

# **New Teachers and the Massachusetts Signing Bonus: The Limits of Inducements**

**Edward Liu**  
**Susan Moore Johnson**  
**Heather G. Peske**

*Harvard Graduate School of Education*

This paper was prepared for the annual meeting of the American Educational Research Association, Chicago, April 2003, and it is currently under review for publication. Research for this paper was conducted under the auspices of the Project on the Next Generation of Teachers at the Harvard Graduate School of Education. Funding was provided by the Spencer Foundation, although the analysis and conclusions reported here are solely those of the authors.

The authors are indebted to Sarah E. Birkeland, for her helpful comments on an earlier draft, and to Susan M. Kardos and David Kauffman, for their assistance in collecting data for this paper.

This is a draft. Please do not reproduce without permission of the authors. Please direct correspondence to [ngt@gse.harvard.edu](mailto:ngt@gse.harvard.edu).

## **ABSTRACT**

In 1998, Massachusetts instituted a \$20,000 Signing Bonus to address concerns about the supply of quality teachers. This article reports on a longitudinal, qualitative study of the experiences of 13 recipients of the first Signing Bonus, and analyzes their responses to various incentives embedded within the Massachusetts Signing Bonus Program (MSBP). Interviews revealed that money played a small role in recipients' decisions to enter teaching. Far more important was the alternate certification program created to implement the policy. Our findings suggest that the MSBP: (a) relied too much on inducements and not enough on capacity-building; (b) focused too narrowly on recruitment and not enough on retention, and (c) centered too much on individuals and not enough on schools.

## INTRODUCTION

Within this current decade, U.S. public schools will hire over two million new teachers to serve a growing number of students, replace a large cohort of retiring teachers, and implement class-size reduction policies (Hussar, 1999). In response to projected teacher shortages, a number of school districts and a few states have begun experimenting with signing bonuses to attract new recruits. Houston, for example, has given new recruits signing bonuses of up to \$5,000; Los Angeles has offered bilingual teachers a bonus of \$5,000; Dallas has provided bonuses of \$4,500, along with extensive health insurance and stipends for classroom supplies; and the state of Nevada has offered \$2,000 signing bonuses (Bryant, 2002; Ferdinand, 1998; Gewertz, 2001; Schemo, 2002).

In 1998, Massachusetts garnered national attention for instituting a \$20,000 Signing Bonus. Established in response to high failure rates on the state's new teacher licensure test, the Massachusetts Signing Bonus Program (MSBP) created financial incentives to "encourage high achieving candidates to enter the profession who would otherwise not consider a career in teaching" (Massachusetts State Legislature, 1998). The unprecedented size of the Signing Bonus put Massachusetts on the map as a state taking bold action to address concerns about teacher quality and expected teacher shortages.

Four years later, the MSBP might, at first, appear to have achieved its stated goal. Nearly 4,000 candidates in forty states and eight countries applied for the program (Massachusetts Department of Education, 2002). As a group, the Signing Bonus recipients had impressive backgrounds and diverse professional experiences prior to entering the teaching profession. However, our longitudinal, qualitative study of the Signing Bonus recipients' experiences reveals a less encouraging, more complicated picture of this seeming success.

Since 1998, we and fellow researchers at the Project on the Next Generation of Teachers have followed the careers of thirteen of the first cohort of Signing Bonus recipients, seeking to understand their perceptions of, and responses to, the various incentives embedded in the program. We explored the following questions: What role did the Signing Bonus play in the recipients' decisions to enter public school teaching? What role has the bonus played in their subsequent career decisions?

Our findings suggest that the Signing Bonus has not operated in the ways policy designers assumed it would. First, while those who created the program expected that an extra \$20,000 over four years would be a powerful incentive to attract people who had not seriously considered teaching, participants in our study reported that the bonus money had very little influence on their decisions to enter teaching. Rather, they responded to the program's accelerated route to certification, which provided quick access to a paid teaching position. Their accounts reveal that the chance to avoid the costs of traditional teacher preparation—both the costs of tuition and the opportunity costs of completing course work and student teaching—played a far bigger role in their decisions to enter teaching than the bonus payments. In addition, all but one of the respondents had seriously considered teaching prior to receiving the Signing Bonus, and ten out of the thirteen had already taken steps (both large and small) toward the profession.

Second, although the Signing Bonus was paid out over four years to encourage retention, we found that the bonus payments played virtually no role in participants' decisions about whether (or for how long) to stay in public school teaching or in

Massachusetts. Instead, working conditions at the school site, and the impact they had on new teachers' ability to realize the intrinsic rewards that they expected of teaching, played the biggest role in their decisions. While our small, nonrandom sample limits our ability to generalize, it is noteworthy that eight of the thirteen bonus recipients whom we have followed have already left public school teaching (or Massachusetts) and thus never received the full bonus payment.

These findings highlight the importance of considering both intrinsic and extrinsic rewards in designing programs and policies to recruit and retain new teachers. They also suggest the importance of going beyond inducements to use a wider range of policy instruments to address problems of teacher supply and teacher quality.

## **TEACHER PAY, SIGNING BONUSES, AND CAREER DECISIONS**

Policies aimed at attracting talented individuals to public school teaching face a number of challenges. Teaching has always had difficulty recruiting talent when, compared to other professions, the pay and status are low, and the working conditions unfavorable (Olson, 2000; Public Agenda, 2000).

Research on teacher pay has focused on the connection of pay to job performance, entry into the profession, and teacher turnover and attrition. One body of research has found, not surprisingly, that individuals' decisions to teach are sensitive to salary levels and, in particular, to starting teacher salaries (Baugh & Stone, 1982; Brewer, 1996; Ferris & Winkler, 1986; Hanushek & Pace, 1995; Murnane, Singer, Willett, & et al., 1991). To some researchers, this suggests that front-loading the salary schedule (i.e., concentrating pay increases for teachers in the early years of the salary schedule) may be a promising strategy to attract talented college graduates into teaching (Ferris & Winkler, 1986; Murnane et al., 1991). However, Ballou and Podgursky (1997; 1999) argue that higher salaries have had little impact on the overall quality of newly recruited teachers, as measured by easily observed personal characteristics, such as undergraduate grade point average, SAT scores, academic major, and selectivity of university attended. They explain that certain features of the teacher-labor market—the single salary schedule, costly barriers to entry in the form of certification requirements, tenure, and ineffective hiring practices—appear to counteract the effects of increasing salaries.

Several recent studies have used quantitative methods to examine the relationship between pay and teacher turnover, migration, and attrition (Hanushek, Kain, & Rivkin, 2001; Ingersoll, 2001; Kirby, Naftel, & Berends, 1999; Lankford, Loeb, & Wyckoff, 2002). These studies have found that teachers' career decisions are also sensitive to working conditions. For instance, in analyzing longitudinal data from Texas, Hanushek, Kain, & Rivkin (2001) found that “teacher mobility is much more strongly related to characteristics of the students, particularly race and achievement, than to salary, although salary exerts a modest impact” (p. *i*). They speculate that students' race and achievement may be proxies for more difficult teaching assignments and working conditions. Lankford, Loeb, and Wyckoff (2002), who arrived at a similar finding in New York, found that “transfer and quit behavior of teachers is consistent with the hypothesis that more qualified teachers seize opportunities to leave difficult working conditions and move to more appealing environments” (p. 55). Johnson and Birkeland (forthcoming)

report on a qualitative longitudinal study of 50 teachers, 11 of whom transferred to new schools within the first three years of teaching. Although each moved to a school serving higher-income students, respondents' accounts revealed that they were primarily dissatisfied with working conditions in their original schools, not with the students.

Taken together, these studies suggest that a complex set of factors influence teachers' career decisions. While teachers, like all other economic actors, can be expected to respond to financial incentives, they also, as a group, highly value intrinsic rewards (Johnson, 1986, 1990; Lortie, 1975). Lortie defined intrinsic rewards as those that "consist entirely of subjective valuations made in the course of work engagement" (p. 101). As Johnson (1986) explained, intrinsic rewards are those that are "primarily internal and intangible, such as pride in work or achieving a sense of efficacy" (p. 57). Teachers' abilities to realize the intrinsic rewards of teaching are heavily influenced by working conditions such as class size, teaching assignment, course load, student characteristics, supplies and facilities, and the presence or absence of professional support from colleagues and administrators. In contrast, extrinsic rewards are those that are "primarily external and material, such as pay and promotions" (Johnson, 1986, p. 57). While research has concluded that teachers value both extrinsic and intrinsic rewards, little is known about how they weigh each or how the rewards factor into their career decisions.

Experts also know very little about how new teachers actually view and respond to signing bonuses, a special type of extrinsic incentive. We have found no studies of signing bonuses in the published literature on teacher pay and incentives. Nevertheless, their use has proliferated, for signing bonuses are easy for the public to understand and have a certain intuitive appeal. According to conventional wisdom and basic economic theory, highly skilled individuals avoid teaching because they have many higher-paying alternatives. Put another way, the opportunity cost of choosing to teach is very high for talented individuals. By raising take-home pay during the early years of teaching, the argument goes, signing bonuses can reduce the compensation gap between teaching and other lines of work and, thus, entice more talented individuals to enter the profession. For policy makers and district administrators, signing bonuses have the added advantage of being less costly than across-the-board pay raises; and they are less politically difficult to enact and more flexible to implement than altering the standard salary scale, which covers all teachers in a district. Furthermore, signing bonuses tend to attract a great deal of media attention and, thus, signal that districts and states value teachers and are taking action to address concerns about teacher quality and/or anticipated teacher shortages.

As we consider the role that the MSBP played in recipients' decisions to enter, stay, or leave public school teaching, we attend to the difficulty of using pay to influence complex behavior and decisions. The challenge of designing reward systems that effectively align incentives to desired behavior has been well documented (Kerr, 1975; Lawler, 1983, 1990). Moreover, as McDonnell and Elmore (1987) observe, incentives (or "inducements") have both strengths and weakness as a policy instrument, and their use reflects certain assumptions about problems and solutions. In our analysis, we identify the various incentives (both intended and unintended) embedded in the MSBP and examine new teachers' responses to them. Finally, we consider the policy in light of McDonnell and

---

<sup>1</sup> McDonnell and Elmore (1987) define policy instruments as "the mechanisms that translate substantive policy goals into concrete actions" or results (p. 134).

## **HISTORY AND DESIGN OF THE MASSACHUSETTS SIGNING BONUS PROGRAM**

*History.* In the summer of 1998, the Massachusetts state legislature created the MSBP amidst growing public concern about teacher quality. Earlier that year, the state had first administered the Massachusetts Test for Educator Licensure, and initial failure rates were very high; 59 percent of prospective teachers did not pass the basic skills portion of the test.<sup>2</sup> Faced with these dismal results as well as some criticism of the content and format of the exam, the state Board of Education initially voted to lower the passing grade. However, this decision met with controversy and the Board quickly reversed itself.

State politicians rushed to address the widely publicized “teacher-testing debacle” (Zernike, 1998a). Senate President Thomas F. Birmingham proposed using part of the state’s \$1 billion budget surplus to offer \$20,000 signing bonuses to attract talented individuals to teaching. As Birmingham explained, “This is an effort to level the playing field a little bit so teaching will not be the profession of last resort... We are trying to attract the best and the brightest to the teaching corps” (Ferdinand, 1998). “We want this to be elitist and unapologetically so,” Birmingham argued. “This is not just a check to people who would already go into teaching. The purpose of this initiative is to attract a population that has not traditionally gone into teaching. That’s one reason why we are aggressive in terms of the money” (Zernike, 1998b).

The legislature acted swiftly to approve the MSBP and establish a Teacher Quality Endowment Fund of \$60 million, the annual earnings of which would be used to fund the Signing Bonus Program as well as other initiatives aimed at strengthening the state’s future teaching force.

*Design.* Although, from the beginning, it was described and marketed as a \$20,000 award, the Massachusetts Signing Bonus actually consisted of payments distributed over four years. The state recognized that if the bonus were disbursed as a single payment, recipients could take the money and leave after teaching for only one year or less. Therefore, they decided to pay out the bonus in four installments, \$8,000 for the first year of teaching and \$4,000 for each of three subsequent years. Bonus recipients would be eligible for each year’s bonus payment as long as they were certified to teach in the state and employed as a teacher by one of the state’s public schools.

The legislation creating the MSBP authorized the State Board of Education to promulgate regulations for the program’s implementation, although state lawmakers established general guidelines. Regarding the annual selection of recipients, the legislation called on the Department of Education to “select the best and brightest teaching prospects based on objective measures such as test scores, grade point average or class rank, and such other criteria as the department may establish” (Massachusetts State Legislature, 1998). In carrying out this directive, the Department of Education set minimum criteria for applicants. In order to be eligible for the Signing Bonus, recent college graduates had to meet at least one of the following criteria:

---

<sup>2</sup> The teacher test was created as part of the sweeping Massachusetts Education Reform Act of 1993, which, among other things, dramatically increased overall education funding; instituted standards, curriculum frameworks, and high-stakes testing; and authorized the creation of charter schools.

- ranking in top ten percent of the candidate’s graduating class,
- minimum 3.5 grade point average in the major, as designated by the college or university attended,
- minimum 3.5 grade point average overall,
- ranking in the top tenth percentile overall on a nationally recognized examination (e.g., GRE, GMAT, MCAT, LSAT, CBEST),
- nomination made by the dean of the candidate’s institution of higher education. Each institution may submit up to two nominations a year.

These requirements were waived for candidates who had graduated from college five or more years before applying. In reviewing applications, the Department of Education assessed those candidates’ professional experience and personal character.

The legislation further stipulated that, in any given year, the Department of Education should award bonuses only to “those deserving candidates,” rather than to a fixed number of individuals. The Department, however, was permitted to “target awards to attract teachers for those subject matter areas most needed in the Commonwealth” (Massachusetts State Legislature, 1998). Although the Legislature discussed the possibility of targeting awards to candidates interested in teaching in low-income, high-need districts, that was not part of the final law.

While the legislation required that all recipients be certified to teach, it left open the question of how these individuals would become certified. This was a major concern, since the program was meant to target individuals who had never taught in public schools and who had not originally intended to enter teaching. In addressing the issue of certification, the Department of Education created a program, subsequently called the Massachusetts Institute for New Teachers (MINT), to provide bonus recipients with an accelerated route to certification. MINT, a seven-week summer training program, consisted of accelerated coursework, discussions, and practice teaching in summer school. By participating in MINT and successfully completing a teaching portfolio during their first year of teaching, bonus recipients received a Provisional License with Advanced Standing, the same license that graduates of conventional, university-based teacher preparation programs received.<sup>3</sup>

***Design Assumptions.*** The design of the MSBP reflects a number of assumptions. For instance, the strategy assumes that the problem of teacher quality is one of insufficient financial incentives, that the key to improving teacher quality is getting smarter people to teach, and that the main reason smart people do not enter teaching is the low pay.

Embedded within this first assumption is another—namely, that good teaching is more about individual intelligence and subject matter expertise than about pedagogical skill. It is telling that, while the original legislation established detailed guidelines for selecting recipients and disbursing funds, it included no mention of training or on-the-job support. Moreover, the pre-service training that the Department of Education did provide was quite short and assumed that the bonus recipients, being intelligent people, could quickly learn how to teach.

---

<sup>3</sup> Teacher Licensure in Massachusetts has undergone numerous changes during the period of this study. The names and components of the licenses have changed slightly.

Attracting talented individuals to teaching is certainly an important part of addressing the teacher quality problem. However, in focusing almost solely on who joins (or does not join) the teaching force, the MSBP largely ignored what happens to new teachers after they have entered their classrooms. The policy did nothing to address the organizational contexts in which new teachers find themselves—i.e., the school contexts that influence their work, their satisfaction, and, potentially, their subsequent career decisions. Thinking differently about the issue of teacher quality might lead policymakers to focus more on how schools are organized as workplaces, the nature of new teachers' job assignments, or the schools' capacity to support their development. These alternative ways of conceptualizing the problem would lead to very different policy interventions, which we consider later in our discussion.

## **DATA SOURCES AND METHODS**

The sample for this study consisted of 13 of the 59 individuals who were awarded the Massachusetts Signing Bonus in the first year of the program's implementation (1999). We built the sample as part of a larger longitudinal study of the experiences of fifty new teachers in Massachusetts (Johnson & Birkeland, forthcoming; Liu, Kardos, Kauffman, Peske, & Johnson, 2000; Peske, Liu, Johnson, Kauffman, & Kardos, 2001).

We contacted recipients of the Signing Bonus directly, using a list of names that included information on individuals' school placement, subject area, and prior work experience. All of the teachers we contacted agreed to participate in the study. We built the sample purposively to ensure that we would capture the range of experiences and characteristics of these recipients. For instance, eight out of the thirteen respondents were mid-career entrants to teaching; five were entering teaching as their first career. Seven were female; six were male. Nine were white; four were individuals of color. In addition, the mid-career entrants in the sample had switched to teaching from a variety of fields: law, science, technology, higher education, and other nonprofit work.

The first round of data collection, in 1999-2000, involved one tape-recorded, in-person interview (1.5 to 2.5 hours) with each respondent in the late fall or early winter. The interview included questions about the respondent's background, decision to enter teaching, views on career, experiences teaching, and attitudes toward various incentives and rewards. During the summer of 2001, we conducted follow-up interviews with the original respondents. These interviews lasted 20-40 minutes and were completed by telephone or in person.<sup>4</sup> During the summer of 2002, we wrote to the participants, asking them to tell us about any career changes that they had made or planned to make. All Signing Bonus recipients in the original study responded to this inquiry.

In analyzing the data, we first composed narrative summaries for each respondent and each interview, which included information on prominent topics, identified emergent themes, and noted memorable responses. We then engaged in a rigorous analysis of the transcripts, coding and sub-coding according to themes that emerged from the narrative summaries, the transcripts themselves, and the literature. We relied on an iterative testing process, moving back and forth from the themes we had identified to the details of the

---

<sup>4</sup> One respondent who had left the U.S. replied by e-mail.

interview data and the narrative summaries. We also created matrices to summarize data and facilitate cross-case comparisons.

Our analysis is not an evaluation of the MSBP. Rather, it explores how this group of new teachers viewed the available intrinsic and extrinsic rewards of this program and factored them into their career decisions over the course of several years. It further examines the extent to which the policy addressed the identified problem.

## **THE INCENTIVES TO ENTER TEACHING**

### ***The Primary Incentive of the MSBP***

The new teachers in our study reported that the Signing Bonus had very little influence, if any, on their decisions to enter teaching. This is not to say that the Program, as a whole, did not influence some recipients' entry into teaching, but rather that the bonus money itself was a relatively weak extrinsic incentive. A much more powerful extrinsic incentive, according to virtually all of the participants in the study, was the program's accelerated route to certification.

In describing the role that the MSBP played in his decision to enter teaching, Bernie, a former corporate lawyer, explained:

Oh, it wasn't the money, you know (*Laughs*). I mean, the twenty thousand over four years, I'm taking that five times over in terms of a pay cut.... So it wasn't the money, it was the fast—it was the bypass of what I didn't think was necessary.... You could go through this quick program, and get a certification, and you'd be on your way.

After six years in law, Bernie had begun to question his initial career choice. To explore his options, he took some "interest inventory tests" and met with career counselors. He became "intrigued" with teaching and started to investigate it, talking to relatives who were teachers and "shadowing a couple of people." Bernie's informal research solidified his interest, though he didn't anticipate being able to switch careers in the short-term: "I started to think well, maybe long range, maybe ten years from now.... I wasn't in the situation where I could take the time off to do a student teaching gig."

The MSBP spurred Bernie to act on his existing interest in teaching and accelerated his entry into the profession. What had prevented Bernie from making the switch earlier was not so much the low pay as the high costs (in tuition and forgone income) of entering a full-time teacher education program. Asked whether he would have accepted an offer of just the accelerated route to teaching without the Signing Bonus, Bernie replied: "I think I would have given it some serious consideration. The money part was useful initially, but [only] for the first year.... I gave up my livelihood from June to August [to attend the summer institute] and so I needed that gap filler."

Ranya, a former scientist, told a similar story. She had "always thought about teaching.... I thought it would be a profession that would be more rewarding in a personal sort of way, more kind of meaningful." With two small children, she also thought that teaching might be more family-friendly than her previous work. Ranya explained that she pursued the MSBP, "simply because of the fact [that] it's an easier

process than certification. If I had to do it by myself, I would have to take so many classes and it's a thousand steps, before you get to the first level." She reported that, without the Program, she would not have entered teaching. However, when asked about the role that the various components played in her decision to teach, she elaborated:

The bonus itself, I think that was just like—even if it weren't for the bonus, if they said all the paperwork can be quite fast, I would have given it a try. It was definitely—I mean, it was good to have that in the first year, but I don't think that, in itself, would have chosen it one way or the other, for me.

For several years, Mike had been miserable as a lawyer. In his late twenties, he was considering switching to teaching, the only other career that he had explored while in college. As he explained, "Hearing about the bonus program galvanized my resolve. And I think that if I hadn't gotten the bonus, I would have then made a career—I would have tried to get into teaching some other way." During his first interview, Mike explained the relative importance of the Signing Bonus and the accelerated certification:

I don't think it's the money. I think it's the—and the money isn't really that much. I think it's the ease of getting in. It's avoiding the barrier to entry, that's the big deal.

One year later, in his second interview, he reiterated that view: "I mean, if there were no money at all, I would have done it."

To mid-career entrants like Bernie, Ranya, and Mike, the accelerated route to certification was much more valuable than the \$20,000 total in bonus payments, and played a bigger role in their decisions to enter teaching. Perhaps this should not be surprising, when one considers the costs of completing a conventional teacher education program. In addition to the out-of-pocket costs of tuition, they faced the opportunity costs of quitting their jobs and having no income for a year or more. Perhaps they could have completed their coursework while still working in their old jobs, but even then, they would have had to take time out for 2-3 months to complete their student teaching. By offering them an accelerated route to certification and to paid work in the classroom, the MSBP thus saved them time and a considerable amount of money—an amount that easily could have exceeded \$20,000.

The respondents' stories also suggest, however, that one of the reasons they valued the accelerated route to certification so highly was that they did not think traditional teacher education programs were worthwhile. Rather than viewing a full preparation program as a useful investment that would pay future dividends, they tended to see it as a burdensome cost and barrier. As Bernie said, it was something he "didn't think was necessary." In this way, these and other respondents bought into one of the assumptions embedded in the design of the Program, that any intelligent person with subject-matter knowledge can teach with little or no pedagogical training.

The first-career entrants in our sample, like their mid-career counterparts, also valued the accelerated route to certification, some because it gave them the opportunity to try teaching without first having to invest in a lengthy preparation program. This was the case with Camilla. As she approached college graduation, Camilla was uncertain about

what career to pursue. She had considered teaching, social work, and nonprofit work. To her, the MSBP “looked like a good opportunity to get into [teaching] and see if I did like it.” What she found valuable was:

more the easy route, because the money—especially moving from [another state] where my rent was \$200 a month—here, that money is already gone just on rent. The cost of living.... Also, the summer program doesn’t pay, so that’s six weeks you’re not getting any money. It really ends up not being that much money. I wouldn’t call that a consideration.

The bonus money helped Camilla move to Massachusetts and cover her summer living expenses, but it was the “easy route” that was the major incentive to try teaching.

Other first-career entrants valued the accelerated certification not so much because they wanted to explore teaching as a potential long-term career, but rather because they envisioned making a short-term contribution to public education. For instance, new college graduates Abe and Kareem wanted to teach for a couple years before moving on to other lines of work—medicine for Abe, and international development for Kareem. Because they did not plan to stay long term, they were reluctant to spend additional time and money to become certified (though Kareem had finished all but the student teaching component of his undergraduate university’s credentialing program). Prior to being awarded the Signing Bonus, Abe and Kareem were investigating jobs in private schools. The MSBP greatly expanded their options by allowing them to apply to conventional public schools.

### ***Money: A Secondary Incentive***

For some respondents in our study, the bonus money played no role whatsoever in their decisions to enter teaching. Six out of the thirteen recipients had already committed to teaching and were actively pursuing entry before they received the bonus offer. For them, the money was irrelevant as an incentive to enter the profession.

Three respondents had already completed teacher education programs. Keisha, a former administrator in higher education, was finishing a master’s degree in elementary education when she applied to the bonus program. Before receiving the bonus offer, she had already lined up a teaching position at an urban elementary school for the following year. She explained why she applied for the Signing Bonus: “My attitude was, ‘Well, why shouldn’t I get the money, too?’ That was literally my attitude. I went through an education program. I am planning to teach. Let me go for it.” Peter, a former musician and private school teacher who had also completed a teacher education program, echoed Keisha’s sentiments: “I was coming in anyway. I took advantage of the opportunity. I said, ‘I am going to teach anyway. Why not get a bonus for it?’ And so I did.” For Keisha, Peter, and Robert (a former lawyer who had also completed a teacher preparation program), the Program offered free money that they happily accepted, but it played no role in their decisions to enter teaching.

Three other teachers had not yet enrolled in teacher education programs when they received the Signing Bonus offer, but had already decided to switch to teaching from other careers. Laura had worked at an outdoor education center and a university. Before receiving the bonus, she had applied to teach in private schools. She explained: “I always

knew I was going to teach in the classroom; it just was a question of when.... My plan was to work at a private school, earn money so that I could go get a master's and certified to teach in public schools after a couple of years. So this is just a more direct route." In no way did the bonus money lure her into teaching. The daughter of teachers, she did not view teaching salaries as particularly low: "I think a teacher's salary is okay. You know you are not going to make 60 [thousand] ever. But I grew up on a teacher's salary, so I don't feel like I need very much money."

Esther, a former engineer who was taking time off to raise her young children, had become interested in teaching while volunteering at her children's school. She did some substitute teaching and was planning to apply to a local teacher education program when she first heard about the MSBP. Before accepting the Signing Bonus, however, she did consider the financial advantages of completing a teacher education program instead: "The good thing about that is I would have ended up with a master's, so I would have started considerably higher up on the [pay] scale. [The Signing Bonus Program] got me in quick, but it also got me in low. I'm making less than I did when I started working in

The Signing Bonus played no role in Laura and Esther's decisions to teach, but the program as a whole did influence how they entered teaching.<sup>5</sup> For them, the MSBP was not about the supplement to their salary, but rather about getting into teaching sooner. Esther explained: "It's a quick and dirty way to get into the classroom."

### *Other Secondary Incentives*

**Help with Placement** – Along with accelerated certification, the MSBP guaranteed individuals quick access to paid teaching positions. During the first year of the program, the Department of Education promised to find the bonus recipients teaching positions.<sup>6</sup> A few respondents found this promise particularly attractive. For example, Mike and Bernie, two of the former lawyers in the sample, were drawn to the package of quick training and placement assistance. As Mike said:

The money wasn't as important as the promise that "We'll, sort of minimally equip you with the basics, pedagogy, and we'll find a job for you." So that it made kind of making this transition, career transition, which can be very traumatic, much easier. And I had been thinking of going into teaching anyway. So it just lubricated everything in a sense.

Bernie explained that in deciding whether to go through with the program: "The thing that attracted me most was their promise of placement, and the training." Similarly, Ranya, the former scientist, reported that she applied to the program, "because it said it's a quick certification process and then they help you with the placement and everything."

**Status and Recognition** – For a few respondents, the MSBP offered a third, albeit less tangible, extrinsic incentive: status and recognition. Status came from the program's highly selective reputation and elite presentation, as well as the large sum (or

---

<sup>5</sup> The third teacher whose career also fits this description, Brenda, is introduced later in the paper.

<sup>6</sup> As of the second year of the program, the Department of Education no longer promised to find bonus recipients teaching positions.

perceived large sum) of money it offered. In program literature and press accounts, the MSBP was always described as a \$20,000 Signing Bonus, emphasizing the total amount rather than the parceled-out payments. One early newspaper article alluded to the high status that such a large sum implied. This was “\$5,000 more than the median Signing Bonus received by Harvard Business School graduates” (Ferdinand, 1998).

For Robert, a former lawyer who was entering teaching in his mid-fifties, status and special recognition served as an inducement to teach in public rather than private schools. Having just completed a Masters of Arts in Teaching degree, he had an early interest in private school teaching, but he changed his plans in response to the MSBP:

The Signing Bonus Program was really one thing that sort of helped tip me towards public schools. And I think basically because of the Signing Bonus Program, this spring I didn't even apply to any independent schools. I said, “Gee, I’ve done my student teaching at a public school.” And I said, “Hey, given the recognition, and the, you know, that’s really a significant factor in my decision.”

Peter also valued the special recognition that came with being selected to receive the Signing Bonus. To him, the Program provided “a chance to get an award, to be honored just in terms of the prestige of getting an award, but also just the fact of getting an award of money. But I didn’t go into teaching for money.” For Abe, the MSBP also seemed to provide the reassurance that, if he received the bonus, he could become a good teacher:

The money itself was kind of minor. I mean, I definitely could have lived on the salary that I was getting without the Signing Bonus. But it made me feel more comfortable, and I think more than anything else it was symbolic of people putting their faith in me, and saying, you can do this. You can teach. And I think that was all I needed.

### *Summary*

What is striking in the previous accounts is the reported lack of importance the Signing Bonus money had in the respondents’ decisions to enter teaching. Prior to receiving the bonus offer, all but one were seriously considering teaching, and ten out of the thirteen had already taken steps (both large and small) toward the profession. These were not the individuals the legislators originally envisioned, those who, without the Signing Bonus, “would otherwise not consider a career in teaching.” All of the respondents told us that they would still have participated in the program, or would have seriously considered participating, if they had been offered only the accelerated route. Much more than the extra money, the new teachers valued the promise of quick training, rapid certification, job placement, and the status that came with being a recipient. These were the program’s most powerful extrinsic incentives.

This is not to say that financial considerations played no role in respondents’ decisions to enter teaching. Money did matter, but in an indirect way. Respondents’ concerns about entering teaching centered not so much on low salaries as on the high costs of entry (costs in time, tuition, and forgone earnings). It was these costs that they

perceived to be the larger barrier to entering teaching. The program reduced these costs by providing an accelerated route to certification.

Some recipients did rely on the first bonus payment because it helped make their entry or transition to teaching smoother than it might otherwise have been. Respondents used the bonus money to pay for moving expenses, purchase school supplies, and cover their living expenses while enrolled in the full-time summer training institute.

## **THE INCENTIVES TO STAY IN TEACHING**

The Massachusetts policy makers distributed the bonus payments over four years—\$8,000 for the first year of teaching and \$4,000 for each of the three subsequent years—to ensure that recipients would stay in teaching. The designers' strategy for retaining teachers thus relied solely on extrinsic incentives.

However, in studying bonus recipients' career decisions over time, we found that the annual payments played virtually no role in their decisions about whether (or for how long) to remain in teaching. Instead, those choices were influenced primarily by the intrinsic rewards of teaching and the respondents' success in realizing them. Whether they were successful or not largely depended on the working conditions that the new teachers encountered in their schools.

While our small, nonrandom sample limits our ability to generalize, it is noteworthy that eight of the thirteen bonus recipients whom we followed left public school teaching before receiving the full bonus. Of these, three left after the first year of teaching; one left midway through the second year; and four left after the second year. They reported that they left largely because they felt unsupported at their schools and were not finding success as teachers. Their stories suggest that feeling successful—being able to realize the intrinsic rewards of teaching—depended largely on a set of conditions at their school sites: whether they had assignments and teaching loads that were appropriate and manageable; whether they received adequate support and guidance from their principal and colleagues; and whether they had the curriculum and resources they needed to do their work.<sup>7</sup> The cases of Brenda and Camilla illustrate this point.

Brenda, age 31, entered teaching from the nonprofit sector. Prior to receiving the Signing Bonus, she had completed a general master's degree in education, though not one that led to teacher certification. She figured that, as a native Spanish speaker, she could find a teaching job somewhere:

I was certainly thinking I was going to teach, though, after [completing] school. I was thinking somehow it would, something would work out. And I knew that people are kind of, especially for language teachers, there's really a shortage. And I know that sometimes public schools even hire people that aren't certified and then work with them. So, I thought somehow I would, I would end up teaching.

---

<sup>7</sup> These factors were identified by our project colleagues in an earlier analysis of the data from the larger study of fifty new teachers, which included this sub-sample of thirteen. See Johnson & Birkeland (forthcoming).

During her first year, Brenda taught at an urban middle school that was very diverse, racially, ethnically, and socioeconomically. As the only Spanish teacher at the school, she had an unusually challenging assignment—210 students in three grades and 10 classes. She explained:

I have 10 different groups of kids that come in. Seventh and eighth graders come in three times a week. Sixth graders come in twice a week. And there's three different sixth grades, three seventh, and four eighth grades. And then within each grade, there's different tracks.

The lack of continuity and the sheer number of classes and students made it difficult for Brenda to establish relationships with students, and she struggled with classroom management.

As a new teacher, she was shocked by the lack of resources at her school, which suffered even in comparison to the nonprofit research organization where she had previously worked:

I come from a non-profit... you know, not making a lot of money. But if I needed to photocopy something, there was a photocopier there. There were computers. There were phones, you know. And to think that we expect to educate kids.... We have one copier at the school. And of course, no phones in the rooms—you know, that goes without saying. But I mean, so that, together with just feeling kind of beaten down and so exhausted at the end of the day, every day.

Brenda also lacked a comprehensive curriculum. She described the Spanish curriculum she was given as:

... a mish mash of photocopies of different worksheets from different books. Like half the page might be missing. The copy [quality] is bad. And then for the games, it doesn't really explain—or the activities, there's no—there's like an expectation that you would know what to do with like a page that has like a grid on it.... It doesn't have a breakdown of like lessons or anything, by no means.

Her colleagues at the school, mostly veteran teachers who might have been a resource for her, were not much help. Usually they were gone for the day by 2:30 pm, and “they’ve set up things in such a way that maybe like after years and years of doing it, they don’t have to plan as much or they have their systems down.” When we first interviewed Brenda in January 2000, she was desperate for someone to come into her classroom and observe her teaching:

I just really wanted feedback on what I’m doing.... You know, “You could be doing this a little bit different. I think that wouldn’t have happened if you had done this.” I kept saying, you know, “I want anybody that wants to come in and observe.” I mean, I don’t care. I don’t care what they think; I just want some feedback. I don’t care if it’s a horrible lesson and they see me. I just need to know.

At the end of her first year of teaching, Brenda had serious doubts about staying at her school or even in teaching. During the summer, she weighed her options and decided to return, partly because she was to have a slightly reduced load and teach the sixth graders only once a week. However, a group of teachers went to the principal and expressed concern that their sixth graders would fall behind those in other district schools. The administrators decided to revert to the old schedule, and thus Brenda had the same overwhelming workload and schedule for a second year. Feeling totally unsupported by her principal, she resigned in mid-November.

In January 2001, Brenda took a long-term substitute position (80% time), split between two schools in another district. Even though it paid poorly, had no benefits, and involved travel, it was in a district known for supporting teachers. She taught many fewer students (65-70) and met with them every day. The continuity made a big difference. There were also curriculum materials and a useful textbook, with supplementary materials and ideas for activities.

When we interviewed Brenda at the end of her second year of teaching, she was again struggling with the decision of whether or not to stay in teaching. She had been offered a full-time regular teaching position by the district, but turned it down, because it would have required her to teach first, second, seventh, and eighth grade students. She subsequently explained her decision to return to work in the nonprofit sector:

[I] was sort of wanting something where I felt [it was] more rewarding.... I know a lot of teachers think it's the most rewarding thing they could ever do, and I definitely admire the profession, the people that have done it for a long time. But I'm also quite disillusioned with the way things are set up. And, I think as a profession, it's not very respected, not very respected by even the administration in the schools, and by other people.

For Brenda, the lack of resources and the poor organization of schools were the most visible signs that society did not respect teachers. These conditions had made it impossible for her to experience the intrinsic rewards and satisfactions for which she entered teaching. Instead, she found teaching isolating and missed interacting with other adults. She said that she did not think about the \$8,000 in forfeited bonus money when she decided to leave.

Camilla's reasons for leaving teaching, like Brenda's, centered on working conditions. Initially, she had wanted to explore teaching and decide if it was a good match for her. In her first year, she was assigned to teach eighth grade English in the library at an urban middle school. Teachers and students constantly walked through her room: "It's just insane. It's sort of like teaching literally in the middle of the hallway. There are constantly classes walking by, copy machines running, phones ringing." Camilla's curriculum, a list of books that she was supposed to cover in sequence, did not provide much guidance to her as a novice teacher: "They tell you what you should be teaching, but not how to teach it, and not necessarily material. If they tell us we have to be reading this novel, you have the novel, and that's it."

Camilla taught in a middle school cluster in which a core of teachers all shared the same students and met daily to plan together. But her schedule prohibited her from attending those meetings, so she never felt well connected to colleagues in her cluster.

Despite these challenging teaching conditions, she was satisfied enough to return to the school to teach a second year. In December, however, she resigned, largely because the school had changed her position so that she had to teach both history and English. She explained:

I'm completely unqualified to teach history, so it was a little bit difficult. And then on top of that, the way they set it up was that one of the classes was a very high honors group; the other class was a very low, at-risk group. So, essentially every day I was making four lesson plans.

The school also had a new principal, and Camilla was frustrated with the lack of consistent discipline. Overall, it was the inappropriate teaching assignment and the lack of support that led her to quit:

I think if it had been a more exciting atmosphere, more supportive, I might have stayed longer.... I feel like, I mean, it definitely wasn't ideal. It was like a rat race, you know? I felt like I was always really, really exhausted, and any ideas, or lessons, or things like that that I might have been able to get excited about, and have done a really good job teaching, I wasn't able to do. So, I mean, I think that really drags down teachers when they can't really perform the way they would like to.

Asked whether she had considered the Signing Bonus in making her decision, Camilla answered:

No, not at all, because I knew I would be getting, I think \$4,000 extra dollars the next year. And like I said, if it's taxed at 30 percent, it's really only something like, you know, less than \$3,000, which, to me, isn't enough money to decide whether I'm going to be happy somewhere.

Camilla and Brenda's stories were, unfortunately, typical. Robert and Ranya also left public school teaching because of poor working conditions. Robert quit because of the overcrowded classes and facilities, inadequate support, difficult schedule, poor management, and low teacher morale at his school. Ranya described having no textbooks during her first two months of teaching, no lab materials, and no support from her colleagues. She said of her first year: "I was really frustrated because, like I said, there was no help from anyone—not from the department, not from the school itself, and not from the mentor that they had assigned me.... And it's not that I didn't ask for help."

There were several new teachers in our sample whose decisions to leave teaching were influenced mostly by factors unrelated to either money or working conditions. Peter and Esther left largely because of developments in their spouses' careers. Abe and Kareem, who initially intended to spend only a few years teaching, left as they had planned. The Signing Bonus did not tempt them to stay. Only Laura said that the Signing Bonus was a factor in her decision to continue teaching in Massachusetts. However, she was motivated not by the money, but by the promise she believed she had made to the state in accepting the award.

By contrast, some respondents said they taught in schools that supported them as new teachers and, thus, they were able to realize the hoped-for intrinsic rewards. They were still in teaching by year four. Carolyn, for example, had entered teaching expecting to be in the classroom only a short time, but she found her colleagues supportive and elected to stay into her fourth year. Similarly, Bernie was satisfied with his urban high school history position, particularly during his second and third years of teaching as he became more experienced. He, too, remained through year four, despite some lingering concerns that his growing family would have trouble living on a teacher's salary. Laura also found supportive working conditions at her original school and would have stayed, had she not been bumped by a teacher with more seniority. She was transferred to another school and is reasonably satisfied there. Two recipients, Mike and Keisha, encountered early dissatisfaction with their original schools, and so they transferred to schools where they found more support and success. They, too, completed their terms as Signing Bonus recipients.

## CONCLUSIONS AND IMPLICATIONS

### Choosing the Right Policy Instrument(s)

Despite being touted as a large sum of money by policymakers and the public, the Signing Bonus payments proved to be a very weak incentive. Respondents viewed the \$4,000 annual payments as a small amount of money and they barely, if at all, factored the value of the bonus into their decisions to enter or remain in teaching. In choosing to teach, the individuals in our study weighed both the intrinsic and extrinsic rewards of teaching. However, even this substantial bonus could not compensate for their disappointment and frustration when they could not achieve satisfaction and success in the classroom.

This research is important, not only because it informs current efforts to attract and retain teachers, but also because it extends our understanding of inducements as a policy instrument. McDonnell and Elmore (1987) describe four classes of policy instruments:

- *mandates* are rules governing the action of individuals and agencies, and are intended to produce compliance;
- *inducements* transfer money to individuals or agencies in return for certain actions;
- *capacity building* is the transfer of money for the purpose of investment in material, intellectual, or human resources; and
- *system-changing* transfers official authority among individuals and agencies in order to alter the system by which public goods and services are delivered.

(p. 134)

The MSBP was intended to address the issue of teacher quality by relying on a substantial financial inducement to attract talented individuals who otherwise would not consider teaching. McDonnell and Elmore discuss the sorts of problems for which inducements are effective:

Problems that prompt inducements are ones in which the absence of money directed at the appropriate purposes is the key determinant of the problem. Inducements assume that the capacity exists to produce whatever is required or can be readily acquired if the right monetary incentives are provided. Inducement problems are, at some fundamental level, production or procurement problems. (p. 142)

Indeed, those who designed the MSBP defined the challenge of staffing schools with high-quality teachers as a problem of procurement, one that could be solved with the inducement of \$20,000. They assumed that individuals already have the capacity to produce quality teaching if they are intelligent and have strong subject-matter knowledge, but they ignored the roles that school context, working conditions, and pedagogical knowledge play in making quality teaching possible and helping new teachers find success (and intrinsic rewards) in the classroom.

McDonnell and Elmore also caution that inducements can lead to unintended responses. Citing Bardach, they observe: “the lack of adequate information about the effects of inducements often results in inefficient reward schedules that generate incentives which turn out ‘to be too weak or too strong or just plain perverse’” (p. 148). In fact, the financial inducement in the MSBP worked in unanticipated ways and the selection process was not as exacting as it was expected to be. Most respondents were already intending to teach; several who were already certified applied for the bonus anyway and received it; and the staged payout plan failed to retain 8 of 13 teachers to remain in a Massachusetts public school classroom for four years.<sup>8</sup> Unexpectedly, a far more powerful inducement emerged: the fast-track certification program created by state education officials to implement the policy. The chance to avoid the opportunity costs of traditional teacher education proved to be more attractive to participants than the Signing Bonus.

It could be argued that the shortcoming of this policy was in its implementation, that a more discriminating screening and selection process might have successfully identified the “right” recipients—those who had strong subject-matter knowledge and a latent interest in teaching, but who would never enter teaching, but for the money. However, this would assume that such candidates existed in the pool but were not chosen, and we have no evidence that this was so. In addition, research suggests that even rigorous admissions criteria and careful selection are not enough to ensure quality teaching. In a recent review of the literature, Goldhaber (2002) concluded that most observable teacher characteristics—e.g., experience, education level, test scores—are poor predictors of good teaching and student achievement. This suggests the limitations of policies that rely too heavily on selection.

More notable than the uneven and unforeseen effects of these inducements was the fact that their strength was severely compromised by the schools’ lack of capacity to support new teachers and sustain good teaching. Repeatedly, teachers told of the ways in which their schools failed them—unreasonable or inappropriate teaching assignments, arbitrary administrative practices, lack of curricula, absence of induction or mentoring

---

<sup>8</sup> Other research on the program indicates high attrition rates. Fowler (2001) completed an analysis of the recruitment, preparation, placement and attrition of the first cohort of Signing Bonus recipients, and found that in the first year of the MSBP, 20% of the Signing Bonus recipients left teaching.

programs. In the face of such limited capacity to support good teaching, financial inducements mattered little to these candidates.

In approving the MSBP, legislators were impatient to address the problem of teacher quality and acted as if schools had sufficient capacity to support new teachers, when they did not. They included no requirements or funding for on-the-job support or job-embedded training in the MSBP legislation. McDonnell and Elmore note that inducements are attractive because they promise “proximate and tangible effects” while capacity-building has “distant and ambiguous effects” (p. 139). It is far easier to win support for an inducement policy such as the MSBP that promises quick results than for one designed to strengthen all the schools where recipients might teach. However, the experiences of recipients in this study confirm McDonnell and Elmore’s speculation that “capacity-building may be instrumental to mandates and inducements” (p. 139).

There is virtually no evidence in our study that the \$20,000 signing bonus was an effective inducement for achieving the policy’s goals. Research by Hanushek and others suggests that a much larger bonus (20%-50% of regular wages) might have augmented its power to attract and retain candidates. However, the cost of this strategy (\$7,000 to \$17,500 per year for teachers earning \$35,000) and the discontent it would likely provoke among other teachers would seem to make this an untenable option. Moreover, this approach would do nothing to address the schools’ failure to support new teachers, which our respondents repeatedly reported was at the center of their dissatisfactions with teaching. The failure of the MSBP to attract the candidates it originally targeted—individuals who might never consider teaching without a substantial financial inducement—and its inability to retain the recipients it did attract suggest that this approach to improving teacher quality is insufficient and ill-conceived.

How, then, might the policy instruments of inducements and capacity-building be combined to more effectively achieve the goal of improving the recruitment and retention of high-quality teachers? One option would be to commit a large share of the bonus money to improve the summer training component and to support the induction and professional development of the Signing Bonus recipients as they learn to teach. In this case, the policy would focus on developing the capacity of individuals rather than institutions. This approach might help to address the new teacher’s personal need for instructional supervision, though it might not assure that other institutional supports needed to ensure success in the classroom would be in place. Another possibility would be to identify a small number of high-need schools where Signing Bonus teachers would be assigned and to invest heavily in developing capacity within those schools. This has the advantage of providing a comprehensive approach in schools that most need assistance, though it runs the risk of concentrating inexperienced teachers in a few schools.<sup>9</sup> A third strategy would be to fully fund induction and support programs for all new teachers. While expensive, this approach has had encouraging success in California (Bullard, 1998) and Connecticut (Archer, 2000). With such an approach, Signing Bonus recipients could be assured that, wherever they took jobs, they would find support. In

---

<sup>9</sup> The state Department of Education is currently in the middle of a major overhaul of the Massachusetts Signing Bonus Program and the Massachusetts Institute for New Teachers. The state will now offer signing bonuses to individuals in university-based teacher education programs. In addition, MINT will continue to offer an accelerated route to teaching but will partner with a small number of high-need districts to provide more intensive on-the-job support to MINT graduates (Archer, 2002).

fact, because school-based support serves as a powerful attractor in itself, such an approach eventually might reduce the need for a bonus altogether.

Our findings suggest that, as a strategy for improving teacher quality, the MSBP: (a) relied too much on inducements and not enough on capacity-building, (b) focused too narrowly on recruitment and not enough on retention, and (c) centered too much on individuals and not enough on schools. Thus, the second or third options discussed above would be more likely than the first to effectively address the problem of teacher quality. Increasingly, research suggests that the challenge of attracting and retaining new teachers depends on making sure that schools are places where teachers can achieve the intrinsic rewards that a career in teaching offers. Short of that, no financial inducements will suffice.

## REFERENCES

- Archer, J. (2000, January 13). Earning their stripes. *Education Week/Quality Counts 2000*, pp. 38-43.
- Archer, J. (2002, December 4). Mass. bonus program to favor ed. schools. *Education Week*.
- Ballou, D., & Podgursky, M. (1997). *Teacher pay and teacher quality*. Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.
- Ballou, D., & Podgursky, M. (1999). *Seniority, wages, and turnover among public school teachers*. Irvine, CA: National Academy of Sciences Conference.
- Baugh, W. H., & Stone, J. A. (1982). Mobility and wage equilibration in the educator labor market. *Economics of Education Review*, 2(3), 253-274.
- Brewer, D. J. (1996). Career paths and quit decisions: Evidence from teaching. *Journal of Labor Economics*, 14(2), 313-339.
- Bryant, S. (2002, April 10). Houston school district plans to offer signing bonus again. *Houston Chronicle*.
- Bullard, C. (1998). *Qualified teachers for all California students: Current issues in recruitment, retention, preparation, and professional development*. Sacramento: California Research Bureau.
- Ferdinand, P. (1998, July 9). Massachusetts weighs giving signing bonuses to teachers. *Washington Post*, pp. A08.
- Ferris, J., & Winkler, D. (1986). Teacher compensation and the supply of teachers. *The Elementary School Journal*, 86(4), 389-403.
- Fowler, R. C. (2001). *An analysis of the recruitment, preparation, attrition, and placement of the Massachusetts Signing Bonus teachers*. Unpublished manuscript, Salem.
- Gewertz, C. (2001, July 11). Nevada: Pay raises, signing bonuses on tap for state's teachers. *Education Week*.
- Goldhaber, D. D. (2002). The mystery of good teaching. *Education Next: A Journal of Opinion and Research*, Spring(1), 50-55.
- Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2001). *Why public schools lose teachers* ( Working Paper 8599). Cambridge, MA: National Bureau of Economic Research.
- Hanushek, E. A., & Pace, R. R. (1995). Who chooses to teach (and why)? *Economics of Education Review*, 14(2), 101-117.
- Hussar, W. J. (1999). *Predicting the need for newly hired teachers in the United States to 2008-09*. Washington, DC: National Center for Education Statistics.

- Ingersoll, R. M. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499-534.
- Johnson, S. M. (1986). Incentives for teachers: What motivates, what matters. *Educational Administration Quarterly*, 22(3), 54-79.
- Johnson, S. M. (1990). *Teachers at work: Achieving success in our schools*. New York: BasicBooks.
- Johnson, S. M., & Birkeland, S. E. (forthcoming). Pursuing a "sense of success": New teachers explain their career decisions. *American Educational Research Journal*.
- Kerr, S. (1975). On the folly of rewarding A, while hoping for B. *The Academy of Management Journal*, 18(4), 769-783.
- Kirby, S. N., Naftel, S., & Berends, M. (1999). *Staffing at-risk school districts in Texas: Problems and prospects*. Santa Monica, CA: RAND.
- Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis*, 24(1), 37-62.
- Lawler, E. E. I. (1983). *Pay and organization development*. Reading, MA: Addison-Wesley.
- Lawler, E. E. I. (1990). *Strategic pay: Aligning organizational strategies and pay systems*. San Francisco: Jossey-Bass.
- Liu, E., Kardos, S. M., Kauffman, D., Peske, H. G., & Johnson, S. M. (2000). "Breaking even": Incentives, rewards, and the high costs of choosing to teach. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans.
- Lortie, D. C. (1975). *Schoolteacher: A sociological study*. Chicago: University of Chicago Press.
- Massachusetts Department of Education. (2002). *The Massachusetts Institute for New Teachers (MINT): History*. Available: <http://www.doe.mass.edu/eq/mint/history.html> [2002, October 1].
- Massachusetts State Legislature. (1998). Chapter 260 of the Acts of 1998.
- McDonnell, L. M., & Elmore, R. F. (1987). Getting the job done: Alternative policy instruments. *Educational Evaluation and Policy Analysis*, 9(2), 133-152.
- Murnane, R., Singer, J. D., Willett, J. B., & et al. (1991). *Who will teach?: Policies that matter*. Cambridge: Harvard University Press.
- Olson, L. (2000, January 13). Sweetening the pot. *Education Week/Quality Counts 2000*, pp. 28-34.

Peske, H. G., Liu, E., Johnson, S. M., Kauffman, D., & Kardos, S. M. (2001). The next generation of teachers: Changing conceptions of a career in teaching. *Phi Delta Kappan*, 83(4), 304-311.

Public Agenda. (2000). *A sense of calling: Who teaches and why*. New York: Public Agenda.

Schemo, D. J. (2002, July 6). For Oklahoma's teachers, big D is dollars (and Dallas). *New York Times*, pp. A7.

Zernike, K. (1998a, July 8). \$20,000 lures for teachers proposed; Birmingham seeks signing bonuses. *Boston Globe*, pp. A1.

Zernike, K. (1998b, July 9). Senate chief sees an elite teacher force; Says only top hopefuls would be eligible for \$20,000 signing bonus. *Boston Globe*, pp. A1.