell et al., 1983; Rosenholtz, 1985). At some risk of oversimplification, we can distinguish two kinds of evidence on which this skepticism is based: psychological experiments and statements by teachers.

Psychologists have conducted numerous experiments demonstrating that extrinsic incentives can inhibit intrinsic motivation (Deci, 1972, 1975; Lepper & Greene, 1978). These experiments involve tasks that at least some people will do without any extrinsic reward or punishment—for example, adults spending a few minutes working on puzzles, or children doing an art project. The experiments have found that individuals who receive extrinsic rewards or punishments as an anticipated consequence of performing the activity will subsequently, when the extrinsic incentives are removed, spend less time on the activity than other individuals who were never given extrinsic inducements. This has been interpreted to signify that people become less interested in doing the task for its own sake after they have learned to see it as a means to receive extrinsic rewards or avoid punishment. Related experiments have also shown that extrinsic incentives can reduce risk-taking and incidental learning.

The danger suggested by these studies is that teachers in a pay-for-performance system will come to care less about students and more about money. This kind of goal displacement leads to what Murnane (1985), following Williamson (1975), calls “opportunism.” However, it is important to bear in mind that the psychological studies have usually found performance of the experi-
TABLE 2
Opinions of California Public School Teachers (percentages)*

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers' salaries should be related in part to teachers' effectiveness.</td>
<td>25</td>
<td>12</td>
<td>20</td>
<td>21</td>
<td>23</td>
</tr>
<tr>
<td>Teachers should participate in the evaluation of their colleagues.</td>
<td>30</td>
<td>14</td>
<td>23</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Teachers should have a career ladder, which allows them to earn more as they take on diversified professional responsibilities.</td>
<td>4</td>
<td>2</td>
<td>13</td>
<td>24</td>
<td>57</td>
</tr>
<tr>
<td>I feel I am making a significant difference in my students' lives.</td>
<td>0</td>
<td>2</td>
<td>13</td>
<td>34</td>
<td>51</td>
</tr>
</tbody>
</table>

*Percentages may not add to 100 due to rounding errors.
Source: Koppich et al. (1985).

ment mental task increases during the time when extrinsic incentives are applied. It is only after they are removed that performance declines. This suggests that paying teachers for performance might be productive as long as it continues. The worst thing to do would be to start paying for performance, and then stop, which is exactly what has often happened in the past.

An obvious reason to be cautious about applying the results of experimental studies to teachers (or other employees) is that the experimental tasks usually take only a few minutes, but teaching is a day-in, day-out affair. After years in a classroom, intrinsic motivation can lose its intensity. A teacher carrying home a stack of students’ papers to correct might find consolation in knowing there is the possibility of a monetary reward—especially if students have been neither enthusiastic nor cooperative.

Opponents of performance-based pay for teachers also point to statements by teachers about why they enter, remain in, or leave the profession. Usually these statements emphasize intrinsic satisfaction from the teaching process itself—or, in the case of leavers, the lack of such satisfaction. Teachers can derive deep fulfillment from knowing they have helped students grow and learn.

However, when asked directly about performance-based pay, many teachers approve of the idea. A nationwide poll of teachers in 1983 by the American School Board Journal found 62.7% of respondents agreed that “Teachers who are more effective in the classroom should receive larger salary increases than teachers who are less effective” (Rist, 1983). A similar result was obtained from a representative sample of public school teachers in California (Koppich, Gerritz, & Guthrie, 1985). Table 2 shows answers to some of the questions in that survey. A substantial fraction favor salary differences related to effectiveness, and there is even stronger support for a career ladder based on differentiated responsibilities. At the same time, the great majority of these respondents feel they are having the kind of effect on students that makes teaching rewarding in itself. It is possible that their intrinsic interest in teaching would diminish if performance-based pay were actually instituted. However, most of these teachers appear to see no conflict between their intrinsic motivation and the principle of paying more for better performance.

Possibly, basing part of teachers pay on performance could help teachers justify to themselves (and their families) the hours of effort for which no thanks are given. Unfortunately, the research to date provides no clear guidance for combining extrinsic and intrinsic rewards most effectively. The trick is to keep results in mind, to encourage teachers to keep doing the tedious chores that are necessary to achieve those results, but at the same time to allow as much opportunity as possible for teachers to enjoy the work. Dewey described this ideal in a famous passage about work and play.

It is important not to confuse the psychological distinction between play and work with the economic distinction. Psychologically, the defining characteristic of play is not amusement nor aimlessness. It is the fact that the aim is thought of as more activity in the same line, without delineating the continuity of action in reference to result produced. Activities as they grow more complicated gain added meaning by greater attention to specific results achieved. Thus they pass gradually into work. Both are equally free and intrinsically motivated [italics added], apart from false economic conditions which tend to make play into idle excitement for the well to do, and work into ungenial labor for the poor. Work is psychologically simply an activity which consciously includes regard for consequences as a part of itself; it becomes constrained labor when the consequences are outside of the activity as an end to which activity is merely a means. Work which remains permeated with the play attitude is art—in quality if not in conventional designation (Dewey, 1923, pp. 241–242).

More recent literature provides some evidence and much advice on how to sustain intrinsic motivation of employees in general (Katzell & Yankelovich, 1975) and teachers in particular (Bacharach et al., n.d.; Mitchell et al., 1983). For teachers, creating greater diversity in responsibilities from day to day or year to year could help. More opportunity for constructive interaction with colleagues also could be beneficial. A fuller discussion of ideas for restructuring the work of teachers is beyond the scope of this chapter. However, this review has pointed to the possibilities, and the difficulties, of using the compensation system more effectively to support the work of teaching.

REFERENCES


