In the following report, Hanover Research discusses best practices in teacher recruitment at the state and local levels.
TABLE OF CONTENTS

Executive Summary and Key Findings ................................................................. 3
  INTRODUCTION ................................................................................................... 3
  KEY FINDINGS .................................................................................................... 3
Section I: State-Based Programs ........................................................................... 5
  LOAN REPAYMENT ASSISTANCE AND FORGIVENESS .......................................... 5
  Evidence of Efficacy ......................................................................................... 6
  Best Practices .................................................................................................. 7
  ALTERNATIVE TEACHER CERTIFICATION .......................................................... 8
  Evidence of Efficacy ......................................................................................... 9
  Best Practices .................................................................................................. 10
  TEACHER CENTERS ............................................................................................ 11
  Evidence of Efficacy ......................................................................................... 12
  Best Practices .................................................................................................. 13
Section II: Locally-Based Programs ...................................................................... 15
  FINANCIAL INCENTIVES .................................................................................... 15
  Evidence of Efficacy ......................................................................................... 17
  Best Practices .................................................................................................. 19
  GROW-YOUR-OWN PROGRAMS ......................................................................... 21
  Evidence of Efficacy ......................................................................................... 22
  Best Practices .................................................................................................. 23
  MARKETING INITIATIVES .................................................................................. 24
  Evidence of Efficacy ......................................................................................... 24
  Best Practices .................................................................................................. 25
EXECUTIVE SUMMARY AND KEY FINDINGS

INTRODUCTION
In this report, Hanover Research discusses best practices in teacher recruitment at the state and local levels. The state of California is currently experiencing a teacher shortage, particularly in critical subject areas (e.g., mathematics, science, special education) and in high-need schools. Moreover, some experts believe the state will “remain at elevated levels of teacher demand for the foreseeable future.”¹

Addressing this shortage may require comprehensive efforts on the part of state, county, and school district leaders. This report, which seeks to help inform those efforts by discussing the evidence base of several recruitment programs and practices, includes two sections:

- **Section I: State-Based Programs** reviews several programs that states may implement to combat teacher shortages, including: loan repayment assistance and forgiveness, alternative teacher certification, and teacher centers.
- **Section II: Locally-Based Programs** reviews several programs that school districts may implement to combat teacher shortages, including: financial incentives, grow-your-own programs, and marketing initiatives.

KEY FINDINGS

**STATE-BASED PROGRAMS**

- **State-level loan repayment assistance and forgiveness programs can positively impact the quality of new teachers, where teachers decide to teach, and how long teachers remain in the profession.** Evidence indicates that such programs attract individuals with significantly higher academic credentials and that these individuals are more likely to teach in low-performing schools.

- **State-level alternative teacher certification programs can increase teacher diversity and help staff hard-to-fill positions.** However, to ensure that alternatively-certificated teachers are as effective as their traditionally-certificated counterparts, alternative programs must be high-quality and cover substantially the same content as traditional programs.

- **Statewide teacher centers may assist states in addressing teacher shortages.** Unfortunately, the efficacy of these centers has historically been difficult to measure. Teacher centers should design methodologies to track both output measures (e.g. number of teachers served) and outcomes (e.g. impact of the program on recruitment).

---

**Locally-Based Programs**

- Local financial incentives are an effective way of inducing existing teachers to accept jobs they may not otherwise be inclined to accept (e.g., low-income schools, high-priority subjects, at-risk populations). The most effective local programs offer a portfolio of financial incentives that can be tailored to meet a teacher’s individual needs.

- Grow-your-own programs are an effective tool for addressing local teacher shortages and increasing teacher diversity. Grow-your-own programs may also be one of the most effective ways of addressing teacher attrition – the grow-your-own programs studied had teacher retention rates ranging from 79% to 94%.

- Local marketing initiatives may be helpful in addressing teacher shortages in geographic shortage districts. Such initiatives should clearly identify existing job opportunities and market the material (e.g., salary, benefits) and non-material (e.g., collegial atmosphere, public service) advantages of school district employment. The information currently offered by school districts on job opportunities—particularly on public websites—is often inadequate.
SECTION I: STATE-BASED PROGRAMS

The following section reviews several programs that states may implement to combat teacher shortages. Discussions of each program include information on best practices in design and/or implementation and, where possible, information on efficacy in improving outcomes relevant to teacher recruitment. Reviewed programs include:

- Loan repayment assistance and forgiveness
- Alternative teacher certification
- Teacher centers

LOAN REPAYMENT ASSISTANCE AND FORGIVENESS

Some states may encourage individuals to enter the teaching profession by offering school loan repayment assistance programs or school loan forgiveness programs. Loan repayment assistance and forgiveness programs can achieve multiple goals. Often designed to decrease the financial barriers that otherwise would prevent skilled and interested candidates from choosing to become teachers, these programs also may encourage candidates to enter specific fields, work in specific geographic areas, or even encourage current teachers to stay in the profession for a longer period of time (see Figure 1.1).  

Figure 1.1: Goals of Loan Repayment Assistance and Forgiveness Programs

Provide a financial incentive to encourage individuals to enter teaching

Provide a financial incentive to encourage individuals to enter a particular specialty

Provide a financial incentive to encourage individuals to work in a geographic region or facility

Provide a financial incentive to encourage individuals to remain employed as teachers

Loan repayment assistance and forgiveness programs are considered particularly valuable given teachers’ historically low salaries. Salaries for teachers are lower than those of other professionals who enter the workforce with similar levels of education. As educational researcher Darling-Hammond explains in a report on California’s teacher shortage, “Even

---


3 Content taken with minor edits from Ibid.
after adjusting for the shorter work year in teaching, teachers earn 15–30 percent less than individuals with college degrees who enter other fields.” This difference is exacerbated by regional pay differences among school districts—schools in low-income areas are more likely to pay teachers smaller salaries than those in high-income areas.4

**Evidence of Efficacy**

Several states have implemented successful loan repayment assistance and forgiveness programs. One of the best-known and frequently-discussed programs is North Carolina’s now-defunct Teaching Fellows Program, which provided promising, high-achieving secondary school students with funds for college and professional education in return for a commitment to teaching in the state’s public schools. According to a final program report, fellows all repaid the assistance through teaching service or cash payments. However, state legislators depleted an initial fund intended to sustain the program by transferring approximately $35 million dollars to the state’s general fund between 2001 and 2015.5

Evidence indicates that the program, which recruited approximately 11,000 teachers, funneled highly-efficient teachers into the state’s public schools.6 Evaluations of the Teaching Fellows Programs do not indicate the extent to which the program was successful in encouraging students to become teachers who would have otherwise pursued alternative professions. However, an evaluation of the Teaching Fellows Program using data from 2005-06 and 2009-10 investigated the characteristics of fellows, the efficacy of fellows, and the length of time that fellows spent teaching in North Carolina public schools and found:7

- The competitive scholarships provided through the Teaching Fellows program attract individuals with significantly higher academic credentials into North Carolina public schools;
- Teaching Fellows teach in schools and classrooms with greater concentrations of low income students;
- Students of Teaching Fellows have significantly larger test score gains in elementary school math, middle grades math, and high school than the students of in-state prepared, out-of-state prepared, and alternative entry teachers; and
- Teaching Fellows remained teaching in public schools at significantly higher rates than other teachers

Similar, successful programs implemented in California included the Governor’s Teaching Fellowship (GTF) and the Assumption Program of Loans for Education (APLE). Modeled after North Carolina’s Teaching Fellows Program, the GTF was a competitive program that provided

---

prospective teachers who demonstrated academic talent and agreed to teach for at least four years in low-performing schools with $20,000 towards tuition and living expenses. Likewise, the APLE offered prospective teachers who agreed to teach for at least four years in high-need schools or fields with $11,000-$19,000 of loan forgiveness per year. Prospective teachers potentially could qualify for both the GFT and the APLE.

As with North Carolina’s program, data do not indicate the extent to which the GFT was successful in encouraging students to become teachers who otherwise would have pursued alternative professions. However, data do indicate that the program was successful in encouraging talented teachers to work in low-performing schools. A study published by the Stanford University School of Education, for example, examined the impact of the GFT on students already participating in the APLE by comparing the progress and decision-making of APLE students with GTFs to the progress and decision-making of APLE students without GTFs. The evaluation found that APLE students who received GTFs were significantly more likely to enter low-performing schools (p<.05). Moreover, the evaluation discovered “that for every seven teachers who received the GTF, two decided to teach in a low performing school and would not have done so otherwise.” Given that the program staffed approximately 700 one-year teaching positions in low-performing schools, the researchers also estimated that the per-pupil cost of the program equaled roughly $245—a “small fraction of California's average per-pupil expenditure of $7,055 in 2001-02.”

**BEST PRACTICES**

The research on loan repayment assistance and forgiveness supports several best practices for program design and implementation. These practices are listed in Figure 1.3.

---

10 Ibid., pp. 5–7.
In addition to the five points listed above, policy-makers may want to consider the length of the program. Because teachers’ odds of staying in the teaching profession increase substantially after three years in the classroom, experts typically recommend that the timeline of loan repayment assistance and forgiveness programs extend across several years. In fact, many previous programs follow this standard: both the GTF and the APLE covered four years.\(^\text{12}\)

**ALTERNATIVE TEACHER CERTIFICATION**

States may encourage individuals to enter the teaching profession by adopting or reforming alternative teacher certifications, which offer prospective teachers the opportunity to become licensed without completing traditional licensing requirements. This approach is both popular (most states offer some form of alternative certification) and contentious.\(^\text{13}\) Proponents argue that alternative certifications are crucial to improving teacher recruitment rates because they allow individuals to enter the profession who otherwise would find the time-intensive and costly barriers to certification insurmountable. A report issued by the U.S. Department of Education on alternative certification explains:\(^\text{14}\)

> ...in too many of our states and communities, lots of talented people find that they cannot say yes to teaching because of hoops and hurdles that have been placed in their way. If the only option for midcareer professionals interested in teaching is to go back to school for several years, then complete an unpaid student teaching assignment, all before receiving a paycheck, many wonderful candidates with families and mortgages will have no choice but to say no. And that is a great loss for our country.

Underlying this argument are the beliefs that a) non-teaching experience can inform and improve teaching practice and b) teaching practice is best learned through practical classroom experiences, not academic coursework. However, those critical of alternative certification argue that alternative certifications distract from the real problem in recruiting teachers: low salaries and a lack of respect for the profession. They explain that, as in the medical and legal fields, the traditional education requirements exist because teachers need

---


to master “an esoteric body of substantive and pedagogical knowledge” unobtainable elsewhere.\textsuperscript{15}

The requirements for alternative certifications can vary widely across states. Some states may require that interested individuals complete some coursework before applying for the certification, whereas others do not require any pre-certification coursework. In Utah, for example, elementary school applicants must have a bachelor’s degree and complete 27 credit hours related to elementary curriculum content; meanwhile, in Oklahoma, applicants must have a bachelor’s degree and two years of work experience related to their anticipated subject area, but do not need to complete any additional credit hours. Likewise, some states may require that interested individuals complete some post-certification coursework—Oklahoma requires that teachers complete 12-18 hours of education within three years of receiving the certificate—whereas others do not.\textsuperscript{16} Because of these differences, it may be difficult to compare the success rates of alternative certification programs in other states.

**Evidence of Efficacy**

Some research indicates that alternative certification programs can impact who enters the teaching profession. Nadler and Peterson found that states with genuine alternative certification programs had a greater proportion of minority teachers. Using census data and data from the U.S. Department of Education, they compared the ratio of minority adults to minority teachers in each state with alternative certification programs. Although the nationwide ratio was only 0.53, in states with genuine programs, “The index of minority representation was nonetheless considerably higher.” Furthermore, of the 10 states with the highest indices of minority representation, nine had robust alternative certification programs.\textsuperscript{17}

Alternative certification programs may help staff hard-to-fill subject areas. In a 2008 *International Journal of Learning* article, researcher Shaw found that in five states—Florida, Idaho, New Hampshire, Pennsylvania, and Utah—that implemented alternative certification programs in response to critical teacher shortages, the highest frequencies of certifications were obtained in state or federal shortage areas, such as mathematics, science, and special education. Similarly, the lowest frequencies of certifications were obtained in areas that “rarely appear on any state’s critical shortage lists.”\textsuperscript{18}

However, research indicates that there may be a significant difference in the efficacy of traditionally and alternatively-certified teachers. Three well-controlled studies using

\textsuperscript{15} Nadler and Peterson, Op. cit.
\textsuperscript{17} Ibid.
longitudinal individual-level student data from New York City and Houston, Texas, found that teachers who entered teaching as emergency hires or alternative route candidates were significantly less effective than traditionally-certificated teachers working with similar students, especially in teaching reading. Another 12 state study comparing alternative and traditionally-certified teachers in hard-to-staff schools found that the students of traditionally-certified teachers gained significantly more on achievement tests than students of alternatively-certified teachers.

Nonetheless, alternative certification may be a viable recruitment tool if candidates are enrolled in “high coursework” alternative programs (i.e. programs that cover most or all of the same content as traditional certification programs). In the 12 state study mentioned above, teachers from “low coursework” alternative certification programs saw their student scores fall almost 4 normal curve equivalent (NCE) points below the scores of traditionally-certified teachers. In fact, alternatively-certified teachers from “low coursework” programs actually saw their student test scores decline by nearly 2 NCE points between the fall and spring of the academic year. On the other hand, teachers from “high coursework” alternative programs saw student gains that were only 0.5 NCE points less than their traditionally-certified peers.

Additional studies have also indicated that the gap in effectiveness between alternative and traditionally certified teachers closes when teachers remain in the field long enough to complete the required coursework necessary for a clear credential. (Unfortunately, these same studies indicate that the attrition rate for alternatively-certified teachers is more than 80%.)

**BEST PRACTICES**

The research on alternative certification supports several best practices in program design and implementation. These practices are listed in Figure 1.5.

---

20 Id. at 45-46.
21 Ibid.
22 Id. at 47.
Researchers also emphasize that programs within those states that allow alternative certification should be selective, with a “good participant screening and selection process.” One report by the Thomas Fordham Institute found that alternative certification programs are often “remarkably non-selective”: roughly two-thirds of 49 examined programs in 11 states accepted half of all applicants. The report compared this selection rate to perhaps the most famous alternative certification program—Teach for America—which accepts only one in six applicants. Similarly, most programs did not require an applicant’s history of prior academic performance to be higher than average (calculated as a 2.5 GPA) despite the fact that most alternative programs exist to “attract talented individuals who were otherwise not choosing teaching.”

**TEACHER CENTERS**

Some states encourage individuals to enter the profession by creating teacher centers to guide prospective teachers through the steps of becoming a teacher and provide ongoing support during their careers. A current example is the Mississippi Teacher Center. As the center’s website explains, “If you are a teacher or want to become one, the Mississippi Teacher Center is for you. We encourage caring, committed individuals to teach and provide career-long support for a rewarding experience.” A link encouraging job-hunters to seek employment in geographic shortage areas and associated incentive options are featured prominently on the welcome page, as are details about scholarships, loan forgiveness, and other benefits.

---


certification, and licensure. This design is particularly relevant considering the state’s critical teacher shortages: roughly one in three districts in Mississippi, particularly in rural areas, are suffering from extensive teacher shortages.

According to documentation published by the Mississippi Department of Archives and History, the Mississippi Teacher Center is also involved in several statewide marketing and advertising efforts, including but not limited to:

- Connecting with service learning programs on higher education campuses to raise students’ awareness of teaching as a career
- Producing Teaching Professional Recruitment materials including a video, posters, brochures, displays, and materials to enhance Mississippi Teacher Center’s marketing strategies
- Extending a marketing campaign to state employment agencies in collaboration with the Mississippi Employment Security Commission
- Assisting teacher candidates at MS universities in finding employment by posting their curriculum vitae on the MS Teacher Center’s internet site and providing School Superintendents with access to students’ credentials

In other states, teacher centers only provide assistance to current teachers. In New York, for example, teacher centers “comprise a statewide network of professional development providers... organized and operated by teachers to improve their own educational performance.” These centers focus on helping current teachers develop technology skills, produce lessons plans and curricula, teaching critical thinking skills, and more.

**Evidence of Efficacy**

Limited evidence on the impact of teacher centers on teacher recruitment outcomes exists due to methodological challenges and flawed data collection. In California, for example, the final program evaluation published in 2003 by the Commission on Teaching Credentialing described the difficulty of evaluating the impact of California’s short-lived teacher center known as CalTeach. According to the evaluators, the number of teaching credentials issued, the number of people passing the California Basic Skills Education Test, and the number of people enrolled in teacher preparation programs in the state increased in 2000-01. However,

---

26 “Mississippi Teacher Center.” Mississippi Department of Education. http://www.mde.k12.ms.us/OTC
30 CalTeach received funding beginning in 1997, but was shuttered in the 2003-04 fiscal year.
determining if those increases were caused by CalTeach rather than other state initiatives or environmental factors was challenging:\(^3\)

The paucity of data from which to reach reliable conclusions about specific aspects of the CalTeach program at this time is, in large measure, due to the complexity of the task. While CalTeach is a teacher recruitment tool, its primary function is to provide individuals with accurate information about how to enter the teaching profession. Once the information dissemination has taken place, the individual must ultimately decide whether to pursue teaching. It is extremely difficult to understand the effects of a particular information dissemination effort on human behavior.

In Mississippi, a joint legislative committee observed that, although the goal of the teacher centers is to “attract qualified teachers to school districts... with special emphasis on geographic areas of the state where a critical teacher shortage exists,” existing data do not allow evaluators to determine if the centers are actually reaching that goal. According to the committee, the Mississippi Department of Education only tracks the number of teachers served by the center and the number of students who receive scholarships.\(^3\) They ask that, in the future, the Mississippi Department of Education report both output measures (e.g., the number of teachers served) and outcome measures (e.g., the impact of the program on recruitment).\(^3\)

**BEST PRACTICES**

Research on best practices in adopting and running teacher centers is also limited. However, evidence from policies, articles, and evaluations of teacher centers suggest that teacher centers may benefit from the two practices described in Figure 1.7.

![Figure 1.4: Best Practices in Teacher Centers](image)

Create and maintain a strong outreach program

Track data on outputs and outcomes

The first practice—creating and maintaining a strong outreach program—is important because teacher centers are intended to be highly-visible institutions. The Mississippi Teacher Center, for instance, was designed to share knowledge about teaching as a profession on

---


33 Ibid., p. 63.
college campuses, publicize job opportunities, and link job seekers with employers: all aims that require coordinated marketing and advertising efforts.\textsuperscript{34}

The second practice—tracking data on outputs and outcomes—is important because effective data tracking, although difficult, may allow researchers to determine if and to what extent teacher centers actually impact recruitment and perhaps answer questions such as: “Are certain teacher center activities more effective than others at improving overall teacher recruitment rates?” or “Do certain teacher center activities represent cost-effective ways to improve teacher recruitment rates?”\textsuperscript{35}

\textsuperscript{34} See, for example, “Goal One: Develop and Implement State Policies That Strengthen Licensing Standards,” Op. cit.

\textsuperscript{35} See, for example “Opportunities for Improving the Accountability of the Mississippi Department of Education,” Op. cit., p. 63.
SECTION II: LOCALLY-BASED PROGRAMS

The following section reviews several programs that counties and local school districts may implement to combat teacher shortages. Discussions of each program include information on best practices in design and/or implementation and, where possible, information on the program’s efficacy in improving outcomes relevant to teacher recruitment. Reviewed programs include:

- Financial incentives
- Grow-your-own programs
- Marketing initiatives

FINANCIAL INCENTIVES

Although local financial incentives may encourage some individuals to enter the teaching profession, most current incentive programs are targeted at inducing existing teachers to accept jobs they may not otherwise be inclined to accept. These programs encourage current teachers to transfer to other schools or fields (e.g., low-income schools, high-priority subjects, schools serving at-risk populations) by offering financial incentives, such as signing bonuses, increased salaries, or housing assistance. In their typology of financial incentive policies, researchers Kolbe and Strunk outline six key categories, presented in Figure 2.1. Several of these incentive categories may be applicable to both the state and local levels.36

---

**Figure 2.1: Six Financial Incentive Categories**

<table>
<thead>
<tr>
<th>INCENTIVE CATEGORY</th>
<th>EXAMPLE POLICY TYPES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary schedule modifications</td>
<td>▪ State-mandated minimum salary levels</td>
</tr>
<tr>
<td></td>
<td>▪ Across-the-board salary increases</td>
</tr>
<tr>
<td></td>
<td>▪ Alternative salary schedules</td>
</tr>
<tr>
<td></td>
<td>▪ “Frontloaded” or “backloaded” salary schedules</td>
</tr>
<tr>
<td>Salary enhancements</td>
<td>▪ Salary credits</td>
</tr>
<tr>
<td></td>
<td>▪ Additional pay for teaching in geographic or subject-shortage areas</td>
</tr>
<tr>
<td></td>
<td>▪ Additional pay for certifications or credentials</td>
</tr>
<tr>
<td></td>
<td>▪ Additional pay for extra responsibilities</td>
</tr>
<tr>
<td></td>
<td>▪ Tax waivers and credits</td>
</tr>
<tr>
<td></td>
<td>▪ Transportation subsidies</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>INCENTIVE CATEGORY</th>
<th>EXAMPLE POLICY TYPES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Limited duration incentives</strong></td>
<td>▪ Signing bonuses</td>
</tr>
<tr>
<td></td>
<td>▪ Relocation incentives</td>
</tr>
<tr>
<td></td>
<td>▪ Credential or certification bonus</td>
</tr>
<tr>
<td></td>
<td>▪ Performance-based rewards</td>
</tr>
<tr>
<td></td>
<td>▪ Loan forgiveness</td>
</tr>
<tr>
<td></td>
<td>▪ Home ownership assistance</td>
</tr>
<tr>
<td><strong>Education and training related incentives</strong></td>
<td>▪ Tuition subsidies and remission</td>
</tr>
<tr>
<td></td>
<td>▪ Pre-service teacher scholarships and stipends</td>
</tr>
<tr>
<td></td>
<td>▪ Alternative routes to teacher certification</td>
</tr>
<tr>
<td></td>
<td>▪ Tuition tax credits</td>
</tr>
<tr>
<td><strong>In-kind incentives</strong></td>
<td>▪ Housing assistance</td>
</tr>
<tr>
<td></td>
<td>▪ Subsidized meals</td>
</tr>
<tr>
<td></td>
<td>▪ Access to local amenities</td>
</tr>
<tr>
<td><strong>Retirement benefit waivers</strong></td>
<td>▪ Return-to-work policies</td>
</tr>
<tr>
<td></td>
<td>▪ Deferred retirement</td>
</tr>
</tbody>
</table>

Source: Kolbe and Strunk³⁷

Notably, evidence shows that school districts in California tend to offer financial incentives based on perceptions of teacher quality, not subject area or geographic location. In the study, “Differentiated Compensation: How California School Districts Use Economic Incentives to Target Teachers,” researchers Strunk and Zeehandelaar examined collective bargaining agreements from approximately 1,000 California school districts from the 2005-06 and 2008-09 school years to determine if school districts targeted financial incentives based on: 1) indicators of teacher quality, such as doctoral degrees 2) credentials in high-need subject areas, such as special education or mathematics, or 3) willingness to teach in high-need geographic areas. Ultimately, the researchers found that most school district incentives focus on “rough proxies for teacher quality” with one exception: school districts frequently offered incentives for teachers with bilingual/ESL credentials.³⁸ Hypothesizing about the causes underlying this finding, Strunk and Zeehandelaar observed that quality-related incentives represent “safe policies for districts” as “they are to some extent already ingrained in the salary schedule and show teachers who are loyal to the district or take steps to further their education that their efforts are appreciated.”³⁹

³⁹ Ibid., p. 288.
Evidence of Efficacy

A large body of research examines the impact of teacher compensation, but much of this research focuses on retention rather than recruitment. In a 2006 study published in *Review of Educational Research*, researchers Guarino, Santibanez, and Daley reviewed the empirical literature on teacher recruitment and retention published in high-quality scholarly publications and found that a substantial number of studies “offered evidence to suggest that teacher salaries were positively associated with retention.” These studies examined how compensation changes impacted teacher morale, as well as decisions to switch schools or leave the teaching profession altogether. Moreover, much of the research on compensation does not focus on impacts at the local level.

Of the research on local financial incentives that is available, the findings do suggest that financial incentives can increase the size and quality of teacher applicant pools in specific school districts. A 2013 Stanford School of Education policy brief by researchers Hough and Loeb investigated the impact of a local policy known as the Quality Teacher and Education Act of 2008 (QTEA) on teacher recruitment and retention at San Francisco Unified School District (SFUSD). Specifically, the QTEA policy provided:

- An overall salary increase of $500-$6,300, varying by placement on the salary schedule;
- A $2,000 bonus for teaching in a hard-to-staff school; and
- Retention bonuses of $2,500 after the 4th year of teaching and $3,000 after the 8th year of teaching

Overall, these financial incentives served to raise salaries at SFUSD substantially more than salary rises at neighboring school districts, such as Palo Alto Unified and San Jose Unified, during the same time period. However, in absolute terms, SFUSD salaries remained lower than they did in the highest-paying neighboring school districts, such as Palo Alto Unified.

Using nine years of SFUSD administrative data, Hough and Loeb determined that these salary gains increased the size and quality of the applicant pool. To measure the size of the applicant pool, the school district checked if teachers targeted by QTEA applied to SFUSD in larger numbers in the years following the introduction of the policy. Before QTEA, 27 percent of applicants to SFUSD were in targeted categories; after QTEA, 37 percent of applicants to SFUSD were in targeted categories, representing a significant change at the 95 percent confidence interval. “In other words,” Hough and Loeb explain, “after QTEA some applicants

---

41 Ibid., pp. 193–194.
43 Content taken verbatim from Ibid.
44 Ibid.
included SFUSD in their job search because they prefer districts with higher salaries and now consider SFUSD to be more competitive with higher-paying school districts.”

To measure the quality of the applicant pool, the researchers examined Mathematics and ELA standardized tests scores for students of QTEA hires, “controlling for students’ prior achievement and background characteristics.” On this measure, they found that QTEA hires raised student achievement more than a reference group in ELA, but not in Mathematics. This finding supported their initial hypothesis that by raising the school district’s appeal, QTEA would lead to an increase in high-quality new hires (see Figure 2.3).

**Figure 2.3: How QTEA Might Affect Teacher Quality**

![Diagram showing how QTEA might affect teacher quality](source: Hough and Loeb)

Notably, the finding that localized financial incentives increase teacher quality supports the findings of research completed on statewide financial incentives. According to Guarino, Santibanez, and Daley’s literature review, two studies suggest that increased compensation can positively impact the quality of new teachers:

- Figlio (2002) analyzed restricted data from the Schools and Staffing Survey and administrative data that linked districts in the 1987-1988 and 1993-1994 waves and found that districts that raised their salaries relative to other teaching salaries in their county increased the possibility of hiring new teachers (both first-time and experienced transfer teachers) from more selective undergraduate institutions and with college majors in their teaching field.

- Loeb and Page (2000) used Public Use Microdata Samples from the U.S. Census to construct state-level panels with 10-year intervals from 1960 through 1990 and found that high school dropout rates declined and college attendance rates increased in states that increased their teaching wages relative to the wages of college-educated women in other occupations.

---

46 Ibid., pp. 7–8.
47 Ibid., p. 4.
suggesting that raising relative salaries for teachers may promote teaching quality measured through student outcomes.

As seen in the SFUSD study, it is important to note that local financial incentives affect the local applicant pool by influencing where individuals already pursuing a teaching career choose to work. In fact, some evidence—much like Hough and Loeb’s study—suggests that teachers’ decisions about where to work can be heavily influenced by local salary considerations. One widely-cited Institute of Education Sciences (IES) study examined the impact of financial incentives on quality teacher recruitment and retention. The investigation focused on implementation of the Talent Transfer Initiative (TTI) in seven school districts over the 2009-2010 school year. After identifying top teachers in high-performing schools using a value added-model, TTI program officers contacted these teachers and offered them the chance to transfer to a low-performing school in their school district in exchange for $20,000 paid over a two-year period. The initiative also rewarded top teachers already working in under-performing schools, who were offered a $10,000 retention bonus paid over two years. Of the 1,000 effective teachers identified and 70 vacant positions, 63 teachers earned positions within TTI, demonstrating that talented teachers can be enticed to teach in low-performing, high-need schools by financial incentives. However, a large pool of candidates is needed to fill all vacancies.49

The researchers followed up with TTI teachers for three years. Ultimately, they found that, during the two-year payment period, teacher retention was 23 percentage points higher than average retention in the school district (93 versus 70 percent). However, once the payments stopped, TTI retention rates dropped to align with school district averages, demonstrating that certain financial incentives only may influence teacher’s school choices on a short-term basis.50

**BEST PRACTICES**

Research supports several best practices in the design and implementation of financial incentives for teaching positions (see Figure 2.4).

---


Figure 2.4: Best Practices in Financial Incentives

Tailor incentive policies to your district’s specific areas of need

Offer a portfolio of potential options to address candidates’ specific needs

Understand that financial incentives cannot completely compensate for working conditions

Sources: Center for American Progress, National Board for Professional Teaching Standards

Financial incentive policies are not one-size fits all: experts recommend that leaders tailor them to support school districts’ specific areas of need. Writing for the North Carolina Department of Public Instruction, researchers Hines and Mathis caution that initiatives like differential pay and teacher bonuses may fail “because they do not account for the differences between urban and rural school districts.”51 Likewise, researcher Monk cautions in a separate 2007 study that initiatives solely focused on ending teacher shortages in rural areas should be sensitive to the needs of “hard-to-staff” rural schools rather than viewing rural schools as a monolithic category.52 To account for these differences, school districts may wish to allow top-level managers to make decisions regarding which areas (i.e., geographic or subject) are difficult to staff, then give lower-level managers some discretion regarding how to distribute the incentives with different job applicants of varying skillsets.53

To consider which incentive types are the best fit for their school districts, leaders may want to consider some cross-sectional lessons from other fields where financial incentives are a popular recruitment tool. For example, the Center for American Progress contends that, of “education and training related incentives,” lessons from the medical field indicate that loan repayment may be more effective than scholarships in impacting recruitment “because candidates commit to them at the end of their schooling rather than at the beginning.”54 Moreover, offering a portfolio of financial incentives may be more effective than just offering one incentive. Doing so helps to account for the fact that specific candidates often have specific needs. Given these differences among individuals, a single incentive—even if well-designed—may not appeal to all candidates. School districts would not necessarily need to offer candidates multiple concurrent incentives, but rather offer candidates a choice among multiple incentives. As the Center for American Progress explains, “Policymakers in

54 Ibid., p. 13.
education might consider offering candidates and faculty in hard-to-staff positions a choice about the form of their incentive.”

School districts also should consider that financial incentive policies will not fully compensate for undesirable working conditions. Many studies on teacher recruitment, especially in high-need schools, indicate that monetary concerns are not the only, or even primary, factor in teachers’ employment decisions. Working conditions are also central to teachers’ decisions to move to or remain in high-need schools. A National Board for Professional Teaching Standards (NBPTS) survey of certified teachers conducted in 2005, for example, found that financial incentives alone are not sufficient to entice teachers to high-need schools. Teachers also value factors such as quality leadership, positive staff relationships, and supportive parents. Similarly, a qualitative, interview-based study of teachers in a preparation program found that “small increments of additional salary did not appear as important as other job characteristics in making jobs attractive,” such as the principal-teacher relationship and school resources.

GROW-YOUR-OWN PROGRAMS

Some school districts may encourage individuals to enter the teaching profession by creating “grow-your-own programs” that enable students and non-credentialed staff to obtain a teaching credential. Ideally, participants in grow-your-own programs are local and, therefore, more likely to prefer the geographic area than other applicants. This hypothesis is backed by research: a 2000 meta-analysis examining four teacher recruitment and retention programs used in the United States found a strong positive correlation between “location of current teaching position and location of hometown, high school, or college.” Overall, it appears that teachers with prior experience living in specific areas already know to what extent they enjoy the associated lifestyle. For example, teachers who grew up in rural areas reported that they also enjoyed the features of rural life as adults, such as more parental involvement and less crime.

Grow-your-own programs may be targeted at one or multiple groups, as in Oakland Unified School District (OUSD)’s grow-your-own initiative. Known as Teach Tomorrow Oakland (TTO), OUSD’s program works to identify and recruit local individuals, such as high school students, mid-career professionals, and educational para-professionals, who are willing to make a five-

---

55 Ibid., p. 23.
59 Ibid., p. 9.
year commitment to the school district. Participants receive financial assistance—for example, the school district pays for testing fees—and continual support throughout their time as teachers. According to the program manager, candidates “actually live in Oakland and want to teach where they live. We’re not looking nationally. We’re not interested in bringing folks in.”

Grow-your-own programs also may involve collaborations with local colleges and universities. In Washington, Highline School District implemented a school district-run grow-your-own program in 2003 in partnership with a local higher education institution, Pacific Lutheran University. The program was designed to provide school district para-professionals and non-professionals—many of whom are immigrant parents of local students—with the experience necessary to become fully-certified teachers.

These programs are also closely linked with efforts to improve teacher diversity. In Minnesota, for example, some school districts instituted grow-your-own programs in response to a statewide report indicating that only four percent of all teachers were non-white. Minneapolis Public Schools (MPS) partnered with the University of Minnesota and the Minneapolis Federation of Teachers to implement a program in which professionals with four-year degrees—more than one-third of whom are people of color—“would undergo a year of intense classroom training and coursework and would receive a $24,000 stipend from the district.”

**Evidence of Efficacy**

Evidence on the efficacy of local grow-your-own programs in improving teacher recruitment is limited. However, the research available suggests that they may be successful. OUSD’s grow-your-own program, for example, appears to be highly successful at retaining teachers once identified: In 2011, TTO had a retention rate of 94 percent. Likewise, a grow-your-own program at Broward County Public Schools in Florida prepared approximately 360 teacher interns over six years, with a retention rate of 90 percent. The program, which partners with Florida Atlantic University and Broward Community College, places promising high school students in the Urban Teachers Academies Program (UTAP) and provides them with instructional training and support. Because of the program’s success in training and placing teachers, it was subsequently chosen as the grow-your-own model for seven schools.

---

interested in beginning similar initiatives. Finally, Omaha Public Schools’ Minority Intern Program (MIP), which began identifying and preparing students of color at the University of Nebraska at Omaha for teaching careers in 1985 in response to a shortage of minority teachers, has recruited 90 percent of all participants as school district teachers. Once hired, participants tend to stay with the school district. According to an article published in the *Delta Kappa Gamma Bulletin*, “52 of the 66 MIP graduates hired between August 1988 and May 1998 are still working in Omaha Public Schools [as of 2000].”

**BEST PRACTICES**

Research on best practices in adopting and running grow-your-own-programs is limited. However, evidence from policies, articles, and evaluations of grow-your-own programs suggest that they may benefit from the three practices described in Figure 2.6.

**Figure 2.6: Best Practices in Grow-Your-Own Programs**

- Determine your audience (e.g., students, para-professionals)
- Consider consequences for participant attrition
- Create high-quality mentorships and advisorships

One of the first steps to establishing grow-your-own programs is determining who can participate. The local grow-your-own programs discussed in this report, for example, targeted varying groups in the local population. Some school districts, like Broward County Public Schools, focused on identifying talented secondary students, whereas others, like Minneapolis Public Schools, focused on identifying talented school district para-professionals. The needs of each group vary: for example, high school students may need continual academic support as they pursue higher education, whereas para-professionals may need continual transition support as they work to change careers.

Grow-your-own program leaders also will need to consider the consequences of participant attrition, particularly if the program provides significant financial support. In this sense,

---


“attrition” may include a participant’s decision not to pursue teaching at all as well as not to pursue teaching with their sponsoring school district. To school districts like Broward County Public Schools, whose grow-your-own program raises awareness and interest in teaching careers among high school students, the severe financial consequences of attrition run counter to the program’s stated goals. As the school district superintendent describes, “The key is that at the end of the time of the scholarship we want them to go into teaching, so they're required to take education courses. But the worst thing you can do is to force somebody into teaching.”

Finally, program leaders should ensure that the program includes high-quality mentorships. These mentorships can help participants stay engaged and encouraged as they work to become certified teachers. In Omaha Public Schools’ MIP, for example, advisors reported helping students process negative stereotypes about teachers, discuss student discipline programs, and manage heavy workloads. To do so, they actively contacted interns by phone “just to talk,” encouraged drop-in visits, and informed interns about additional opportunities that could further support their professional goals.

**MARKETING INITIATIVES**

Some school districts may encourage individuals to enter the teaching profession by implementing marketing initiatives designed to increase interest and share knowledge about teaching positions. Documents published by school districts indicate that many consider marketing to be an integral part of their hiring strategies. District of Columbia Public Schools (DCPS), for example, hosts a website completely dedicated to recruiting: www.joindcpublicschools.com. The website encourages visitors to “teach, lead, and build” and appeals to a sense of agency and values, asking, “We’re on a mission: to defy expectations about what urban schools and students can achieve and to make DCPS a model for public education nationwide. What role will you play?” Marketing may constitute a stand-alone recruiting initiative or support other recruiting initiatives, such as grow-your-own programs and teacher centers. CalTeach teacher centers, for instance, instituted large media campaigns operated by professional media consultants “to encourage interest in the teaching profession and to better inform individuals about various pathways and requirements to becoming a teacher in California.”

**EVIDENCE OF EFFICACY**

Unfortunately, very little empirical evidence measures the impact of marketing initiatives on teacher recruitment outcomes, such as the number or quality of teachers recruited.

---

68 See, for example Fluckiger and Thompson, Op. cit.
71 “Teacher Recruitment and Selection.” District of Columbia Public Schools.
   http://dccouncil.us/files/userUploads/budget_responses/Q19_Attachment_DCPS_Teacher_Recruitment_and_Selection.pdf
Developing a uniform methodology for measuring outcomes would be a significant step toward being able to determine the efficacy of marketing initiatives.

**BEST PRACTICES**

The literature supports several best practices in the design and implementation of marketing initiatives (see Figure 2.8).

**Figure 2.8: Best Practices in Marketing**

- Advertise “the best true story”
- Emphasize the value of prospective employees
- Review the information your district presents on multiple platforms

**Marketing efforts should advertise “the best true story.”** In other words, they should truthfully describe unique and important aspects of working as a teacher that may be attractive to some applicants.73 Research indicates that many hard-to-staff schools do not adequately market potentially-appealing aspects of their institutional culture and environment. In the 2012 *Rural Educator* study “How do We Get Them on the Farm?,” researchers Maranto and Shuls examined the websites of geographic shortage districts (GSDs) in Arkansas to investigate to what extent the school districts used “materialistic and non-materialistic recruitment incentives in the recruitment of teachers.” 74 Materialistic incentives included salary and benefits, whereas non-materialistic incentives included public service, classroom autonomy, advancement opportunities, professional growth, collegial, teamwork-driven environments, and results-driven organization.75

Overall, Maranto and Shuls found that GSDs’ websites were “woefully inadequate” at addressing both materialistic and non-materialistic incentives (see Figure 2.9).

**Figure 2.9: Recruitment Incentives Displayed on GSD Websites**

<table>
<thead>
<tr>
<th>CONTENT AREA</th>
<th>PERCENT OF GSD WEBSITES DISPLAYING INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td>26%</td>
</tr>
<tr>
<td>Benefits</td>
<td>7%</td>
</tr>
<tr>
<td>Teamwork</td>
<td>4%</td>
</tr>
<tr>
<td>Professional Growth</td>
<td>0%</td>
</tr>
<tr>
<td>Public Service</td>
<td>0%</td>
</tr>
</tbody>
</table>

75 Ibid., p. 6.
<table>
<thead>
<tr>
<th>CONTENT AREA</th>
<th>PERCENT OF GSD WEBSITES DISPLAYING INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovate</td>
<td>0%</td>
</tr>
<tr>
<td>Results Driven</td>
<td>0%</td>
</tr>
<tr>
<td>Advancement</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Maranto and Shuls

To emphasize their findings, Maranto and Shuls compared information on GSD websites to information available on a KIPP charter website and noted, “There was more information in this one paragraph about teaching at KIPP than in the combined total of all 53 GSD websites. If the GSDs are in need of teachers, it is hard to tell from the recruitment information on their websites.”

To address this dearth of information, the researchers recommend that school districts a) have a separate and easily-identifiable space on their websites for teacher recruitment and b) market the potential advantages of school district employment.

Research on best practices in attracting under-represented talent in other industries suggests that school districts should emphasize the value of prospective employees. As a 2006 Personnel Psychology article succinctly notes, “minorities seek workplaces wherein their competency rather than their salient characteristics determines their outcomes.” Consequently, school districts looking to increase the number of educators of color should emphasize their belief that teachers with diverse backgrounds enhance the school district and will be valued. In doing so, however, leaders also must ensure that school district policies and practices accurately reflect claims made during the hiring process.

Finally, leaders may wish to review existing marketing initiatives to determine to what extent they align with platform-specific best practices. A guide to email and social media marketing for teacher recruitment created by TeacherMatch, a teacher hiring and onboarding provider founded by K-12 educators, advises school districts to design recruitment emails that have five central characteristics:

- visible school district name
- description of the opportunities available
- description of required experience and credentials
- description of material and/or non-material school district benefits; and
- explicit information about next steps

---

77 Ibid., p. 9.
78 Ibid., pp. 10–11.
When posting on social media, such as Facebook, Twitter, or LinkedIn, TeacherMatch advises school districts to confirm who controls online content, ensure that all postings are current, refrain from making statements that readers may casually interpret as employment offers, and use current employees as referral resources. Current employees, TeacherMatch notes, are a school district’s “biggest resource,” as they can provide leads on potential candidates and help to spread the word about the school district.\footnote{Ibid., pp. 14, 15.}

Regardless of method, it is important to consider that stakeholders may criticize marketing initiatives they believe are too expensive, particularly in times of economic stress. In 2001, the New York City chancellor of schools received considerable censure after releasing a plan to spend $16 million on a teacher recruitment campaign. Critics felt the plan was in poor taste considering teachers’ low salaries and lack of support once hired, while the chancellor argued that the money was needed to fill 12,000 empty teaching positions.\footnote{Goodnough, A. “Ad Campaign to Recruit Teachers Draws Fire.” The New York Times, February 17, 2001. http://www.nytimes.com/2001/02/17/nyregion/ad-campaign-to-recruit-teachers-draws-fire.html}
PROJECT EVALUATION FORM

Hanover Research is committed to providing a work product that meets or exceeds client expectations. In keeping with that goal, we would like to hear your opinions regarding our reports. Feedback is critically important and serves as the strongest mechanism by which we tailor our research to your organization. When you have had a chance to evaluate this report, please take a moment to fill out the following questionnaire.


CAVEAT

The publisher and authors have used their best efforts in preparing this brief. The publisher and authors make no representations or warranties with respect to the accuracy or completeness of the contents of this brief and specifically disclaim any implied warranties of fitness for a particular purpose. There are no warranties that extend beyond the descriptions contained in this paragraph. No warranty may be created or extended by representatives of Hanover Research or its marketing materials. The accuracy and completeness of the information provided herein and the opinions stated herein are not guaranteed or warranted to produce any particular results, and the advice and strategies contained herein may not be suitable for every client. Neither the publisher nor the authors shall be liable for any loss of profit or any other commercial damages, including but not limited to special, incidental, consequential, or other damages. Moreover, Hanover Research is not engaged in rendering legal, accounting, or other professional services. Clients requiring such services are advised to consult an appropriate professional.