EFFICACY AND COMPLEXITIES OF PERFORMANCE-BASED PAY FOR TEACHERS IN THE UNITED STATES

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Abstract

Performance-based pay refers to providing compensation and rewards based on the fulfilment of certain predetermined task or outcomes. In the momentum for greater teacher accountability in the United States, performance-based pay is expected to be a solution to the nation's prevailing problems in attracting, maintaining, and motivating the best and most effective teachers. This article reviews relevant literatures on the historical context of teacher compensation, the need for reform, the development of performance-based compensation schemes, empirical lessons from the application of such scheme in Denver school district, as well as the challenges in designing and implementing performance-based pay for teachers.

Keywords: teacher, performance, compensation

Abstrak

Remunerasi berdasarkan kinerja adalah pemberian gaji, kompensasi, dan insentif berdasarkan pemenuhan tugas atau luaran tertentu yang sebelumnya sudah ditentukan. Dalam momentum yang sedang terbangun mengenai meningkatnya tuntutan akuntabilitas para guru di Amerika Serikat, remunerasi berdasarkan kinerja diharapkan dapat menjadi salah satu solusi yang berkaitan dengan merekrut, mempertahankan, dan memotivasi para guru yang efektif. Artikel ini mengulas kajian pustaka yang relevan mengenai konteks historis skema kompensasi di Amerika Serikat, kebutuhan untuk reformasi, perkembangan konsep remunerasi berdasarkan kinerja, kajian empiris dari aplikasi skema remunerasi berdasarkan kinerja di Denver, serta tantangan-tantangan dalam mendesain dan mengimplementasikan remunerasi berdasarkan kinerja untuk para guru.

Kata kunci: *guru, kinerja, remunerasi*

INTRODUCTION

The challenge of providing quality education, in any country, falls quite substantially on teachers. While teaching may be socially and mentally rewarding, in many countries including developed nations like the United States, teaching is not considered among the most financially attractive professions. This is especially true when considering the amount of training required to become and to keep a job as a teacher, as well as

the day-to-day challenges and expectations.

In the case of the United States, the prevalent compensation system that pays teachers primarily based on years of experience and level of education shows little correlation with actual job performance and actual student achievement (Podgursky and Springer, 2007). One potential solution to this problem is performance-based compensation for teachers, to attract the most talented and motivate them to improve or sustain their performance.

The underlying premise is that teacher's performance, at least in part, can be motivated by financial incentives. A compensation system that ties performance more closely to financial incentives could be beneficial in improving student outcome and performance, consistent with or exceeding grade levels, as well as to ascertain teacher accountability.

One way to encourage accountability is by rewarding teachers for good performance. Basic market theory supports this suggestion: if individuals are provided with incentive for certain desirable behavior or achieve a certain goal, they will tend to display

such behavior or strive to attain that objective (McKenzie and Lee, 2010). However, the application of this basic economic theory is complex, often unintended consequences.

Thus, the prevailing research questions for this current study, which is based primarily on published studies conducted in the United States, are: (1) What is performance-based pay for teachers and what is the context for which it has been proposed? (2) What are some economic and organizational reasoning for supporting such system? (3) What are some potential problems, and thus solutions, in designing and implementing performance-based pay for teachers?

HISTORICAL CONTEXT

Education in the United States is the responsibility of each state, each of which manages school districts and provides funding for the running of the state's school systems. In the 1800's, teachers were paid through the boarding round model based on merit (Springer and Gardner, 2010). As the nation grew by the mid-1800's and as teacher training improved, so did the need for professionalizing education (Gratz, 2009). By the late 1800's, schools

became more consolidated and teachers' salary became standardized, with most school using tiered salary schedules based on years of experience, level of training, and grade level taught. In the spirit of the equal rights movement, school districts such as Denver and Des Moines began to implement single salary schedules around 1921 (Gratz, 2009). This pay system emphasized a single schedule to alleviate inequality, not a single salary across the board. By the end of World War II and into the 1950's, most school districts across the nation had adopted the single salary pay schedule (Springer and Gardner, 2010).

An attempt to formally establish merit pay was first recorded in Newton, Massachusetts in 1908 (Gratz, 2009). Although the idea caught on for a short period of time, the notion of pay equality was strongly favored to the more subjective pay differentiation based on grade levels that seemed to favor men and high school teachers (Collins, 2004). At the height of the Cold War, interest in the merit pay model reawakened. As much as 10% of all districts in the 1960's developed and experimented with different forms of merit pay, before

the number fell down to a mere 4% by 1979 (Gratz , 2009). Primary reasons for the short-lived interest and subsequent abandonment of merit pay included discontent with subjectivity of merit ratings.

In 1983, while the U.S. faced a financial crisis, President Reagan's National Commission on Excellence in Education presented a report called A Nation at Risk, highlighting the achievement gap of the nation's students compared to other industrialized countries, especially in subjects such as math and physics (Collins, 2004). One of the report's recommendations stated, "Salaries for the teaching profession should be increased and should be professionally competitive, market-sensitive, and performance-based" (National Commission on Excellence in Education, 1983). This rekindled the interest in merit pay, this time with some political support. However, as the 1990's brought prosperity to the American people, the interest once again diminished. Education researcher Allan Odden suggests that merit-based pay proposals of the 1980's still lacked an objective accountability measure and relied more on subjective judgment by school administrators (as cited in Gratz, 2009).

In early 2000's, many school districts are once again considering or experimenting with performance-based pay plan for teachers, partly due to the achievement gap among school districts. This time around, many school districts inject accountability measures to their programs.

Still, the prevailing compensation scheme for most teachers in the United States is largely based on the single salary schedule, typically called the "steps and lanes" approach. It is largely dependent upon education degrees and additional professional training hours completed, along with longevity of service (Gonring, Teske, and Jupp, 2007). Many states also guarantee a minimum salary levels for all teachers. The advantages of the current pay plan include certainty, predictability, and fairness. It encourages teachers to seek advanced degrees and professional developments, while protecting them from "arbitrary and capricious actions of administrators and school boards" (Gratz, 2009, p. 61).

However, one big problem is the rigidity of the scheme, showing little or no correlation between teachers' longevity of service and student outcomes. While many teachers attain advance degrees, most teachers qualify for pay increases regardless of the *applicability* of the degree earned. A study by Springer and Gardner indicated that 90% of teachers' advance degrees have no connection to student achievement and add little value to classroom learning (2010).

The salary schedule also makes it very difficult for administrators to align compensation with teacher effectiveness. This is especially true once a teacher is tenured. Thus, ineffective teachers can keep their jobs and receive raises. Termination or cannot be triggered unless a tenured teacher is acting in a severe violation of specific codes, even then the termination process could be "arduous, controversial, and costly" (Springer, 2009).

The single salary schedule also faces recruitment and retention concerns. The current system does not provide enough incentives for the most qualified graduates to join the teaching profession. Another legitimate concern is the increasing turnover rates of teachers. Data compiled by the U.S. National Center for Education Statistics (2008) indicated that the annual turnover rate for teachers was as high as 17% nationwide. The

Alliance for Excellent Education estimated that the cost of such large turnovers could reach $4.9 billion every year (2005). The prevailing compensation system also does not provide monetary incentives for teachers who are successful in enhancing classroom instructions and consistently helping students improve performance. Performance-based pay could be one of many solutions to answer this challenge.

METHODOLOGY

This is a review of literature on the development of performance-based pay in the United States and complexities of the economic underpinnings of implementing such a scheme. It uses a multidimensional approach to attempt to answer the study questions described above. This article aims to summarize some important findings from various studies on the development and merit of performance-based compensation schemes for teachers, particularly from Gratz (2009), Springer and Gardner (2010), Podgursky and Springer (2009), Gonring, Teske, and Jupp (2007), Podgursky (2009), Lazlear (2001), as well other related articles.

DISCUSSION

There is a subtle yet significant distinction between merit-based, market-based and performance-based pay systems. Merit-based pay refers to a generic term for adjusting salaries based on merit, which is often associated with a more subjective judgment of behavior in the forms of bonuses or one-time incentive pay (Ellis, 1984). Market-based pay refers to pay differentials based on market supply and demand, including hard-to-staff subjects, hard-to-staff schools, and recruitment stipends (Springer, 2009). This review of literature focuses more on ***performance-based pay***, which involves rewards based on predetermined task or outcomes, which correlates teacher and student behaviors and places accountability measures for teachers and schools.

The push to incorporate performance-based pay in school reforms as one measure of accountability is gaining momentum. The current wave of reforms favor tying teacher compensation with student outcome and certain preset performance standards, as opposed to the 1980's model that focuses on subjective evaluation of merit, inputs, and processes. The easier that the school districts can estimate a

teacher's contribution to a student's learning, the closer that student advancement can be aligned with teacher incentives.

Additionally, quantifiable studies measuring the efficacy of teaching and its contribution to student learning have emerged in recent years. In a recent study of test score data from Texas school districts, Hanushek and Rivkin found that when a student had a better than average teacher for five years in a row, the achievement gap in math can be narrowed (2009). These are positive signs of a momentum to construct a lasting reform.

ECONOMIC AND ORGANIZATION REASONING

Performance-based pay is based on two simple yet sound economic assumptions: that people behave as if they are rational and that people respond to incentives. These assumptions suggest that individuals are motivated, either intrinsically or extrinsically, by available incentives (McKenzie and Lee, 2010).

The primary purpose of performance-based pay in any organization is to recruit, retain, and motivate the best talents (Chamberlin, Wragg, Haynes, and Wragg, 2002). The differentiated pay

for high performers should encourage both above and below average performers to work harder and improve their effectiveness, or otherwise leave the profession. However, contemporary theories in organizational behavior suggest that the effects of compensation on employee motivation may not be as direct or simplistic.

In the 1960's, Herzberg distinguished extrinsic motivators that he labeled hygiene factors and intrinsic factors he labeled motivators (Gratz, 2009). Hygiene factors such as working condition, salary, and security, are not motivating. However, not having these factors met could be a disincentive for workers. Motivators, on the other hand, are internally motivating factors such as achievement, recognition, and growth. Both types of motivation must exist to minimize dissatisfaction and to be truly motivating to workers.

Further, expectancy theory suggests that employees will be motivated to work harder and more effectively if they believe the potential reward is important to them. However, the extrinsic value of the reward is not as paramount as the expectation that a specific set of actions would lead to specific

outcome and reward (Gratz, 2009). Additionally, efficacy theory suggests that employees are more effective if they believe they can be effective.

Performance-based pay may also increase employees' awareness of specific behaviors, skills, or goals that the employers value most (Chamberlin, Wragg, Haynes, and Wragg, 2002). In which case, compensation serves as a signaling mechanism to communicate the most important priorities to employees while encouraging a greater degree of employee accountability.

A more subtle rationale for performance-based pay is that with the right incentives in place, the system could create a larger and more competent pool of applicants from which to hire (Lazear, 2001). Lazear analyzed the change in productivity of windscreen fitters after changing the pay structure from hourly wages to performance-based pay. Before long productivity improved by 44%, half of which could be attributed to current employees working harder and the other half attributed to replacing less productive workers who subsequently left the firm with more productive new employees. While the teaching profession differs from

a plant manufacturing in its multidimensional complexity and difficulty to measure outputs, the overarching concept is similar: performance-based pay attracts talents who thrive in a certain type of work environment (Podgursky and Springer, 2007).

It is clear that compensation as an extrinsic motivator for performance is necessary, but it is not sufficient. While lack of pay may be demotivating, compensation alone is not enough to motivate teachers (Gratz, 2009). Performance-based pay, should intrinsically motivate teachers and that they can expect their effectiveness to be rewarded. Paying teachers, at least in part, on the basis of performance will increase the stakes to become high-performing teachers and to help improve student outcomes.

COMPLEXITIES IN DESIGN AND IMPLEMENTATION

Application of basic economic theory to is based on a simple reasoning: when compensated based on how much their students grow and learn, teachers are more motivated to improve their performance (Koretz, 2009).

However, real-world complexities must be taken into account.

In social science and economics, these complexities are known as Campbell's Law and Goodhart's Law. Campbell's Law states that as decision-making in the social realm relies more heavily on quantitative measures, it becomes more susceptible to distortions that can corrupt the actions being monitored (Nichols and Berliner, 2005). Similarly, Goodhart's Law states that as decision-making relies more heavily on a certain social or economic indicator, it tends to increase the incentives for subjects to *game* the system (Boyle, 2011). These laws are present in both the private and public sectors, thus are important to take into account when designing and implementing performance-based pay.

Initially, the push for teacher accountability and performance incentives stemmed from the best practices in the private sector. However, performance-based pay in the private sector is not free from perverse incentives and unintended consequences. Fundamentally, a firm's stakeholder has the incentive to compensate managers and workers based on performance to reduce the agency problem, which refers to a form of moral hazard problem due to misalignment of incentives between the firm's principals and the managers acting as the agents (McKenzie and Lee, 2010). Yet, one potential disincentive is adverse specialization, which refers to the tendency of workers with multitasking responsibilities to over allocate their productivity on tasks for which they are rewarded and cut back on other tasks, even important ones, for which they are not rewarded (Adam and Heywood, 2009).

As performance incentive schemes in the private sector is not free from perverse incentives and moral hazard problems, the implementation of such schemes in the public sector is even more susceptible to distortions and unintended consequences. This is especially true because the added layers of bureaucracy in the public sector make it more difficult to assess individual contribution, which arguably makes it easier to game the system and distort the goals and objectives. These factors could exacerbate the moral hazard problems.

ADOPTING PERFORMANCE-BASED PAY IN EDUCATION

Translating the economic theories of performance-based pay into a well-designed system can be challenging. Opportunistic behavior abound if the incentives are misaligned with the overall goals of the organization.

One form of misalignment is goal distortion, which involves reallocating resources and time away from higher-level but non-tested skills (e.g., scientific reasoning) to focus on lower-level but frequently tested subjects such as basic math skills (Rothstein, 2009). Another issue is non-standardized inputs. In schools, students are the inputs. To increase the credibility of performance expectations, incentives should be adjusted for variations of the student inputs. Lastly, measures that is too specific can create perverse incentive. For example, New York City students encouraged hundreds of its failing students to leave high school to enroll in equivalency programs to improve the schools' test scores on the Regents' exams necessary for a high school diploma (Nichols and Berliner, 2005).

Teachers work in environments in which conditions are markedly different between classrooms. Schools are far from the standardized working environment of factories. Thus, the challenge of designing and implementing an effective performance-based pay scheme in education extends beyond connecting the financial incentives with the motivation to improve or sustain high performance. The plan has to be clearly defined, measurable, and sufficiently motivating to be effective. Additionally, such plan has to take into consideration potential resistance in favor of the rigid yet familiar single salary schedule that represents the status quo.

Often, conflicts of interest and moral hazard problems can resolved though contracts. When performance pay is written and enforced as an explicit contract between teachers and the schools, however, it is possible that the contract does not anticipate and cover all provisions and it may leave out some relevant aspects of the program's goals. As a consequence, the contract could focus too heavily only on the performance aspects explicitly stated. As an organization gets more complex and autonomous, the cost of monitoring also increases. This may increase the likelihood of the unintended consequence that teachers could

neglect key aspects of student outcome and educational growth.

Two factors exacerbate the costs associated with the current system of teacher compensation. First, the automatic contract renewal makes it difficult to 'weed out' ineffective teachers (Podgursky, 2009). Attempting to dismiss an ineffective teacher with tenure could very difficult, strenuous, and even costly. Approximately only 1% of all teachers in urban school districts are dismissed annually (Springer, 2009). Tenure laws and collective bargaining clauses also contribute to the increased costs related to the single salary schedule. Second, the size of districts also contributes to the high costs of the single salary schedule (Podgursky, 2009). The larger and more centralized the school district as a unit that sets wages, the higher the economic cost of teacher compensation. The rigidity of salary schedules for large school districts decreases the competitiveness of the labor market for teachers, while at the same time making the wage-setting process more bureaucratic and less open to performance-based incentives. In the 15,000 public school districts in the United States, 25% of all teachers work in large school districts with 2,100 more full-time teachers, while 50% of teachers work in a school district with 561 or more full-time teachers (Podgursky, 2009). Consequently, larger school districts are expected to have more difficulty devising and implementing performance-based pay.

EMPIRICAL STUDY

Research for performance-based pay programs is still very limited and tends to be inconclusive, due to the novelty of such programs and on-going data collection across the nation. However, preliminary data suggest a compelling insight on the promise performance-based teacher compensation as a part of the debate of public school reform.

One of the most extensive empirical data sets on performance-based pay for teachers came from a study by Gohring, Teske, and Jupp (2007), examining and evaluating Denver's performance-based pay for teachers. Denver Public Schools (DPS) operates 87 elementary schools, 9 K-8 schools, 24 middle schools, 38 high schools, and 30 charter schools, educating a total 78,352 students. It employs 13,087 people; 4,555 of whom are teachers. The Professional Compensation System for Teachers, known as

Denver ProComp, resulted from a four-year pilot program conceptualized and designed by a group of teachers, administrators, which ran from 1999 to 2004 (p. 14-15). In March 2004, DPS teachers approved the revised version of the ProComp pilot program and in November 2005, Denver voters approved $25 million annual funding for the program (Gratz, 2009). Based on an extensive study and stakeholders' feedback during the four-year pilot program, followed with a brief period of evaluation, ProComp as it currently stands is a hybrid performance pay program. It does not provide financial incentives for teacher based solely on student test scores, but instead it incorporates various components in four categories:

1. Student growth. Teachers, collaborating with principals, set two objectives related to student growth annually. If a teacher meets both goals, she will receive a 1% salary increase. If only one is met, she will receive a 1% bonus.

2. Knowledge and skills. Instead of salary increases based on number of graduate credits completed, ProComp teachers receive incentives for completing a professional development unit requiring them to apply of the skills acquired in the classroom.

3. Market incentives. Modest bonuses are also given to teachers who commit to serving in hard-to-serve subjects or schools.

4. Professional evaluation. Five standards are used to evaluate teachers' performance, in which teachers must provide evidence based on day-to-day practices to receive modest bonuses.

One of the key advantages to Denver's ProComp program is its hybrid, comprehensive design in which teachers and principals are involved in designing performance measures. ProComp also tracks and correlates student performance to teacher performance by creating and linking various databases (Gratz, 2005). The current plan is also derived from many years of back-and forth feedback, bargaining, and scrutiny from the practitioners, administrators, and the public.

Additionally, ProComp is an opt-in program for teachers hired prior to its adoption. The enrollment numbers are encouraging. By 2007, ProComp had enrolled nearly 40% of all teachers (Gonring, Teske, and Jupp, 2007). Finally, ProComp is

widely accepted because it is a part of an overall overhaul of the public school system in Denver.

The potential benefits that ProComp provides to high performing teachers are apparent. For example, upon completing a professional development unit and meeting two student growth objectives, a middle school math teacher serving a distinguished hard-to-staff school that exceeds expectations can expect to receive over $5,000 in base pay increase in a particular year (Gonring, Teske, and Jupp, 2007). ProComp makes it possible for both experienced and new but effective teachers to increase their earnings.

Further studies are still needed to examine whether the expected incentives actually act as motivators for teachers to increase their performance and improve their practices, and whether such incentives are effective in the recruitment of new teachers.

DESIGNING AND IMPLEMENTING PERFORMANCE-BASED PAY

It is undoubtedly difficult to design and implement a sweeping overhaul of teacher compensation. One of the most prominent criticisms for performance-based pay is the difficulty in monitoring teacher performance. To answer such critique, many school districts and states began to develop longitudinal student database tracking each student's outputs and growth. This enables a more precise estimation of value added of each teacher.

A large component of the performance measure is student test scores, serving a limited indicator of student achievement and progress (Lazear, 2001). Test scores are, by no means, a complete predictor of teacher performance. Relying too heavily on standardized test scores has potential drawbacks. For instance, a Tampa public school was exposed for encouraging students with grade point and have failed portions of the state standardized exam to drop out of school (Nichols and Berliner, 2005). Teachers may focus a great deal on testing, especially when the stakes are heightened with better teacher pay for better student test scores. They may 'teach to the test,' misreport results, or cheat. Levitt and Dubner (2005) cited an empirical study illustrating the perverse incentives for gaming the system, based on findings that conservatively estimated about 5% of Chicago Public School teachers cheat on

their students' high stakes tests between the late 1990's to early 2000's. From a study of North Carolina schools, in which a performance-based incentive program was underway, 35% of respondent teachers indicated that they had noticed their colleagues cheating in some fashion on standardized student tests (Levitt and Dubner, 2005).

Another important challenge of measuring performance is assessing the accountability of performance. Lazear (2001) contends that algorithms developed to measure and compare performance should take into account contribution of the demographic and socioeconomics characteristics of student population to test scores, which could be quite significant. Additionally, the accountability measure should consider performance improvement in absolute terms. The solution, Lazear proposed, is to hold the demographic characteristics constant by making comparisons between similarly situated schools (2001).

Eckert and Dabrowski (2010) contended that longitudinal comparisons from at least two different observation points is more effective measure to determine a

student's growth overtime. The common agreement is that an accountability measure must be defined to isolate teachers' contribution to student outcomes.

A fair, reliable, stable and accurate measure is critical for several reasons. First, teachers are more likely to respond to the performance-based compensation plan if they believe in the system's reliability in measuring performance, as well as the fairness of the comparison methods used to evaluate them against their colleagues (McCaffrey, Han, and Lockwood, 2009). Teachers are also likely to value a system that is responsive to their actions and is closely connected to student outcomes. Second, the lack of a comprehensive and objective standard of measurement compels the system to assess a teacher's contribution to student learning by comparing actual student outcomes with counterfactual outcomes. Third, teachers likely to respond to a system that displays sufficient rigor; otherwise those who do perform at or beyond the level for reward do not have to change their behaviors or improve their practices. Lastly, teachers are less likely to respond to a system of performance measure

that displays variability. The pay-for-performance system must display a great degree of stability.

Some design principles for performance-based compensation for teachers can be learnt from Denver ProComp program (2014):

1. Growth opportunities should be available to teachers throughout their entire career.
2. The compensation system should be easy to understand.
3. The system should attract and retain teachers in hard-to-serve schools, with real incentives.
4. The system should allow earnings increase for effective teachers without having to become school leaders.
5. The system should attract, retain and reward effective teachers.
6. The system should value professional learning.
7. The system should provide a structure for career progression and opportunities.
8. The requirements placed on teachers should be reasonable.

CONCLUSION

The logic of performance-based pay is sound: it aims to motivate teachers to be high-performers, while attracting the most capable and qualified applicants to join and remain in the profession (McCaffrey, Han, and Lockwood, 2009). Rewarding high-performing teachers will identify best practices and create standards for high performance. High-performing teachers, encouraged by pay increases, will continue to improve their practices while low performing teachers would either work on significantly improving their practices or leave the profession. Performance-based pay should also provide an incentive for new recruits, who are more effective in meeting performance targets, to join and remain in the profession (Podgursky, 2009, p. 76).

In practice, applying market theory in its most fundamental form to the question of teacher accountability and performance could be oversimplifying the problem. While there is an efficacy in exploring economic and motivational theories behind performance incentive, it is also important to investigate the historical background and contextual complexities surrounding the movement to increase accountability and rewarding teachers for performance. Ultimately, rethinking of the current single salary schedule scheme is imperative. New incentives, at least

partly based on performance, could be a part of the solution to ensure accountability and improve outcomes in schools.

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