The Merit in Performance Pay:

How Changing Teacher Compensation Can Increase the Supply of Quality Educators

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There is no question that classrooms in US public schools do not function without an adult responsible for facilitating student learning. There is less agreement, however, regarding what constitutes quality instruction or what credentials an instructor should have in order to be considered a certified teacher. Low enrollment in teacher preparation programs combined with increasing teacher turnover rates have created a shortage of quality educators in districts across the country for high-need schools and subject areas. Educators, labor activists, and politicians have called for teacher compensation reform as a way to increase the teacher retention rate. This article summarizes research on the impact of individual and group incentive pay schemes on student achievement, reviews alternative financial incentives to retain exceptional educators, and evaluates policy proposals to improve teacher salaries from current and former 2020 presidential candidates.

INTRODUCTION

In 2016, the Council of Chief State School Officers named Nate Bowling, Jahana Hayes, Shawn Shaheen, and Daniel Jocz as finalists for the National Teacher of the Year award based on their significant impact on student achievement and passion for their work. Less than three years later, Bowling was the only one of the four who was still teaching in the same school (Strauss 2019). In a series of tweets, he documented how three nationally recognized educators have pursued other opportunities, or, in some cases, been pushed out of the classroom (Bowling 2019). Jahana Hayes mounted a successful bid for a congressional seat and is now the first African American woman to represent her home state of Connecticut. Shaheen also ran for public office, though unsuccessfully, and stayed in the realm of public policy rather than returning to the classroom. Jocz chose to switch schools after years of administrative turnover that left him feeling undervalued. Like Bowling, he spent a significant part of the past school year on strike for improved school funding, smaller class sizes, and better resources for teachers and students overall.

Bowling's underlying message — that even the most capable educators have become disillusioned with their careers and are leaving the classroom to make a greater impact — gains further significance when considered alongside the multitude of teacher strikes that have taken place since early 2018. The chronic underfunding of state public education systems has motivated this bi-coastal movement, as teachers from West Virginia to Arizona have participated in walk-outs to advocate for higher salaries and increased funding for such basic necessities as textbooks, paper, and pencils (Logan, Lombardo and Turner 2018; Hanna 2018). The movement's progress is correlated with decreased enrollment in traditional teacher preparation programs in the last decade, in addition to a relatively high teacher turnover rate at the national level (Office of Postsecondary Education 2015; Sutcher, Darling-Hammond, and Carver-Thomas 2016; Carver-Thomas and Darling-Hammond 2017). While there is debate about the severity of the teacher shortage crisis, and if it should even be referred to as a "shortage," there is legitimate cause for concern regarding the equitable supply of quality educators in today's classrooms.

This paper analyzes how performance pay, also referred to as merit pay, may attract and retain quality educators in high-need schools and subject areas across the country. The findings allow us to effectively evaluate proposals from the 2020 presidential candidates to improve teacher compensation practices in order to attract and retain larger numbers of high-quality educators.

BACKGROUND

Since the end of the Great Recession, school districts have increased their demand for high-quality educators to address the growing student population and decrease the overall student-to-teacher ratio. The supply of quality teachers has been limited, as demonstrated by the declining number of new entrants and re-entrants into the teaching profession, as well as the increasing teacher turnover rate. Between 2009-2014, enrollment in teacher education programs dropped by 35 percent (Sutcher, Darling-Hammond, and Carver-Thomas 2016). US teacher attrition rates are nearly double those of high-achieving nations and jurisdictions like Finland and Ontario, Canada (Sutcher, Darling-Hammond, and Carver-Thomas 2016;

Carver-Thomas and Darling-Hammond 2017). In fact, teachers leaving the classroom for other professions account for an estimated 90 percent of annual teacher demand, as opposed to the need to fill new roles at the elementary and secondary levels (Sutcher, Darling-Hammond, and Carver-Thomas 2016).

The Learning Policy Institute (LPI) described these trends as indicators of a "teacher shortage," or "the inability to staff vacancies at current wages with individuals qualified to teach in the fields needed," (Sutcher, Darling-Hammond, and Carver-Thomas 2016, 1). As outlined in the No Child Left Behind Act of 2002 (sec. 9101), the Department of Education defines a "highly qualified" educator as one who is fully certified with a state teaching certificate or advanced professional teaching certificate; has a bachelor's degree from a four-year college or university program; and has demonstrated competency or a high level of knowledge in the main subject area in which they teach. In its 2016 report, A Coming Crisis in Teaching?, the Learning Policy Institute estimated a shortage of approximately 64,000 positions in the 2015-16 school year based on the number of teachers entering or re-entering the profession, as well as the number of new hires (Sutcher, Darling-Hammond, and Carver-Thomas 2016). The Economic Policy Institute estimated a shortfall of 307,000 teaching positions in 2019; unlike the Learning Policy Institute, this figure accounts for the 60,000 fewer instructional roles that were eliminated during the Recession, in addition to the number of positions that should have been created to keep up with the growing student population in the last 10-12 years (Gould 2019).

This definition of a "teacher shortage" does not mean that classrooms are left teacher-less but recognizes that the limited supply of quality educators leaves district and school leadership with no other choice but to hire weaker candidates. As a result, the share of less qualified teachers in public, non-charter schools has steadily grown. Between the 2011-12 and 2015-16 academic years, the percentage of teachers who are not fully certified increased from 8.4 percent to 8.8 percent (Garcia and Weiss 2019). The percentage of novice teachers, or those with two or less years of teaching experience, grew from 6.8 percent to 9.4 percent within the same time frame. Unexpected vacancies can also result in the long-term absence of a stable, credentialed classroom teacher. Without a permanent teacher, school leadership may assign classrooms to support staff or a long-term substitute teacher. As of 2017, only 28 states required substitutes to have a teaching credential. Twenty-two states did not specify how many consecutive days substitute teachers are permitted to teach without meeting "additional requirements" for certification/licensure (NCTQ 2017). These policies mean that individuals who lack the requisite training and educational background may lead classrooms in the place of qualified teaching professionals.

The severity of teacher shortages varies according to student demographics, subject matter, and geography, among other factors. Studies indicate that high quality educators tend to be concentrated in low-poverty, majority-white schools. Data from the 2015-2016 National Teacher and Principal Survey show that the share of teachers with over five years of teaching experience was 4.8 percentage points higher in low-poverty schools (in which less than 25 percent of students qualified for free- and reduced-price lunch) when compared to high-poverty schools (in which 50 percent or more of students qualified for free- and reduced-price lunch). The share of teachers not fully certified was 2.8 percentage points higher in high-poverty schools than in low-poverty schools. Children in high-poverty schools were also more likely to be taught by a teacher who lacked an educational background in their main subject area assignment (Garcia and Weiss 2019).

These imbalances extend to subject areas as well. Another perspective on the teacher shortage crisis argues that there is no actual "shortage" of educators. Instead, there is a misalignment between the number of teaching candidates and the subject areas and/or geographic locations with the greatest need for classroom teachers (Walsh 2016). In the 2015-2016 school year, state educational leaders identified special education, mathematics, and science as the subject areas with the greatest teacher shortage (Sutcher, Darling-Hammond, and Carver-Thomas 2016, 5). Historically, widespread teacher shortage tends to more acutely impact schools with high-minority and high-poverty student populations due to the inequitable distribution of financial resources. Lower salaries and poor working conditions fail to attract quality teachers, which means that the students within these schools are more likely to be taught by less experienced and underprepared teachers (Sutcher, Darling-Hammond, and Carver-Thomas 2016; Darling-Hammond 2010). Existing research clearly demonstrates that student achievement is tied to teacher quality, and this is arguably one of the factors dictating a child's academic performance that a school can more easily control (Opper 2012).

Disparities in teacher compensation may contribute to the inequitable distribution of highly qualified educators, particularly between high and low-poverty schools. Average teacher salaries in the 2015-2016 school year show that teachers at high-poverty schools made an average of $4,000 less than teachers at low-poverty schools (Bahn et al. 2018). Teachers cited "financial reasons" as one of the top factors for choosing to leave the profession or move schools in their exit surveys (Carver-Thomas and Darling-Hammond 2017). A 2018 report from the Economic Policy Institute included a decades-long analysis of trends in "relative teacher pay," or "teacher pay compared with the pay of other career opportunities for potential and current teachers," (Allegretto and Mishel 2018, 2). When adjusted for inflation, the study's authors found that average weekly teacher pay decreased between the 1990s and 2017; female teachers were found to make 15.6 percent less in wages than women in similar industries and professions, while male teachers earned 26.8 percent less in salary than their comparable peers. As the level of education in the workforce has increased, salaries in other industries have outpaced those of the teaching profession (Van Dam 2019). Ultimately, would-be and existing qualified teachers have gradually shifted away from the classroom into other occupations.

While this paper largely focuses on the impact of financial incentives, improving teacher salaries should not be mistaken as the sole means for increasing the supply of quality teachers. Educators cite a multitude of factors for leaving the classroom, just as candidates have been attracted to schools and districts with non-financial incentives. The fact that current teachers choose to go into a low-paying profession demonstrates that many educators are motivated by more than financial incentives in choosing their career (Brookhart and Freeman 1992). Nonetheless, earning a sustainable wage can play a significant role in retaining quality educators who could transition to a higher-paying career.

TEACHER INCENTIVE PAY MODELS

Given the disparities in salary between teaching and other professions, it appears to be both rational and equitable to provide salary increases for teachers across the board to make the profession more attractive. This is particularly true for professionals with strong educational backgrounds who may otherwise choose to enter a higher-paying profession. Many teachers, labor organizers, elected officials, and candidates for public office continue to advocate for this measure. School districts in the Northeast, where teachers are typically offered better compensation packages relative to the South, experience lower rates of teacher attrition. All else equal, teachers in school districts with maximum salaries above $72,000 are 20-31 percent less likely to transition from their schools than districts with salaries that are capped at or below $60,000 (Carver-Thomas and Darling-Hammond 2017).

While the diminishing supply of teachers is of great concern, any proposal to increase the supply of teachers must take the quality of those teachers into consideration. Despite the state budget cuts to education in recent years, the US spent approximately $12,800 per student in elementary and secondary education in 2015. This amount is approximately 35 percent higher than the reported average per-pupil spending of the thirty-six member countries of the Organization for Economic Cooperation and Development (NCES 2018). This suggests that policymakers should explore ways to reform how teachers are compensated rather than injecting more funding into the public education system.

Teacher incentive pay, also known as merit pay, has been discussed and debated at length in the education policy realm, particularly regarding its impact on student achievement (Gius 2013; Brehm, Imberman, and Lovenheim 2016; Figlio and Kenny 2007; Goodman and Turner 2010; Hendricks 2014; Imberman and Lovenheim 2012). Since dismissing ineffective teachers is relatively difficult, proponents of merit pay see it as a way to recognize exceptional educators (Morrison 2013; Mahnken 2018). Unlike other industries where exceptional performance is rewarded with an increase in salary, teacher income is typically based on seniority. Offering salary incentives to educators may establish a compensation system more comparable to the other professions and industries that would-be and current teachers have been gravitating toward over the last 25 years.

Education analysts and economists have sought to determine if and how merit pay initiatives make today's teachers perform better by looking at student achievement. The structure of the incentive program generally falls into one of two models—group and individual incentives. Group incentive schemes reward teachers based on an entire school or grade level's academic performance, often based on standardized test scores. Past analyses of group incentive programs have found that they have some impact on increasing teacher retention, particularly for inexperienced teachers, but little to no significant impact on student achievement (Brehm, Imberman, and Lovenheim 2016; Hendricks 2014). One analysis attributed this to the "free rider problem" built into the program's structure through which low-performing educators are able to capitalize on the successes of their colleagues. As a result, teachers are actually de-incentivized from working harder and fail to realize the improvements in student achievement that the incentive system is meant to create (Imberman and Lovenheim 2012).

A study of the 2007 New York City Department of Education's (NYC DOE) bonus program partially attributed the initiative's ineffectiveness to the free-rider problem (Goodman and Turner 2010). The authors noted that group incentives are typically successful when individual efforts can be seen and emulated by the rest of the group. By setting performance goals for an entire school, the NYC DOE made it more difficult to observe and monitor the work of individual teachers. While this merit pay initiative did not significantly impact student achievement, the study's authors do note improvements in math scores in schools with smaller groups of teachers working together. This suggests that it is not the model itself that was problematic, but the way that it was applied. An additional study assessing the value in group incentive pay programs in Houston, Texas similarly found that targeting smaller versus larger groups of teachers with bonuses or financial awards has a greater positive impact on student achievement (Imberman and Lovenheim 2012).

Individual incentive systems are less common and have yielded fewer studies as a result. Pay reforms in Wisconsin and rank-order pay incentive tournaments in Texas have provided helpful insights into their effects. In 2011, Wisconsin discontinued collective bargaining agreements through Act 10. This changed the pay schemes for public school teachers across the state by enabling teachers and school districts to come to individual agreements on compensation. A study of the pay reform found that the pay of highly effective teachers increased relative to less effective educators in districts that embraced this "flexible pay scheme" (Biasi 2018). This was attributed in part to a change in the composition of the district's teacher workforce, as more effective teachers were more likely to move to a district with a flexible pay scheme and less likely to leave it if they were already there.

While high-quality teachers were rewarded through this system, it is still important to note that median teacher compensation dropped 12.6 percent, adjusted for inflation, five years following the passage of Act 10 in Wisconsin. Exit rates for teachers leaving the profession increased by more than 4 percent, and the percentage of teachers within the district with less than five years of experience went from 19.6 percent to 24.1 percent between 2010 and 2016. The distribution of effective teachers may have changed, but the percentage of experienced teachers (and the number of teachers overall) declined. This suggests that changing compensation structures can have unintended consequences on teacher retention rates and the overall quality of educators in the district (Madland and Rowell 2017).

Other analyses of individual incentive pay systems have noted neutral or questionable outcomes for student achievement. The ASPIRE (Accelerating Student Progress. Increasing Results and Expectations) performance incentive program in Houston, Texas instituted an individual teacher value-added merit pay tournament to reward teachers based on increased subject-specific standardized test scores, thereby demonstrating greater teacher effort and improved student achievement. An analysis of the program ultimately found that teachers did not respond to promises of pay for performance if provided with unmeaningful feedback, or if they were to receive a pay increase regardless of performance (Brehm, Imberman, and Lovenheim 2016). Similar to the group incentive model, this suggests that the success or failure of an individual pay incentive model lies in its application. An earlier study of merit pay that used data from the National Educational Longitudinal Survey found a positive association between individual incentives and student performance (Figlio and Kenny 2007). As the study's author admitted, however, it was not possible to discern if this association came from greater teacher effort as a result of the incentives, or if better-performing schools adopted teacher incentive programs.

OTHER FINANCIAL POLICIES

Merit pay or a flat increase in salary are not the only ways to increase an individual teacher's wealth. In exit surveys, teachers cited "financial reasons" as one of their primary factors for leaving the classroom, as opposed to specifically identifying low salary or compensation (Carver-Thomas and Darling-Hammond 2017). A number of state legislatures have explored other ways to financially support teachers besides salary increases, including tuition assistance, income tax relief, and housing assistance.

Housing assistance is particularly promising for retaining effective educators, as assisting teachers in purchasing or leasing a home in the community in which they serve would help them to stay in that community long-term. The prospect of housing assistance in the form of a restricted financial grant may draw former educators back into the profession. Twenty-three percent of teachers who left the classroom identified "housing incentives" as one of the factors that could bring them back (Podolsky et al. 2016). Multiple studies have found that the average teacher's salary in metropolitan areas leaves affordable housing out of reach (Stromberg and Ault 2016; Nittler 2017).

A recent study by the National Council on Teacher Quality compared new teachers' salaries to the cost of rent in the 124 largest school districts in the United States. Using the Department of Housing and Urban Development's definition of "cost-burdened," they found that new teachers cannot afford to rent a one-bedroom apartment in more than twenty-five percent of the districts included within the study. The ability to afford a down-payment on a home varies across the US, with teachers in the Western and Northeastern regions of the United States typically having to work and save for longer than other professionals. This can either deter teaching candidates from taking positions in these districts or force them to find housing outside of the communities they serve. The physical separation could lessen their attachment to their school and ultimately make it easier for them to transition to another school site or occupation with a shorter commute and/or higher pay (Nittler 2017).

Recognizing the difficulty in attracting and retaining quality teachers in high-need schools and districts, some state and local governments have devised housing assistance and incentive programs for educators. In Connecticut, the Housing Finance Authority's Teacher Mortgage Assistance Program provides loans below market rate to teachers in low-income and transitional school districts (Stromberg and Ault 2016). In 2019, the Housing Committee within the Connecticut General Assembly introduced a bill to authorize a pilot program that would "provide housing incentives for educators who work in the school districts with the state's highest population of low-income students and the school districts with the highest population of minority students, to live within the city limits of the school district in which they teach" (H.B. 7226 An Act Concerning Affordable Housing For Educators 2019). If passed, the legislation would empower districts to renovate abandoned buildings and convert them into affordable housing structures for educators. Similar loan programs and teacher-specific housing has been introduced in other states, including Texas, North Carolina, and New Jersey (Stromberg and Ault 2016; Simmons 2018).

Since states have only recently implemented these policy solutions in their respective localities, it is difficult to assess their impact on teacher recruitment and retention. Future research on teacher retention strategies should focus on determining if teacher supply increased in the cities and states that introduced these programs and why they were successful. As some housing programs offer different incentives to teachers, such as loans to purchase homes or building actual housing complexes, any additional analysis should focus on the specific features within the programs that are associated with better outcomes. This would help other districts distinguish which solutions are more effective in attracting and keeping teachers to replicate those models in the future.

WHAT'S NEXT

Based on the number of teacher walkouts and the accompanying media attention, teacher pay has been a major policy issue within the past year and inspired a myriad of proposals from past and present candidates in the 2020 presidential election cycle. As a part of her campaign platform, former candidate and current California Senator Kamala Harris proposed to increase the federal government's investment in public education by over $300 billion over ten years. Her campaign projected this would increase an average teacher's salary by approximately $13,500, or a 23 percent increase from the base salary overall (Barnum 2019). Harris' campaign said that her administration would accomplish this by promising a three-to-one match for every dollar that states put toward boosting teacher salaries, indicating that this funding would vary on a state-by-state basis. While she promised "additional targeted investment" toward teacher compensation in high-poverty schools, her campaign offered no additional details on this idea. Harris framed this historic financial investment in public education as a necessary response to what Harris referred to as a teacher pay "crisis" (Gaudiano and Cadelago 2019).

Other current and former 2020 Democratic candidates, including Senators Amy Klobuchar and Bernie Sanders, as well former Vice President Joe Biden and former San Antonio Mayor Julian Castro, unveiled their own plans to improve teacher compensation. Both Sanders and Biden have called for federal investments that will boost teacher salaries to a minimum of $60,000 (Kinnard 2019; Glueck 2019). Senator Klobuchar's "Progress Partnership" plan would have provided matching federal funds to any state that agreed to increase teacher pay, without specifying a minimum salary level (Reid 2019).

While each Democratic candidate's proposed investment in public education would theoretically increase teacher wages, they fail to address other policies that have resulted in a decline in teacher salaries over the past 25 years. The decline in teacher salaries is not just a result of underinvesting in public education—in fact, per-pupil spending experienced a 27 percent net increase between 1992 and 2014, adjusting for inflation (Hess 2019). Much of that money, however, went toward hiring more administrative and support staff, in addition to funding teacher pensions (Barnard 2019). This indicates that an increase in spending may not be the most efficient means of improving teacher salary. Additionally, a salary increase alone is not a silver bullet for solving the teacher shortage problem. As previously noted, high-quality teachers are not equitably distributed between high- and low-performing schools. Candidate proposals to increase teacher supply must address all of these nuances to effectively address the policy problem.

CONCLUSION

Policymakers, political candidates, and other education stakeholders should consider adopting teacher merit pay as one of several avenues toward increasing the supply of quality teachers. Policymakers should commission further studies of incentive systems, particularly focusing on how the group incentive model has been adapted in other districts, to confirm if merit pay is a viable way to improve student performance by recruiting and retaining effective teachers. Policymakers should also pursue solutions that would increase a teacher's overall wealth and create more permanent ties between teachers and their schools, such as providing housing grants or subsidized housing to educators within the district. When implemented alongside other reforms in the public education sector, these solutions have the potential to yield improvements in student achievement by recruiting and retaining quality educators.

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