



# The Federal Role in Ending Teacher Shortages

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# Executive Summary

Teacher shortages have reentered the national consciousness in a major way, as quarantines and the intense stresses created by the COVID-19 pandemic drained teaching staffs, causing some schools to close temporarily for lack of staff. According to the U.S. Department of Education, all 50 states reported shortages in more than one area for the 2022–23 school year. Among them were especially widespread shortages of special education teachers, science teachers, and math teachers. The National Center for Education Statistics reported that nearly half of all U.S. schools were experiencing shortages. And in 2020–21, more than one third (34%) of newly entering teachers were not certified for their assignments—a reflection of shortages, since state rules allow such teachers to be hired only if fully qualified individuals cannot be found.

To handle the shortages, schools have increased class sizes, canceled course offerings, added duties to the responsibilities of existing teachers, and hired underqualified individuals to fill the positions—all of which undermine students' learning. At a time when the nation is necessarily focused on learning recovery for students impacted by the pandemic, resolving shortages should be a national education priority.

Overall, professional teaching conditions in the United States compare poorly with those of high-achieving countries where teachers are better prepared, better paid, and better supported throughout their careers. As a consequence, they are more likely to stay in the profession for an entire career. Much higher attrition rates for U.S. teachers are a function of dissatisfactions with teaching, ranging from salaries and working conditions to lack of decision-making input. Attrition, in turn, is a huge driver of teacher shortages, as roughly 9 of 10 teachers hired each year are replacing colleagues who left, most for reasons other than retirement.

U.S. teaching conditions today are rooted in the factory-model school structures designed a century ago and reinforced in recent years, including heavy workloads; school schedules offering little time for relationship building with students and families or for collaboration with other teachers; standardized curriculum that fails to meet the needs of diverse learners; extensive testing; and the hiring of teachers with little training who come and go quickly, adding to staff instability and depressing student achievement.

Recent shortages related to the pandemic and associated impacts have called attention to the intensity of teachers' struggle for professional status and teaching conditions at a time when there is also recognition of the need to change learning conditions for students. The moment may be ripe for the set of transformations needed to develop a much stronger education profession in this country. The United States needs a nationwide Marshall Plan for teaching, similar to that enacted after World War II to rebuild Europe, but for rebuilding the teaching profession. A Marshall Plan for teaching should focus the powers of the federal government on supporting recruitment, preparation, support, and retention in teaching in seven key areas:

1. **Increase educators' net compensation through tax credits, housing subsidies, and salary incentives.** A substantial body of research demonstrates that teachers' wages affect the quality of those who choose to enter the teaching profession and how long they stay once they get in.

Although teacher salaries are determined at the state or local levels, leaving a limited role for the federal government in determining compensation, there are nonetheless a few powerful actions that the federal government could take to increase educators' bottom-line finances. Federal actions could include offering incentives to states and districts to raise and equalize salaries, providing refundable tax credits and/or housing subsidies to early childhood and K-12 educators, and offering financial aid to eliminate education debt, as noted below.

- 2. Strengthen recruitment by making teacher preparation debt-free.** College debt influences entry and retention in teaching, as well as teacher diversity. A Marshall Plan for teaching would enhance compensation and strengthen recruitment by expanding service scholarships and loan forgiveness programs to fully cover the cost of comprehensive preparation at the undergraduate and graduate levels. Because fully prepared novices are less than half as likely to leave teaching after the first year compared to those who lack student teaching and other key elements of training, shortages caused by annual churn could be reduced if districts could hire better-prepared teachers.

While the federal government offers some such programs, they have dwindled in value over time and are inadequate to meet recruitment needs, given the debt students must accrue to enter teaching and the lower salaries teachers can currently expect to earn in relation to other fields requiring a college education.

To address the challenge of the rising costs of higher education and student loan debt, there are a number of steps the federal government could take to fully cover the cost of teacher preparation, with a focus on those teachers preparing to teach in a high-need field and/or high-need school who agree to stay in teaching for several years. The federal government could completely cover teachers' monthly federal student loan payments while they are teaching and retire their debt after a set number of years that aligns with their service commitment. Congress could increase the size of the nation's teacher service scholarship, the TEACH grant, to better align with the full cost of teacher preparation and reform the loan conversion penalty. The federal government could also leverage broad-based workforce "learn and earn" (e.g., registered apprenticeships) and national service programs to help educators afford comprehensive preparation.

- 3. Support improved preparation by expanding high-retention pathways into teaching.** Teachers' effectiveness and likelihood of staying in teaching are both strongly influenced by the quality of preparation they receive. As the federal government does in medicine, a Marshall Plan for teaching could support the expansion of improved preparation models that ensure teachers are well enough prepared to stay and be effective in the profession, including residency programs, Grow Your Own programs, and other pathways shown to retain teachers, as well as teaching partnership schools that function like teaching hospitals. Congress could provide robust and sustained investment in programs such as the Teacher Quality Partnership program, the Individuals with Disabilities Education Act personnel preparation provisions, and the Augustus F. Hawkins Centers of Excellence (Hawkins) Program that builds the capacity of historically Black colleges and universities, tribal colleges and universities, and

minority-serving institutions of higher education to prepare teachers. These programs together only received approximately \$240 million from the federal government in fiscal year 2023, a fraction of what some individual states have invested. Federal policymakers can work to ensure that annual funding measures include substantially increased investments in high-retention pathways into the profession and that funding encourages states to create an infrastructure for stronger program models.

4. **Provide high-quality mentoring for all beginning teachers.** Research shows that new teachers who receive little mentoring are twice as likely to leave the classroom as those who are well-mentored by expert veterans and receive induction supports. However, according to analysis conducted in 2016, only 16 states have dedicated funding for teacher induction programs. Novice teachers are disproportionately concentrated in schools serving students from low-income families and students of color, leaving already under-resourced schools bearing the financial and staffing burden of supporting large numbers of new teachers. To make high-quality mentoring and induction more broadly available, especially in under-resourced districts and schools, the federal government could create a program to provide matching grants to states and districts that implement research-based induction programs.
5. **Increase investments that enable educators to expand and share expertise.** Research shows that teachers become more effective and are more likely to stay in the profession if they can continue learning in collegial environments and if they can share their skills and expertise with others. Investments to expand and share educator expertise should be designed to strengthen professional development for all educators, ensuring that it is readily available, content-rich, collaborative, and job-embedded. More robust funding for Title II-A and Title III of the Elementary and Secondary Education Act, which fund educator training and development, could support high-quality professional learning and collaboration opportunities. In addition, federal incentives can focus on helping states attract and retain expert, experienced teachers—such as those certified by the National Board for Professional Teaching Standards—who can provide teaching and mentoring in high-need schools and subjects.
6. **Incentivize the redesign of schools to support teaching and learning.** Teachers stay in environments where they feel they can be successful with students—which requires the redesign of schools so that they can support strong relationships between and among students, educators, and families and can personalize education in ways that allow students to succeed. Federal investments could encourage schools to break free of the factory model and launch 21st-century approaches to education that support better teaching and learning. This might take the form of programs such as the federal Smaller Learning Communities Program previously authorized under both the Improving America’s Schools Act and the No Child Left Behind Act. Congress could also update and more robustly fund the Full-Service Community Schools Program so that it effects systemic change and its benefits are more widely felt.

7. **Rethink school accountability.** Finally, a new approach to education improvement in a reauthorized Elementary and Secondary Education Act (currently called the Every Student Succeeds Act) would center measures of school progress around authentic measures of school quality and equity that inform improvement, rather than around punitive metrics that make it more difficult to recruit and retain teachers willing to work in the highest-need schools.

The federal government could also take a holistic approach to addressing the seven areas above by substantially increasing state- and district-level Title I allocations—which are distributed based on student poverty levels—for the purpose of building systems to recruit, prepare, support, and retain a strong, stable, and diverse teacher workforce.

# Introduction

Teacher shortages reentered the national consciousness in a major way in 2021, as quarantines and the intense stresses created by the COVID-19 pandemic drained teaching staffs, causing some schools to close temporarily for lack of staff. As West Virginia teacher Samantha Twohig explained, “People are just exhausted. We’ve seen more teachers retire in the first semester than we had in my entire time here.”<sup>1</sup>

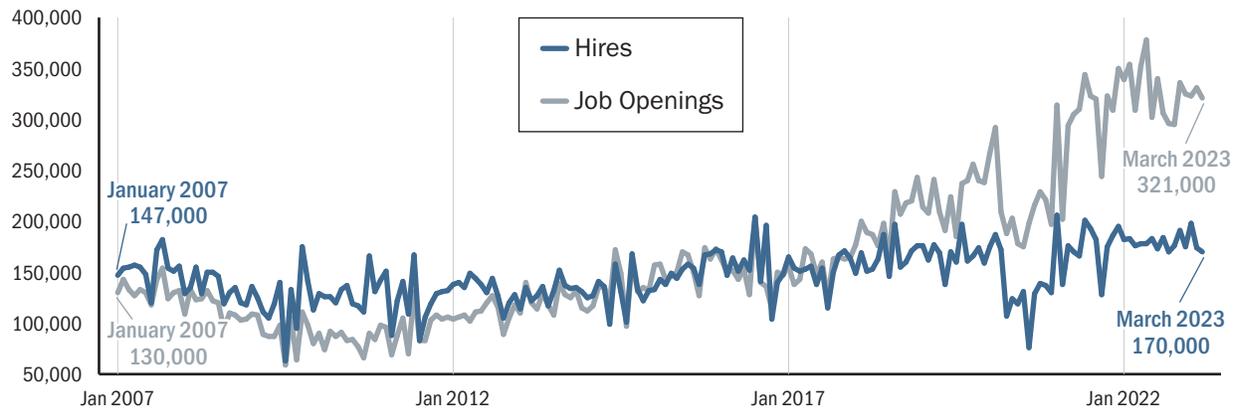
Confirming this view, a national survey of teachers in January 2022 reported that 90% had experienced burnout: 74% had filled in for colleagues or taken on other duties due to staff shortages, and more than 55% planned to leave education sooner than originally planned.<sup>2</sup> According to a RAND survey conducted in winter 2022, district leaders reported a 4 percentage point increase in turnover in 2021–22 compared to the previous school year, corresponding to roughly 114,000 more teachers leaving nationally.<sup>3</sup> Trends in at least eight states with annual turnover data suggest that turnover between the 2021–22 and 2022–23 school years was at its highest point in at least 5 years.<sup>4</sup> As we describe below, pandemic stresses were but part of the story: Stagnating wages and challenging working conditions have also been important factors.

In New Mexico, Governor Michelle Lujan Grisham sent in members of the National Guard to serve as substitute teachers and spent a day serving as a substitute herself before persuading the legislature to raise minimum salaries for teachers by \$10,000, while guaranteeing a 7% raise for all school employees. Mississippi teachers received the largest pay increase they have ever seen—about \$5,100 on average—and other salary boosts occurred across the country.<sup>5</sup> But most of these barely returned teachers to their wage levels at the start of the Great Recession in 2008, when budget cuts created teacher layoffs across the country while class sizes grew and working conditions worsened.

As schools reopened their doors for the 2022–23 school year, news headlines across the country highlighted even deeper challenges.<sup>6</sup> The National Center for Education Statistics reported that nearly half of all U.S. schools were experiencing teacher shortages.<sup>7</sup> A 2023 Learning Policy Institute analysis of the most recent data from state education agencies found that more than 300,000 vacancies were unfilled or filled by uncertified teachers.<sup>8</sup> This shortfall is nearly triple the level found just 5 years earlier in a similar analysis of state-level data, suggesting a worsening of shortages over that period of time.<sup>9</sup>

Data from the Bureau of Labor Statistics reinforce this evidence. These data show that the ratio of hires to job openings in public education dropped from close to 1:1 during most of the period from 2007 to 2017 to only .52 to 1 by March 2023. In other words, only about half the employees sought in public education were actually able to be hired. (See Figure 1.)

**Figure 1. Hires and Job Openings in Public Education, 2007 to Present**



Source: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey (JOLTS), data available at <https://www.bls.gov/jlt/> (accessed 07/06/23). Data are seasonally adjusted. Analysis by National Education Association.

According to the U.S. Department of Education, all 50 states reported shortages in more than one area for the 2022–23 school year: Among them are especially widespread shortages of special education teachers (48 states), science teachers (46 states), and math teachers (44 states). Half of states reported shortages of English as a Second Language or bilingual education teachers, largely those states that serve the greatest share of English learners.<sup>10</sup> While teacher shortages are not felt uniformly across all subjects and communities—since salaries and working conditions differ, as do sources of supply<sup>11</sup>—in most states, shortages disproportionately impact schools serving high concentrations of students of color and those from low-income families in both urban and rural schools.<sup>12</sup>

To handle the shortages, schools have increased class sizes, canceled course offerings, added duties to the responsibilities of existing teachers, and hired underqualified individuals to fill the positions.<sup>13</sup> In 2020–21, for example, more than one third (34%) of newly entering teachers were not certified for their assignments—a reflection of shortages, since state rules allow such teachers to be hired only if fully qualified individuals cannot be found.<sup>14</sup>

None of these options are good for students' learning. Research finds that individuals who enter teaching without having completed preparation—either through emergency permits or alternative pathways—are typically less effective<sup>15</sup> and have significantly higher turnover rates,<sup>16</sup> which both harm student achievement and create churn that exacerbates shortages.<sup>17</sup> Research also finds that teacher quality is the most important in-school factor affecting student learning,<sup>18</sup> and the percentage of underprepared teachers in a district is strongly and negatively associated with student achievement, especially for historically underserved students of color.<sup>19</sup>

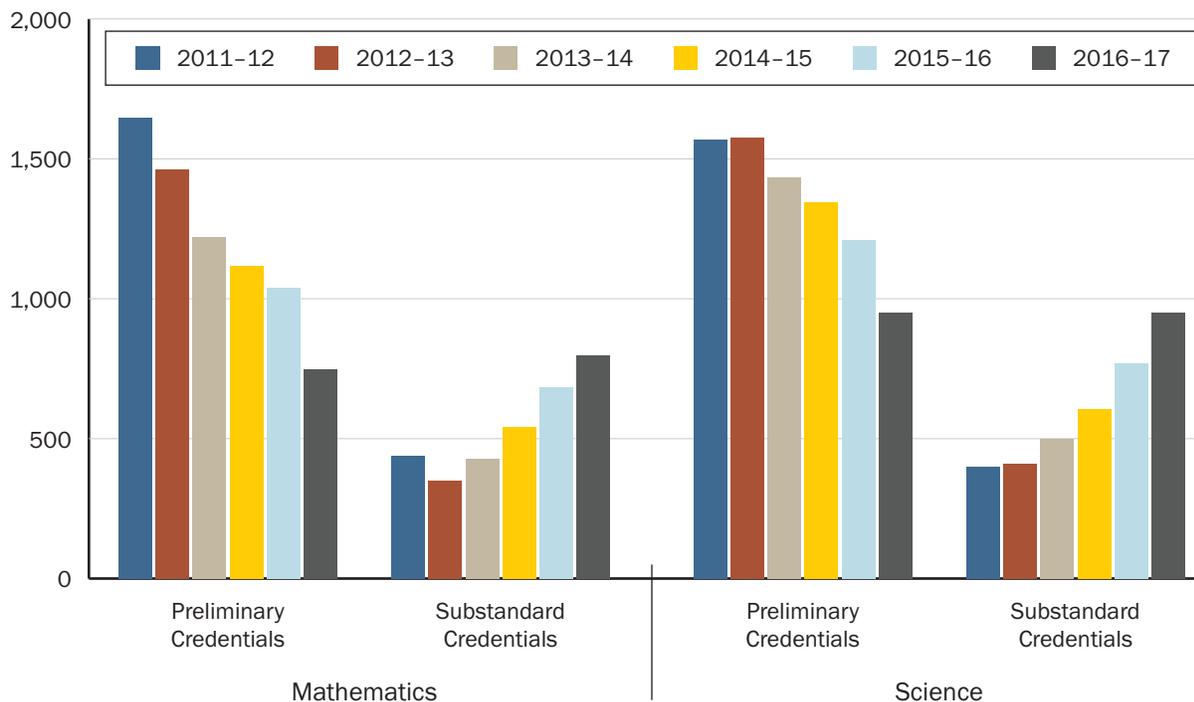
A vivid example of the teacher shortage problem and its damaging impact can be seen in California, where teacher shortages in math and science have been particularly severe, given the large salary differentials between teachers and workers in other science, technology, engineering, and mathematics professions. Because teachers are in short supply, about half of new math and science teachers in California over many years have entered the classroom without having completed preparation to teach their subjects.<sup>20</sup>

A 2018 study found that in math, the number of new fully prepared teachers (those holding preliminary credentials<sup>21</sup>) had decreased by 50% over the previous 6 years (2012–2017), while the number of new teachers holding substandard credentials—issued to recruits lacking subject matter or pedagogical preparation—increased by more than 80% in the same period. In science, the number of recruits holding substandard credentials more than doubled as the number of prepared entrants declined. (See Figure 2.) Shortages in these STEM fields undermine student access to advanced courses, with workforce implications affecting California’s role as a global technology and innovation leader.

But the problem is hardly unique to California. The extent of current national shortages is reflected in the fact that, in 2020–21, 37% of new math teachers and 48% of new science teachers were not certified when they entered public school teaching.<sup>22</sup> Meanwhile, the latest federal data suggest that more than 36,000 math and science teachers (roughly 7%) across the nation are not fully certified,<sup>23</sup> and many schools, especially in communities of color, do not offer advanced courses in math and science.<sup>24</sup>

**Figure 2. California Math and Science Teacher Supply**

Preliminary and substandard credentials issued, 2011–12 to 2016–17

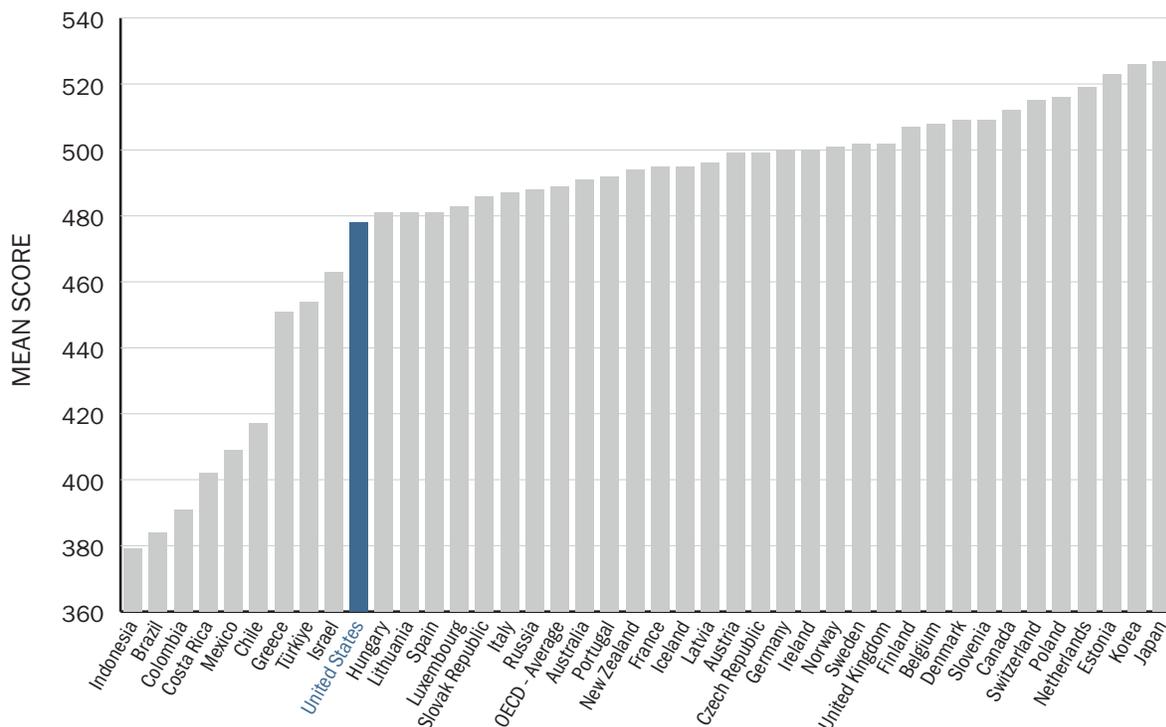


Note: Credential data exclude out-of-state credentials.

Source: Darling-Hammond, L., Sutchter, L., & Carver-Thomas, D. (2018). *Teacher shortages in California: Status, sources, and potential solutions*. Stanford University. [https://gettingdowntofacts.com/sites/default/files/2018-09/GDTFII\\_Report\\_Darling-Hammond.pdf](https://gettingdowntofacts.com/sites/default/files/2018-09/GDTFII_Report_Darling-Hammond.pdf)

With shortages of math and science teachers a recurring phenomenon since at least the 1950s, it should not be surprising that U.S. performance on international assessments has dropped in these subject areas over recent decades, and the United States now ranks 31st in the world in mathematics, just above Lithuania, and far behind leaders Japan and Korea. (See Figure 3.)

**Figure 3. Mathematics Performance on the Programme for International Student Assessment (PISA), 2018**



Source: Organisation for Economic Co-operation and Development. (2023). Mathematics performance (PISA) [Indicator]. <https://doi.org/10.1787/04711c74-en> (accessed 07/15/23).

Continuing to solve shortages by reducing course access and hiring underprepared teachers is especially counterproductive as students are still suffering from the educational effects of the pandemic and need to accelerate their learning. The results of the 2022 National Assessment of Educational Progress (NAEP) showed that the current cohort of 4th- and 8th-grade students scored noticeably lower, on average, than students in those grade levels in 2019, with the drops being particularly large in math. Peggy Carr, Commissioner of the National Center for Education Statistics, which issued the report, described the results as “almost two decades of educational progress washed away.”<sup>25</sup>

An additional analysis by researchers at Stanford and Harvard linked these data to state testing data in every district across the country, finding that the *average* U.S. public school student in grades 3–8 in 2022 lagged students in 2019 by the equivalent of a half year of learning in math and a quarter of a year in reading. Test scores generally declined more in school districts serving students from lower-income families than in those serving more affluent families.<sup>26</sup> To meet these needs students will require high-quality teaching more than ever before.

At a time when the nation is necessarily focused on learning recovery for students impacted by the pandemic, it is clear that resolving teacher shortages should be a key national education priority.

# The Nature of the Problem

## Déjà Vu All Over Again

Unfortunately, the story of teacher shortages is not new: The nation has been in a recurring cycle of teacher shortages for at least the past 50 years. In the 1960s and 1970s, when shortages emerged as the baby boom was making its way through school, the federal government stepped up with multiple strategies to address school needs. Presidents John Kennedy and Lyndon Johnson expanded the National Defense and Education Act (NDEA) teacher loan repayments initially launched by President Dwight Eisenhower. Tens of thousands of recent college graduates received loan forgiveness through the NDEA based on their service as a teacher, and they received forgiveness even more quickly if they served in a high-poverty school district.<sup>27</sup> This investment, along with the Urban Teacher Corps, federal funding for Master of Arts in Teaching programs, and other college financial aid programs, temporarily ended shortages during the 1970s.

But virtually all those programs—as well as the investments in low-income households, communities, and school systems championed by President Johnson during his War on Poverty—were dramatically reduced or discontinued during the Reagan administration. Teacher shortages returned. In 1984, the RAND Corporation published a report called *The Coming Crisis in Teaching*, documenting the reemergence of shortages.<sup>28</sup> Things improved briefly in the 1990s, when federal and state governments invested in teacher preparation, mentoring, and development programs, and teacher salaries increased to nearly reach those of other college graduates in the early years of the decade.<sup>29</sup> But policy and financial supports for teachers declined again in the early 2000s. As salaries dropped and shortages reemerged, the only teacher policy advanced by the George W. Bush administration was to expand alternative certification, recruiting underprepared teachers by lowering standards rather than enhancing incentives to enter the profession. During the Great Recession, which resulted in large-scale cuts to education across the country, salaries were frozen and supports for preparation and mentoring programs were once again eliminated by many states.

In 2016, as shortages occurred again, the Learning Policy Institute published another report on a coming crisis in teaching. In that report, we estimated that U.S. schools would be short 100,000 qualified teachers by 2017–18 if policy trends did not change significantly.<sup>30</sup> This estimate proved remarkably accurate. A later review of state teacher workforce reports<sup>31</sup> revealed that more than 100,000 positions were left vacant or filled with uncertified teachers in the 2017–18 academic year.<sup>32</sup> By 2022, the number of positions left vacant or filled with uncertified teachers reached nearly 200,000.<sup>33</sup> By 2023, that number had reached over 300,000.<sup>34</sup>

Because of these shortages, about 27% of candidates being prepared in 2020 were already teaching before they had completed their training through alternative certification programs.<sup>35</sup> In addition, many teachers have been entering the profession on emergency credentials or without any certification at all, assigned disproportionately to the highest-need students in the lowest-income schools.<sup>36</sup> In California, for example, about 42% of new teachers were hired on substandard credentials or emergency-type permits in 2021–22,<sup>37</sup> and in Texas the share of new teachers on substandard credentials or with no credential at all reached 57% in that year.<sup>38</sup> Not only are these teachers less effective, but they leave at 2 to 3 times the rate of fully prepared teachers—and they create a rationale for the top-down mandates

and teacher-proof reforms that drive many educators out of the profession.<sup>39</sup> Beyond the dysfunctions this introduces into the labor market, this strategy for addressing shortages undermines stability and curriculum opportunities for students, widening opportunity and achievement gaps between advantaged and disadvantaged communities.

## The Condition of Teaching in the United States

Shortages are just one symptom of how teaching has struggled to be recognized and treated as a profession throughout most of U.S. history. Overall, teaching conditions in the United States compare poorly with those of other industrialized countries, especially those that are highest achieving. Unlike teachers in many European and Asian countries, whose salaries are, on average, comparable to those of other college graduates, U.S. teachers in 2021 earned only 77% of what other college graduates earned, even after adjusting for differences in the work year.<sup>40</sup> The U.S. Census Bureau noted in 2022 that the differentials have grown even larger for the more than half of teachers who hold a graduate degree, and they expand throughout their careers (see Table 1):

Although teachers are among the nation’s most educated workers, they earn far less on average than most other highly educated workers and their earnings have declined since 2010. ... The drop in earnings of elementary and middle school teachers is one of the largest among occupations with similar education. ... Pursuing a higher education degree is a substantial investment, and the data show that the return on that investment is lower for teachers.<sup>41</sup>

**Table 1. Median Earnings of Select Occupations by Worker Age, 2019**

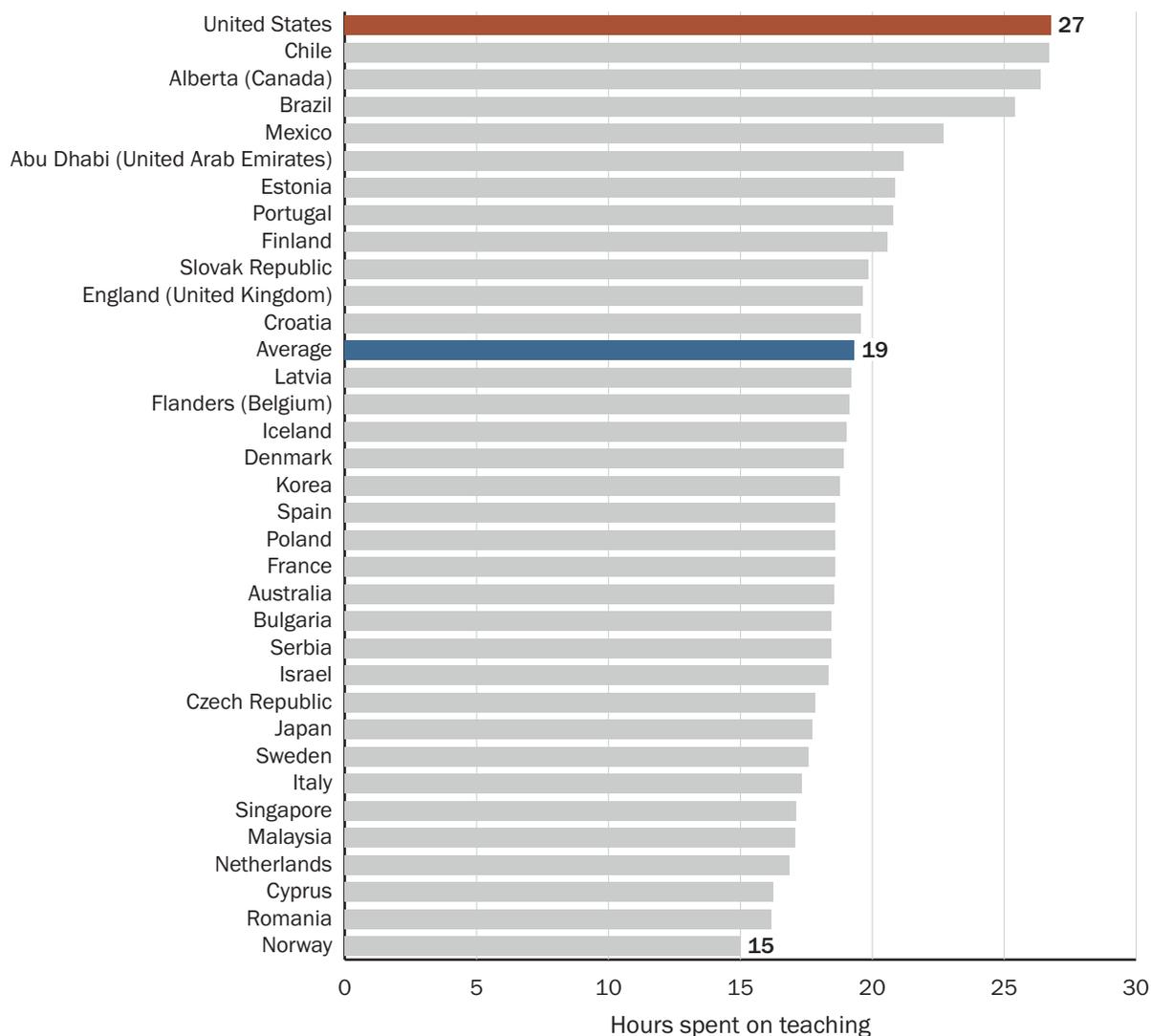
Occupation	Median earnings per year	
	Ages 25–34	Ages 55–64
Elementary and middle school teachers	46,310	61,900
High school teachers	49,270	66,470
Sales engineers	96,690	143,400
Physical therapists	73,630	91,620
Financial and investment analysts	79,970	100,900
Occupational therapists	69,030	80,870

Source: U.S. Census Bureau. (2019). *Detailed occupation by sex, education, age, earnings: American Community Survey 2019 table package*. <https://www.census.gov/data/tables/2022/demo/acs-2019.html>

While salaries vary across and within states, over the past decade, teacher salaries were low enough in 36 states that mid-career teachers who headed a family of four qualified for two or more means-tested government benefits.<sup>42</sup> Salaries are even lower for early childhood educators. Child care and preschool educators, who are disproportionately women of color, earn one third to one half of the wages of K–12 educators, and over half of them rely on public assistance to make ends meet.<sup>43</sup>

Furthermore, U.S. teachers spend more hours teaching per week and per year than their counterparts in more than 50 countries in the Organisation for Economic Co-operation and Development (OECD)—about 8 hours more per week than the international average—and have nearly the lowest number of hours for planning each week. (See Figure 4.) They also have above-average class sizes<sup>44</sup> and teach more students from low-income families than teachers in other OECD countries.<sup>45</sup>

**Figure 4. U.S. Teachers Teach More Hours per Week Than Those in Other Countries**



Source: Organisation for Economic Co-operation and Development. (2018). *Teaching and Learning International Survey*. <https://www.oecd.org/education/talis/>

Attrition rates for U.S. teachers average between about 8% and 9% annually,<sup>46</sup> about twice as high as they are in Canada, Finland, and Singapore.<sup>47</sup> This is a huge driver of shortages, as roughly 9 in 10 teachers hired each year are replacing colleagues who left. Two thirds of these “leavers” quit before retirement, mostly due to dissatisfactions with teaching.<sup>48</sup>

Teachers’ reasons for leaving include low compensation, but poor teaching conditions are at the top of the list on most surveys. In the most recent national survey of departing teachers, about 1 in 5 cited financial reasons (while a majority put salary at the top of their list for considering a return to the profession, and research points to the significant influence of compensation in attracting individuals into teaching in the first place).<sup>49</sup> The 55% who left because of dissatisfactions with teaching cited multiple concerns about the effects of testing and accountability policies on teaching, lack of influence over school policies and practices, lack of autonomy in the classroom, and inadequate opportunities for leadership or professional advancement—symptoms of a de-professionalized occupation. Other working conditions, like class sizes, classroom resources, facilities, job description, and student discipline, placed further down the list.<sup>50</sup>

These disincentives to teach have been particularly problematic for growing and retaining a diverse teaching force. Even as a growing body of research demonstrates the positive influences teachers of color have on all students—and particularly on the achievement and attainment of historically underserved students of color—the retention rates for teachers of color have been plummeting.<sup>51</sup> Teachers of color, only 20% of the teacher workforce, are least likely to be able to access quality preparation programs that support their long-term success and most likely to teach in challenging school contexts where working conditions are problematic.

## Our Factory Model Heritage

At the root of the crisis in teaching is the way teaching was conceptualized when our current school structures were designed a century ago to accommodate compulsory mass education and the migration from rural to urban communities in the manufacturing age. As scientific managers used Henry Ford’s assembly-line model to make schools “efficient” in the early 20th century, they sought to manage schools with more tightly prescribed curriculum, more teacher-proof texts, more extensive testing, and more regulations. To standardize curriculum and reduce the amount teachers needed to know, the Prussian age-grading model was adopted, along with the platoon system, sending students in groups of 30 to another teacher at each grade level and to a different teacher in each subject matter starting in junior high school. Like workers on an assembly line, teachers were expected to stamp students with a lesson and move them on to the next worker to stamp them with the next.<sup>52</sup> The image of a moving conveyer belt on which students were placed while teachers performed a predetermined series of operations on them was a powerful metaphor for order and efficiency. This “improved school machine,” as it was called, lowered both building costs and teacher costs per pupil and simplified teachers’ work.

The lessons were to be the same for each group of students, with differentiation only between the tracks established by predetermined perspectives on the abilities of students by race and class for their roles in the industrial order.<sup>53</sup> School tracking systems were designed to be mechanisms for efficient sorting

of manpower for the manufacturing economy.<sup>54</sup> Lower-tracked students were expected to fail and leave school according to their “abilities” and to join the economy as manual laborers; sorting them out was a desired function of school. As school administrator W. B. Pillsbury observed in *Scientific Monthly* in 1921:

The educational system may be regarded as primarily a sieve for the separation of the competent from the incompetent. ... [It selects] the men of best intelligence from the deficient and mediocre. ... The incapable are soon rejected or drop out and pass into the ranks of unskilled labor, [while] the more intelligent who are to be clerical workers pass into the high school. ... [Only] the most intelligent enter the universities, whence they are selected for the professions.<sup>55</sup>

Teachers were to work alone, in “egg-crate” classrooms. Their jobs were viewed as managing groups of students and overseeing additional duties in the lunchroom or playground as assigned. There was no need to schedule teacher time for planning, collaboration, or ongoing learning because teaching was designed to be largely rote work, wholly managed by the externally prescribed lessons. There was no need for time to meet with parents about their children because success for most children was not expected or even actively encouraged once they had learned the most rudimentary basics to enable them to work obediently in factories or mills.

The scientific managers also consciously sought to hire less-educated teachers who would work for low wages and would go along with the new regime of prescribed lessons and pacing schedules without protest. In a book widely used for teacher training in the early 20th century, the need for “unquestioned obedience” was stressed as the “first rule of efficient service” for teachers.<sup>56</sup> School leaders urged the hiring of women, who were thought to be more compliant and willing to work for lower wages. As Boston educator John Philbrick opined in “Systematizing the School”: “Let the Principal or Superintendent have the general supervision and control of the whole, and let him have one male assistant or sub-principal, and ten female assistants, one for each room”—what historian David Tyack called the beginning of the “pedagogical harem.”<sup>57</sup>

The feminization of teaching simultaneously reduced teachers’ wages and the discretion they were allowed to exercise. By 1911, when over 70% of teachers were women, a study observed that their predominance in teaching:

... has been due in part to the changed character of the management of the public schools, to the specialization of labor within the school, to the narrowing of the intellectual range or versatility required of teachers, and to the willingness of women to work for less than men. ... [Almost] all of the graded school positions have been preempted by women; men still survive in public school work as “managing” or executive officers.<sup>58</sup>

At that time, nationally distributed tests of arithmetic, handwriting, and English were put into use, with results used to compare students, teachers, and schools; to report to the public; and to award merit pay—a short-lived innovation because of the many problems it caused.<sup>59</sup> In the view of these managerial engineers, professionally trained teachers with their own ideas were considered troublesome, because they frequently did not go along meekly with the plan.

To manage this system, a bureaucracy was developed, with layers of personnel needed to plan and manage the work of teachers. In 1890, the only nonteacher in most districts was the school superintendent. By the 1920s, “there was a whole galaxy of principals, assistant principals, supervisors of subjects, directors of vocational education and home economics, deans, attendance officers, and clerks, who do no teaching but are concerned in one way or another with keeping the system going.”<sup>60</sup> Today, nonteaching personnel constitute more than half of the U.S. education workforce: Only 47% are classroom teachers,<sup>61</sup> as compared to at least 70% of education employees in many other countries.<sup>62</sup> This affords educators in these nations both smaller class sizes and more time for collaboration and planning to meet students’ needs.

There were efforts to professionalize teaching and focus more on student-centered learning during the 1930s, the 1960s, and the 1990s, but these were momentary pendulum swings in education policy. In the early 2000s, during the No Child Left Behind era, the public education system and the profession of teaching were again “reformed” by another wave of scientific managers who sought to drive test score gains through curriculum mandates and testing regimens, enforced by sanctions including teacher dismissals and school closings for schools failing to make “annual yearly progress.” Test-based systems of teacher evaluation, critiqued by researchers and statisticians as producing erratic and invalid data, were used to manage and sometimes fire teachers.<sup>63</sup> During this period of test-based management, funding for public schools and for educators’ wages declined, while student poverty, homelessness, and food insecurity increased. Those who noted these challenges were often accused of making excuses for low performance. In this context, teachers were blamed for a wide range of education and societal ills they could not control.

These new scientific managers, like those of a century ago, encouraged the hiring of teachers with little training—who would come and go quickly, without costing much money, vesting in the pension system, or raising many questions about an increasingly prescriptive system of testing and teaching.<sup>64</sup> Curriculum designed to drill students on test content and pacing guides that would “choke a horse,” as one teacher put it,<sup>65</sup> regimented teaching further, even while making it less effective for students who are not standardized and require individualized supports.

Max Weber, who developed the theoretical framework for bureaucracy at the turn of the 20th century, described its primary virtue as its ability “to specialize administrative functions according to purely objective considerations ... according to calculable rules and ‘without regard for persons.’”<sup>66</sup>

Unfortunately, it is this very “virtue” that has made teaching and learning so difficult in modern schools. Today’s challenge—to create strategies that can support the individually appropriate teaching needed to produce high levels of success for diverse learners—was not the goal of the last century’s reformers. They wanted to use methods that could teach “without regard for persons,” and to a remarkable extent they did. Seeking to achieve these goals within the current structures of schools, without the affordances that other countries have built into their schools to support these goals, has often made teaching very stressful work.

Although today’s schools are less regimented than they once were, most still carry the marks of their industrial origins in the standardized structures, curriculum, and tracking systems; the design of the teaching job; and the lack of time and space for collaboration among teachers and personalization for students. As one teacher put it:

How do we teach these kids in a way that they can learn? I don’t believe that the present educational structure can do that anymore. It’s like trying to run a battleship with a tugboat engine.<sup>67</sup>

## What Would It Take to Transform Teaching?

While the Every Student Succeeds Act,<sup>68</sup> signed in 2015, eliminated some of the most onerous elements of No Child Left Behind, including requirements for punitive evaluation and accountability systems, it did little else to boost the profession of teaching in the United States. Teachers have continued to struggle for professional status and teaching conditions, with high attrition rates in many states and districts associated with lack of teacher voice and poor work environments, as well as low salaries.<sup>69</sup> New research finds that perceptions of teacher prestige, interest in the teaching profession, and teachers' job satisfaction are at their lowest levels in 50 years.<sup>70</sup> Recent shortages related to the pandemic and associated impacts have called attention to the intensity of the problem. Meanwhile, the need for changes in schools to support student needs in this time of learning recovery are becoming more apparent. The moment may be ripe for the set of transformations needed to develop more productive school designs that can support a true education profession in this country.

To develop a strong education profession in the United States, we should build on lessons from abroad as well as on those from states and districts in the United States that have made deep commitments to professionalizing teaching. What would be needed? High-achieving nations, including Canada, Finland, and Singapore, make substantial investments in a well-prepared, well-supported profession of education, understanding it is the foundation for student learning: the profession on which all other professions depend.<sup>71</sup> In these and other top-ranked nations, supports for teaching take the form of:

High-achieving nations, including Canada, Finland, and Singapore, make substantial investments in a well-prepared, well-supported profession of education, understanding it is the foundation for student learning: the profession on which all other professions depend.

- **Universal high-quality teacher education**, typically at the master's degree level, at government expense, often with a stipend or salary while in training.
- **Mentoring for all beginners** from expert teachers, coupled with a reduced teaching load and shared planning time to stem attrition.
- **Ongoing professional learning**, embedded in 15 to 25 hours a week of planning and collaboration time at school, to participate in professional learning communities, visit other classrooms, conduct action research and lesson study, and plan collaboratively with colleagues.
- **Participation in decision-making** on school improvements, often based on action research that educators themselves have been conducting.
- **Leadership opportunities** that engage expert teachers in mentoring and coaching, professional development for colleagues, curriculum and assessment development, and pathways into principal preparation focused on instructional leadership.
- **Competitive salaries**, comparable to those of other similarly educated professionals, that are also equitable across schools.

In these countries, teachers also develop national or province-level curriculum guidance. Periodic assessments are developed with and scored by teachers and are used to inform teaching and learning, not to rank or punish schools or educators.

Some states have made major headway as well. In the late 1980s, in a time of severe teacher shortages, Connecticut launched a set of concerted state policies to transform the teaching profession through its 1987 Education Enhancement Act.<sup>72</sup> The state raised teacher salaries to the highest in the nation, equalized them across rich and poor districts, transformed teacher preparation, offered service scholarships, introduced mentoring for beginning teachers and expansive professional development for all teachers, and improved principals' training and their capacity to support teachers—turning shortages into surpluses within 3 years; boosting retention; and making Connecticut the top-achieving state in the nation in reading, math, and science by 1998. Even with some slippage in policies, Connecticut remains among the highest-achieving states to this day. In subsequent years, Massachusetts and New Jersey followed suit in raising and equalizing spending and salaries and investing in educator learning, with similar gains in student achievement.<sup>73</sup>

North Carolina took up a comparable agenda in the early 1990s: raising salaries; improving preparation, mentoring, and professional development; adding large-scale investments in North Carolina Teaching Fellows and Principal Fellows; and offering salary boosts and career opportunities for National Board Certified teachers as a strategy for expanding and sharing expertise. Within 10 years, teacher shortages were eliminated and student achievement soared, lifting North Carolina from its status as one of the lowest-achieving states in the nation to scoring well above the national average.<sup>74</sup>

The influences of strategic investments in teaching can also be seen at the district level. A recent study of California school districts, for example, found that the single most powerful school-related predictor of student achievement, especially for students of color, was the presence of well-qualified and experienced teachers.<sup>75</sup> Case studies of the “positive outlier” districts that outperformed others for Black, white, and Latino/a students documented how they created stable, well-supported, highly professional teacher and administrator workforces fully engaged in developing and sharing expertise. Among the key strategies were proactive partnerships with universities to create pathways to prepare teachers well for teaching; mentoring of novices by accomplished teachers; opportunities for collaborative planning in teams focused on cycles of continuous improvement; and extensive, ongoing opportunities for deep professional learning in contexts in which teachers are engaged in decision-making and leadership around instruction.

## A Marshall Plan for Teaching

Unfortunately, state and local initiatives that seek to professionalize teaching are often fragile in the face of budget cuts or governance changes and can easily falter without a continuous federal commitment to a strong education profession. Given the extent of the current crisis and the critical need to recover from the many negative impacts of the pandemic, especially on our neediest students, the nation needs a Marshall Plan for teaching, like that enacted after World War II to rebuild Europe.

During an earlier period in our nation's history, the federal government made significant investments in K–12 and higher education in order to address national security concerns. The National Defense Education Act (NDEA) was passed in 1958 in response to Soviet acceleration of the space race with the launch of *Sputnik*. The law provided federal funding to “insure trained manpower of sufficient quality and

quantity to meet the national defense needs of the United States.”<sup>76</sup> Among other provisions, the law established the National Defense Student Loan program to provide low-interest federal loans to support undergraduate and graduate education, with the funds targeted toward students who desired to teach in elementary or secondary schools or who would contribute to fields including mathematics, engineering, or a modern foreign language. Congress expanded the NDEA teacher loan repayment provisions through the Higher Education Act of 1965, signed by President Lyndon Johnson, which enabled federal loan forgiveness for teachers who worked in schools serving high concentrations of students from low-income families.<sup>77</sup>

Effective action to ensure that all students have well-qualified educators can also be modeled after practices in medicine. Since 1944, the federal government has subsidized medical training to fill shortages and build teaching hospitals and training programs in high-need areas. Current federal investments in U.S. medical education total about \$15 billion annually, including funding for teaching hospitals, residencies, centers of excellence in high-need areas, and scholarships and forgivable loans for physicians in training.<sup>78</sup>

A Marshall Plan for teaching should focus the powers of the federal government on working closely with states to support teaching supply and quality in at least seven key areas:

1. **Increase educators’ net compensation** through tax credits, housing subsidies, and salary incentives.
2. **Strengthen recruitment** by making teacher preparation debt-free.
3. **Support improved preparation** by expanding high-retention pathways into teaching and clinical preparation in partnership schools.
4. **Provide high-quality mentoring** for all beginning teachers.
5. **Increase investments that enable educators to expand and share expertise.**
6. **Incentivize the redesign of schools** to support teaching and learning.
7. **Rethink school accountability.**

When considering the value of increased spending to accomplish these goals, it is important to keep in mind that the challenge is not one of resources but of priorities. As President Dwight Eisenhower asserted when he signed the NDEA in 1958, education is as essential to national security as military training and equipment. The Soviet Union’s success in launching *Sputnik* directly challenged the military, scientific, and technological capacity of the United States. Today, other nations are strongly competing with the United States for talent and technological supremacy. In the fiscal year 2023 federal funding act, Congress provided \$858 billion for defense<sup>79</sup> but allocated far less than 1% of that amount for developing and sustaining a high-quality teaching force.<sup>80</sup> To develop the diverse, well-prepared, stable teaching force that is essential to our national success and security, the federal government could undertake the following evidence-based initiatives.

## **1. Increase educators’ net compensation through tax credits, housing subsidies, and salary incentives.**

A substantial body of research demonstrates that teachers’ wages affect the qualities of those who choose to enter the teaching profession—and how long they stay once they get in.<sup>81</sup> In addition, most teachers who have left the profession note that higher salaries are the top factor that would determine

their return.<sup>82</sup> Thus, teacher compensation is a critical policy lever for improving teacher recruitment and retention. Yet, as described above, teachers earn only 77% of what other college graduates earn, even after adjusting for differences in the work year. This leaves many teachers facing poverty—a condition widespread among early childhood educators. Although teacher salaries are determined at the state or local levels, and typically collectively bargained, leaving a limited role for the federal government in determining compensation, there are nonetheless a few powerful actions that the federal government could take to increase educators' financial security. These include the following:

- **Offer refundable tax credits for educators.** Congress could create a refundable tax credit for educators. While encouraging states to do more, such a federal investment would provide a large incentive for both recruitment and, more importantly, retention in teaching. A program of this nature could provide refundable tax credits to early childhood and public K–12 educators as a strategy to effectively increase educator compensation. Such a program could be designed to incentivize service in high-need areas, where there are fewer state and local resources than in wealthier areas and where, due to lower salaries, schools often struggle to recruit and retain qualified teachers.<sup>83</sup> Early childhood educators and educators teaching in high-need public schools could receive a higher credit (e.g., up to \$15,000, which would nearly close the gap with other college-educated workers for mid-career teachers), while other K–12 public school educators could receive a credit based on a sliding scale determined by how many students from low-income families are served in their schools. The RAISE Act is one example of how federal policy could create a refundable tax credit for educators.<sup>84</sup>
- **Make housing subsidies available for educators.** The high cost of housing in many urban areas and the lack of housing in many rural areas adds additional strain to educators' low salaries. In a survey of teachers who had left the profession after the 2011–12 school year, nearly one quarter of respondents said housing incentives would be extremely important or very important in their decision to return to the classroom.<sup>85</sup> While some states and districts across the country have taken action to bring down educators' housing costs,<sup>86</sup> such as by building teacher housing or offering home down payment assistance in the form of forgivable loans, the federal government can help as well. The federal government could work to make existing federal housing subsidies more readily available to educators and support state and local governments working to create their own housing. For example, the Educator Down Payment Assistance Act<sup>87</sup> would provide grants to districts and local governments to support eligible educators with up to \$25,000 toward the down payment on a home. Congress could also create low- or no-interest home loans to help educators who commit to teaching in high-need schools afford the cost of buying a home. Or Congress could incentivize states and local governments and institutions of higher education to build more affordable teacher housing for rental or purchase, through subsidized municipal bonds, similar to the Build America Bonds program.<sup>88</sup>

Federal agencies could ensure that educators are listed as clearly eligible for existing federal housing supports available to public servants in many under-resourced areas and help educators navigate these programs by compiling and centralizing resources across relevant federal agencies, including the Departments of Education, Housing and Urban Development, Agriculture, and Veterans Affairs.

- **Incentivize states and districts to raise teacher salaries.** Finally, the federal government may be able to incentivize states and local education agencies to raise and equalize teacher salaries. This is a more complicated strategy, because teacher salaries are determined at the state or local levels, often through collective bargaining. Approaches include the Pay Teachers Act, which would effectively triple

Title I Elementary and Secondary Education Act funding and require that states pay new educators a salary of at least \$60,000, experienced educators a higher amount that increases throughout their career, and all educators a competitive wage that is at least commensurate with similarly experienced college-educated professionals in their region.<sup>89</sup> The American Teacher Act would create a competitive grant program that would also require that participating states set a minimum salary of \$60,000.<sup>90</sup> A much more robustly funded Title I could help build systems to recruit, prepare, support, and retain fully prepared teachers who are well-mentored and well-supported.

## 2. Strengthen recruitment by making teacher preparation debt-free.

A key part of a Marshall Plan for teaching would enhance teachers' financial resources and strengthen recruitment by expanding service scholarships and loan forgiveness programs to allow candidates prepared at the undergraduate and graduate levels to enter teaching without being weighed down by student loan debt. Like the NDEA loans of the 1960s and 1970s, such a plan could provide loan forgiveness to teachers, with greater incentives for recruits who teach in high-need fields or locations for at least 3 years. (After 3 years, teachers are more likely to remain in the profession and make a difference for student achievement.)

Because fully prepared novices are less than half as likely to leave teaching after the first year compared to those who lack student teaching and other key elements of training, shortages caused by annual churn could be reduced if districts could hire better-prepared teachers.<sup>91</sup> Vacancies currently filled with emergency teachers could instead be filled with well-prepared teachers if robust, guaranteed service scholarships and loan forgiveness programs were available to enable entry into teaching each year. If structured with the right service requirements, these would also promote retention.

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While the federal government offers some such programs, they have dwindled in value and are inadequate to meet teacher recruitment needs. The cost of tuition, fees, and living expenses has nearly doubled at public 4-year institutions over the past 20 years, after adjusting for inflation.<sup>92</sup> Nearly 50 years ago the Pell Grant covered more than three quarters of the cost of attending a 4-year public college. Today, that has shrunk to about one quarter of the cost, the lowest share in the program's history.<sup>93</sup> Moreover, unlike undergraduates, graduate students<sup>94</sup> do not generally have access to Pell Grants<sup>95</sup> or subsidized loans.<sup>96</sup> In 2017, Congress let the Perkins Loan Program, which provided low-interest and forgivable loans to many graduate students, expire. Support for graduate education has dwindled even as a growing share of teachers enter through postbaccalaureate programs—more than 40% nationally,<sup>97</sup> and more than 50% in California and several other states.

Since 2008, student loan debt has increased by more than \$1 trillion.<sup>98</sup> The impact of these spiraling costs of higher education on teachers is significant. About two thirds of those earning a degree in education borrow to pay for their higher education, resulting in an average debt of \$28,800 for those with a bachelor's degree<sup>99</sup> and \$54,180 for those with a master's degree.<sup>100</sup> In 2020–21, an estimated 37% of all public school teachers across experience levels owed money on student loans that they used to help pay for undergraduate

or graduate education.<sup>101</sup> Studies show that the college debt most students accrue is a major disincentive to enter teaching,<sup>102</sup> given the lower salaries teachers can currently expect to earn: on average nearly 25% less than other college-educated professionals.<sup>103</sup> This poses a particular challenge for recruiting teachers of color, who typically have to borrow more to get through college and are more likely to report that debt burdens impacted their educational choices.<sup>104</sup>

To address the challenge of the rising costs of higher education and student loan debt, there are several steps the federal government could take to make teacher preparation affordable, with a focus on those teachers preparing to teach in a high-need field and/or school who agree to stay in teaching for several years. These include the following:

- **Cover teachers' monthly loan payments until their debt is retired.** Currently, the Public Service Loan Forgiveness program, which cancels debt after 10 years of a borrower working in public service and making payments, does not help keep poorly paid novice teachers in the profession because it does nothing to address the financial pressures and low wages they face in the early years of teaching. Current loan forgiveness and income-driven repayment programs require teachers to slog through years of monthly payments on low salaries before having part or all of their remaining federal student loan debt canceled.

The federal government could instead make the monthly student loan payments on behalf of all public school teachers while they are teaching and ensure the debt is retired after 10 years of service—an incentive for both recruitment and retention. The federal government could provide even more support to teachers working in high-need schools and in early childhood education, where salaries are lower, by not only covering their monthly federal loan payments as long as they are teaching, but also speeding up the time at which they completely retire their debt (for example, to 5 years of service).

This high-leverage policy change could be accomplished through executive action by the U.S. Department of Education.<sup>105</sup> It could also be accomplished through congressional action—as the Loan Forgiveness for Educators Act would do.<sup>106</sup> This bill would update the Teacher Loan Forgiveness program to have the federal government pay the monthly federal loan bills of educators as they teach in high-need schools or early education programs, and then completely retire any remaining debt after 5 years of service. This policy is also included in the Educators for America Act,<sup>107</sup> which would also allow the federal government to pay the monthly loan bills of educators in non-high-need settings over a 10-year period and completely retire the debt at the end of year 10.

At a minimum, Congress could remove the prohibitions in the Public Service Loan Forgiveness and Teacher Loan Forgiveness programs that prevent teachers from simultaneously earning loan forgiveness under both programs. These changes would fulfill the straightforward promise of debt relief for teaching service while making these programs easier for teachers to navigate and use, as well as more administratively manageable.

- **Increase the TEACH grant and reform the loan conversion penalty.** Congress could increase the size of the nation's teacher service scholarship, the TEACH grant, and reform the punitive loan conversion penalty. The TEACH grant currently provides scholarships of \$4,000 per year to undergraduate and graduate students who are preparing for a career in K–12 teaching and who commit to teaching a high-need subject in a high-poverty school for 4 years. The grant award for this program has not been increased since it was created in 2007. Instead, it has been cut by roughly \$225 annually

since 2013 due to automatic across-the-board spending cuts known as the sequester.<sup>108</sup> Given that the average annual cost of undergraduate tuition plus living expenses is \$25,707 at a public 4-year state university and \$54,501 at a private nonprofit one, the TEACH grant is not currently funded at a level that will accomplish much-needed recruitment goals.<sup>109</sup>

The TEACH grant is also a grant that can convert to a loan. The program's harsh loan conversion penalty undermines its effectiveness as a recruitment tool. The grant is converted to a Federal Direct Unsubsidized Stafford Loan if a teacher does not fulfill all of their 4-year service commitment in a designated high-need school, with interest charges backdated to when the grant was first awarded while the recipient was in school and continuing to accrue through repayment. The grant administration process has also been problematic over the years, with teachers often bumped from the loan program even if they are continuing to teach—and unable to have their appeals addressed. Administrative issues coupled with the loan conversion penalty make many teacher candidates wary of taking these grants and leave teachers who are identified as not having fulfilled all or part of their service obligation with a disproportionately severe penalty.<sup>110</sup>

To make the TEACH grant truly function as a key recruitment strategy for teachers, the program could be revamped to increase the award amount to better align with the full cost of comprehensive preparation,<sup>111</sup> reform the loan conversion penalty, ensure that early educators (who are not currently covered) become eligible for benefits, and build on recent actions to improve its administration.<sup>112</sup>

A reform of the loan conversion penalty could provide credit for each year of teaching, thereby reducing the percentage of the grant amount that converts to a loan (e.g., only one quarter of total grant aid would convert to a loan if the teacher completed 3 of 4 years of teaching service). It could also eliminate the punitive backdated accrual of interest and require a converted loan to carry a permanent 0% interest rate. Together, these changes would right-size the consequence for someone who, for example, has given 3 years of service in a high-need school.

The DIVERSIFY Act is one example of how federal policy could improve the effectiveness of the TEACH grant. It would double the TEACH grant award to \$8,000 a year, end the automatic cuts to the grant award, and ensure early educators can access the program.<sup>113</sup> The Educators for America Act would make similar changes to the TEACH grant program and reform the loan conversion penalty to provide prorated credit for partial teaching service and assign a 0% interest rate to converted loans.<sup>114</sup>

- **Leverage existing workforce development and national service programs to fund teacher preparation.** The federal government could also leverage broad-based workforce “learn and earn” and national service programs to help educators afford comprehensive preparation. In 2022, the U.S. Department of Labor approved the first registered teacher apprenticeship program. Registered teacher apprenticeship programs allow candidates to earn while they learn, receiving pay while they gain teaching skills under the supervision of a mentor teacher and take coursework to earn their teaching credential.<sup>115</sup> An apprenticeship could be structured as all or part of student teaching or a residency program. (See below for a description of residency opportunities.)

Tennessee, along with several other states, has recently leveraged federal pandemic recovery funds as well as funds under the Workforce Innovation Opportunity Act to invest in teacher apprenticeship programs and expand the state's Grow Your Own pathways into teaching.<sup>116</sup> Recent joint efforts by the U.S. Departments of Labor and Education are encouraging the development of more registered

teacher apprenticeship programs.<sup>117</sup> However, federal funding has been limited, as the Registered Apprenticeship Program, most recently funded at \$285 million for fiscal year 2023, is open to many fields beyond teaching. Additional targeted investments that prioritize apprenticeships into teaching will likely be needed to scale this strategy, as well as standards and supports to ensure that apprenticeships into teaching provide high-quality preparation that reflects the evidence about what educators should learn and be able to do.<sup>118</sup> For example, national guidelines for apprenticeships into teaching, approved by the U.S. Department of Labor and informed by research and leading practice in the field, can provide strong models to guide states and localities as they develop apprenticeships into teaching.<sup>119</sup>

Another pathway that could provide support for comprehensive preparation is the Corporation for National and Community Service's AmeriCorps State and National program, which addresses the needs of communities through service in areas such as education, health, the environment, supporting veterans, and more. Comprehensive educator preparation programs, such as residency programs, can apply to become an AmeriCorps State and National program. This could provide them with programmatic funding and could be used to fund stipends for residents who are providing service in schools as they are training to teach in the classrooms of expert mentor teachers. Moreover, individuals who participate in an AmeriCorps State and National program are eligible for the Segal AmeriCorps Education Award, which provides a maximum of two educational awards worth up to the maximum Pell Grant (currently \$6,895) each that can be used for current educational expenses or to pay down student loan debt.<sup>120</sup> Joint guidance from the Department of Education and the Corporation for National and Community Service, as well as outreach and technical assistance, could support more comprehensive educator preparation programs in becoming an AmeriCorps-funded State and National program. This would enable teacher candidates to meet critical national service needs in the education sector—including serving as tutors who can support learning recovery—while they are completing teacher preparation, and at the same time would make entry into teaching more affordable.

### **3. Support improved preparation by expanding high-retention pathways into teaching.**

As the federal government does in medicine, a Marshall Plan for teaching could expand preparation models that ensure teachers are well prepared to succeed and stay in the profession, including residency programs and other high-retention pathways that offer extensive clinical preparation in partner schools (often called professional development schools) that function like teaching hospitals. To leverage productive state and local policies, these investments can be shaped as competitive matching grants to states or districts (including consortia) that put in place approaches that are sustainable.

Residency models, which are sponsored by partnerships between educator preparation programs and school districts, integrate credential coursework with a full year of student teaching in the classroom of an expert mentor, usually at the postbaccalaureate level (although some states have recently introduced undergraduate models). Candidates generally receive financial support for tuition and living expenses, along with strong preparation and mentoring during the first 1 or 2 years of teaching, in exchange for 3 to 5 years of service in the sponsoring district. Rather than subjecting students in high-need urban and rural schools to a revolving door of underprepared teachers, this model enables prospective teachers to become deeply knowledgeable, well-coached professionals who are better prepared on day one to practice effectively in the communities where they have trained.

Early research on the impact of well-designed teacher residency models suggests that residents are effective as judged by the principals who hire them and, in many cases, based on their students' performance.<sup>121</sup> The programs also recruit more candidates of color than most other programs, and, importantly, graduates of residency programs are more likely to remain teaching, thereby stabilizing the teacher workforce in the high-need districts in which they serve.<sup>122</sup> The number of teacher residency programs has grown substantially in recent years, with many states moving to expand this approach with state and federal pandemic recovery funds, including California, Delaware, Mississippi, Montana, New Mexico, New York, Pennsylvania, Texas, Washington, and West Virginia.<sup>123</sup>

In addition, just as teaching hospitals that train doctors for state-of-the-art practice are supported by federal funding through Medicare and Medicaid,<sup>124</sup> schools attached to institutions of higher education (IHEs) that train student teachers and residents should receive steady funding to better prepare candidates to learn how to teach diverse learners well. Effective models have already been created by IHEs and school districts that place candidates with expert teachers in schools specially designed to support them while they complete their coursework.<sup>125</sup> These placement schools should be committed to evidence-based practices grounded in the science of learning and development, with the wraparound health, mental health, and social service supports that enable student success, so that new practitioners can learn how to create a path to equity for their students.

Grow Your Own (GYO) programs offer another kind of high-retention pathway—combining high-quality, clinically rich preparation with financial support. GYO models recruit and train teacher candidates from the local community who are more likely to reflect local diversity and commit to staying and teaching in the community.<sup>126</sup> These may include career changers, paraprofessionals, after-school program staff, and others currently working in schools. Some common pathways include paraprofessional teacher training programs and “2 + 2” programs that allow candidates to begin teacher preparation at a community college and then finish at a 4-year institution. Some versions recruit career changers who already hold degrees and who complete a postbaccalaureate program. High school pathways—which embed career-focused courses on education topics alongside work-based experiences to interest young people in pursuing a teaching career—can become Grow Your Own models when candidates receive support to complete their preparation if they return to the local community.<sup>127</sup>

Participant support may include financial aid, coaching, assistance in navigating credential requirements, and academic counseling or tutoring to help them complete a bachelor's degree or postbaccalaureate program and earn a teaching credential. Some models, such as the national Pathways to Teaching Career Program,<sup>128</sup> have been found to recruit candidates who work in high-need urban and rural schools and stay in teaching longer than the typical beginning teacher. States supporting Grow Your Own programs include Arkansas, California, Colorado, Delaware, Hawaii, Massachusetts, Minnesota, New Mexico, South Carolina, Tennessee, and Texas.<sup>129</sup> For rural districts that often struggle with teacher shortages, GYO programs provide a particularly helpful and potentially stable source of teachers for the long term. The federal government could expand high-retention pathways into teaching in the following ways:

- **Invest more in robust and sustained funding for high-retention pathways into teaching.** To improve teacher preparation and expand access to high-retention pathways into teaching, such as residency models and Grow Your Own programs, Congress could invest more in federal programs such as the following:

- The *Teacher Quality Partnership (TQP)* program is the federal government’s primary vehicle for investing in strong clinical pathways and school–IHE partnerships that enable comprehensive educator preparation. The program funds teacher residencies, school leader preparation, and undergraduate and graduate preparation programs that all include partnerships with underserved school districts and preparation programs at IHEs. All forms of preparation under TQP require an induction program of at least 2 years. TQP-funded residencies also must provide participants stipends, an important tool to recruit and support diverse candidates.
- The *Individuals with Disabilities Education Act Part D Personnel Preparation (IDEA-Part D-PP)* program supports the preparation of special educators in early childhood and K–12 schools, along with specialized instructional support personnel, and the higher education faculty and researchers who support their preparation. Through the use of scholarships, the IDEA-Part D-PP program also reduces affordability barriers for prospective special educators.
- The *IDEA Part D State Personnel Development (IDEA-Part D-SPD)* program provides grants to states to improve their systems of preparing and professionally developing educators that serve children with disabilities. This program operates as a competitive grant program because funding is below the \$100 million threshold that would allow the program to operate as a formula grant program.<sup>130</sup> Ninety percent of funding under this program must be used for professional development activities.
- The *Augustus F. Hawkins Centers of Excellence (Hawkins) Program* provides funding to support educator preparation programs as well as scholarships for prospective educators at historically Black colleges and universities, tribal colleges and universities, and minority-serving institutions of higher education. These institutions play an important role in supplying teachers of color, preparing nearly 40% of Black teachers with bachelor’s degrees in education in the United States, more than half of Hispanic and Pacific Islander teachers, and 35% of all American Indian/Alaskan Native teachers and Asian teachers.<sup>131</sup>

While these federal programs support research-based high-retention pathways into the profession, they have been chronically underfunded.<sup>132</sup> For example, these programs combined received less than \$240 million from the federal government in fiscal year 2023, while California alone invested \$350 million in residency programs and \$125 million in GYO programs for classified staff in 2021.<sup>133</sup> Indeed, as states begin to expand their efforts to recruit and better prepare teachers, the federal government could leverage systemic change by making much larger investments directed at supporting state capacity, rather than funding a few programs one-by-one across the country.

As states begin to expand their efforts to recruit and better prepare teachers, the federal government could leverage systemic change by making much larger investments directed at supporting state capacity, rather than funding a few programs one-by-one across the country.

For example, a state-focused component of TQP could allow states to apply for matching grant funding for a system of residency programs and other strong clinical pathways offered by IHE–district partnerships for teachers and school leaders in high-need communities. The state could incentivize, authorize, and support these programs with technical assistance. Mirroring current TQP requirements, state-focused TQP grants could be required to establish partnership schools, like teaching hospitals, that are designed to ensure prospective teachers experience and learn state-of-the-art practice. Similarly, state matching grants with a system-building framework under the IDEA-Part D-SPD could make a significant difference in the quality of preparation for special education teachers as well as in the supply of such teachers who will stay in the profession. Over time, work at this scale would begin to transform the enterprise of preparation entirely.

It is also worth considering the creation of an entitlement funding source for these programs, which would guarantee funding so that they are not contingent on the unpredictable annual funding process. Medicare, for example, currently supports medical residencies for physicians, providing between \$112,000 and \$129,000 per full-time-equivalent resident, along with other institutional costs of training.<sup>134</sup> There is precedent for such a proposal, as the Biden-Harris administration proposed \$9 billion in mandatory funding under the American Families Plan to help grow and support a well-prepared and diverse educator workforce.<sup>135</sup>

#### **4. Provide high-quality mentoring for all beginning teachers.**

Providing high-quality mentoring for all beginning teachers would sharply reduce teacher attrition and increase competence. National estimates suggest that between 19% and 30% of new teachers leave the profession within their first 5 years, with rates much higher for those who are underprepared and those who lack mentoring in their initial years.<sup>136</sup> In this context, recruitment efforts that are not paired with supports for beginning teachers are like pouring water into a leaky bucket. Research shows that new teachers benefit from induction programs that include mentoring, orientation sessions, seminars, coaching and feedback from experienced teachers, the opportunity to observe expert teachers, extra classroom assistance, and reduced workloads. Teachers who receive these sets of supports have been found to stay in teaching at rates more than twice those of teachers who lack these supports.<sup>137</sup> However, according to an analysis conducted in 2016, only 16 states had dedicated funding for teacher induction programs.<sup>138</sup> The lack of support for mentoring and induction programs is particularly troubling given the large proportion of new teachers entering the classroom without having completed teacher preparation.

Novice teachers are disproportionately concentrated in schools serving students from low-income families and students of color; as a consequence, already under-resourced schools bear the financial and staffing burden of supporting large numbers of new teachers. An analysis of U.S. Department of Education data found nearly 1 in 6 teachers are just beginning their career at schools with the highest concentrations of students of color, compared to 1 in 10 teachers in schools serving the greatest proportions of white students.<sup>139</sup> In five states (Georgia, Indiana, Maryland, Rhode Island, and Tennessee), there are at least 3 times as many inexperienced teachers in schools serving high proportions of students of color. The federal government can help in the following ways:

- **Offer federal matching grants for new teacher induction and mentoring programs.** To make high-quality mentoring and induction more broadly available, especially in under-resourced districts and schools, the federal government could create a program to provide matching grants to enable

states and districts to create or expand research-based induction programs. These programs provide in-classroom mentoring of beginning teachers, collaborative planning time, seminars targeted to key areas of learning (such as working with parents and teaching students with disabilities), and reduced teaching loads. Guided by research, program requirements should include selecting, training, and compensating expert mentors, and providing adequate release time to allow mentors and beginning teachers to engage in a full range of instructional support activities, such as classroom observations, coaching, shared lesson planning, and reflection.<sup>140</sup>

A federal matching grant to states and districts that create high-quality mentoring and induction programs for beginning teachers would reduce churn, heighten teaching quality, and heighten student achievement. Several states have implemented such programs, though many were cut following the Great Recession and have not yet recovered. One model that has informed many others is California's Beginning Teacher Support and Assessment Program for first- and second-year teachers, which provided a matching grant of \$4,000 per beginning teacher per year for districts to provide induction and mentoring for their novice teachers.<sup>141</sup> There are approximately 100,000 public school teachers nationally in their first year of teaching.<sup>142</sup> A federal matching grant program providing \$4,000 in federal funds per first-year teacher would cost about \$400 million annually.

## 5. Increase investments that enable educators to expand and share expertise.

Because high-quality collaborative professional development both improves teacher effectiveness and encourages teacher retention, investments are also needed to enable educators to expand and share expertise. Teachers are more likely to stay when they have collegial work environments and when they feel efficacious in their work.<sup>143</sup> Veteran teachers are incentivized to stay in the profession when they have the opportunity to share expertise as mentors or teacher leaders in other roles. Meanwhile, others benefit from the opportunity to learn together. Investments in teacher professional development should be designed to strengthen learning opportunities for all educators, ensuring that it is readily available, content-rich, collaborative, and job-embedded.<sup>144</sup> Ways the federal government can help in this area include:

- **Increase funds for educator professional development.** A much more robust Title II-A of the Elementary and Secondary Education Act, which funds educator training and development, could support high-quality professional learning and collaboration opportunities. Current funding for Title II-A, at \$2.19 billion, is nearly \$800 million lower, in unadjusted dollars, than it was in 2010,<sup>145</sup> and nearly \$2 billion lower in current dollars. To restore Title II-A to its inflation-adjusted 2010 levels, the program should receive \$4.1 billion.<sup>146</sup>

The IDEA-Part D-SPD program, which provides grants to states to improve their systems of preparing and professionally developing educators who serve children with disabilities, is funded at less than \$40 million. Congress could invest more in this program, require a state match, and focus funds on research-based professional development (in addition to comprehensive preparation) that would better support and help retain special educators.

The English Language Acquisition program (ELAP; Title III ESSA) supports English learners, including students who are recent immigrants, in reaching English proficiency and achieving academically. It can support preparation and professional learning for educators through both local funds and state set-aside funds. While ELAP supports many vital needs, increased funding for this program would

also provide additional resources for states, districts, and the National Professional Development Program, which is also a part of Title III, to support the preparation and professional development of educators providing English language instruction.

- **Offer matching grants to grow teacher expertise and leadership.** In addition, federal incentives can focus on helping states attract and retain expert, experienced teachers—such as those certified as accomplished teachers by the National Board for Professional Teaching Standards—who can provide teaching and mentoring in high-need schools. These teachers have been found to be highly effective as teachers, mentors, and colleagues, raising the level of practice and student outcomes in their classrooms and schools.<sup>147</sup>

Congress could create a matching grant program that invests in teacher leadership and fund it at substantial levels. A teacher leadership program could leverage policies like those adopted in Arkansas, California, Hawaii, Washington, and other states, which underwrite the certification fees for teachers who pursue National Board Certification and offer stipends of \$5,000 annually for Board-certified teachers who work in high-poverty schools, so that they can help support new teachers and other colleagues to reduce attrition and enhance the quality of teaching.<sup>148</sup> The Biden administration proposed a similar program, the Expanding Opportunities for Teacher Leadership Development program, which would provide grants to states and high-poverty school districts to enable experienced and accomplished teachers to serve as leaders in areas such as mentoring, induction, and coaching.<sup>149</sup>

The federal government could also create a program to help educators earn high-need and advanced credentials. For example, a math teacher might add a computer science authorization, and an elementary teacher might add a special education credential, bilingual authorization, or reading specialist designation. Helping existing educators to expand their expertise in this way is a strategy to address shortages, especially in high-need fields and schools, while providing teachers with meaningful professional learning opportunities. Experienced teachers can earn National Board Certification, which costs nearly \$2,000 per candidate. Federal support could put the cost of additional certifications within financial reach for educators.<sup>150</sup> The Biden administration proposed a similar program in the \$1.6 billion Answer the Call—Supporting In-Demand Credentials for Teachers program.<sup>151</sup>

## **6. Incentivize the redesign of schools to support teaching and learning.**

Investments and related policy focused on redesigning schools to support strong relationships between and among students, educators, and families could encourage schools to break free of the factory model and launch 21st-century approaches to education that support educators and families alike.

Factory model school designs have meant that U.S. educators have had much more time during which they are responsible for students and much less time for collaboration than their counterparts in other countries. Yet collaboration time is ranked by teachers as among the most important variables for their learning and retention in the profession, and research finds that those who work in collegial settings grow more rapidly in effectiveness.<sup>152</sup>

In addition to the need for teacher collaboration time, as noted earlier, we know from the science of learning and development that positive school climates that feature warm, caring, supportive teacher–student relationships, as well as other student–adult relationships, are linked to better school

performance and engagement, greater social competence, and increased ability to take on challenges.<sup>153</sup> Where schools are designed for relationships and belonging, the informal mentoring relationships forged between adults and students have positive effects on student achievement as well as college attendance and persistence.<sup>154</sup> Opportunities for these relationships and student success—which promote teacher efficacy—are important for teacher retention and satisfaction, just as they are important for students.

However, the basic structures of the factory model system of education on which most U.S. schools are still based can undermine schools' efforts to support strong relationships. These designs have been critiqued for their impersonal structures, fragmented curricula, segregated and unequal program options, and inability to respond effectively to different student needs.<sup>155</sup>

The federal government could take a variety of approaches to incentivize the redesign of schools to better support teaching and learning, creating conditions in which teachers can be more efficacious and more likely to remain in the profession. These include:

- **Incentivize school redesign.** Congress could create a School Transformation grant program to allow states and districts to redesign schools to support better teaching and learning. This program would support districts in redesigning schools to better support both teachers and students by offering relationship-centered designs that promote looping, multiyear groupings, advisory systems, and teaching teams; expanded time for collaborative planning and learning; distributed leadership and shared decision-making; and the wraparound services and community connections offered by community schools.<sup>156</sup> This program could be modeled in part after the federal Smaller Learning Communities Program authorized under both the Improving America's Schools Act and the No Child Left Behind Act that provided financial support for large schools to establish smaller learning communities, enabling closer relationships among staff, students, and families; more common planning time and collaborative professional development for teachers; and more innovative instruction.<sup>157</sup> To engage states in this important work, a School Transformation grant program would support states to create funding and technical assistance for the process of designing schools for the 21st century, creating relationship-centered designs that grow professional expertise for teaching.

A program funded at \$1 billion annually to help redesign schools could support 2,000 schools per year with grants of \$500,000 each. The Biden administration included a similar proposal in their fiscal year 2023 budget request, which would leverage the Education Innovation and Research program to provide funding to “improve supports for educators that enhance the ability of schools to recruit and retain staff (e.g., structuring staffing and time to ensure educators and students are appropriately supported).”<sup>158</sup>

- **Update and fund full-service community schools.** Congress could also update and more robustly fund the Full-Service Community Schools (FSCS) program—also in partnership with states—so that it effects systemic change and its benefits are more widely felt. Community schools are intended to repair the fragmented, bureaucratic, social services gauntlet that families in need must often navigate with a student-focused approach that organizes resources from community partners where they can be most easily accessed: in school. In community schools, students and families are engaged as partners in the educational process alongside teachers and other school staff. The U.S. Department of Education's implementation of the FSCS program reflects a growing body of research

on effective community schools implementation,<sup>159</sup> prioritizing elements of community schools such as integrated student supports, expanded learning opportunities, collaborative leadership, and family and community engagement in federal COVID-19-relief spending guidance;<sup>160</sup> updated FSCS grant priorities;<sup>161</sup> and an implementation toolkit.<sup>162</sup> Research has found that such schools strengthen relationships; promote attendance, achievement, and attainment; and retain teachers, as they make schooling more responsive to the needs of all their members.<sup>163</sup>

Despite the promise of community schools for creating relationship-centered designs that support staff while meeting the social, emotional, physical and mental health, and academic needs of students, just \$75 million in grants under the FSCS program were funded in 2022. The 2023 omnibus spending bill doubles this amount, to \$150 million, but funding remains far short of what is needed. Congress could update the FSCS program to incorporate lessons from research, policy, and practice, and ensure there is an empowering and coordinating role for states and districts. In addition, the new program could include tiers of grants for planning, implementation, and expansion to help new community schools get started and to scale existing state and local approaches. Finally, Congress could reflect the level envisioned by the Full-Service Community Schools Expansion Act and fund FSCS at \$1 billion annually to respond to student and community needs.<sup>164</sup>

## 7. Rethink school accountability.

Finally, the next reauthorization of the Elementary and Secondary Education Act (currently ESSA) could help address teacher shortages by adopting a new approach to education improvement. The most recent federal survey of teacher attrition revealed that most teachers who left their roles for reasons other than retirement (about two thirds of those leaving) cited dissatisfactions with teaching, and first among these concerns were the pressures of accountability and testing.<sup>165</sup> From 2002 until 2015, under No Child Left Behind, schools not able to make targeted annual test score gains were threatened with staff firings and school closures at a time when child poverty was increasing and the Great Recession was creating budget cuts in most states. Teachers were frequently blamed for these conditions and outcomes, rather than supported in their efforts to address the growing needs of students in many communities.

The most recent federal survey of teacher attrition revealed that most teachers who left their roles for reasons other than retirement (about two thirds of those leaving) cited dissatisfactions with teaching, and first among these concerns were the pressures of accountability and testing.

Since then, in the wake of the pandemic, many organizations have called for shifts in accountability to focus more on developing continuous improvement systems for schools and districts that would support students and staff while also informing state and local policy decisions. In particular, such systems would seek to better understand and support students' opportunities to learn, including resources and learning opportunities available to them.<sup>166</sup> The U.S. Department of Education has already begun encouraging states to incorporate indicators of such opportunities to learn into their accountability systems, as seen in published guidance around revised state accountability plans.<sup>167</sup>

A new approach to accountability that focuses on students' opportunities to learn would center measures of school progress around equity indicators and authentic measures of school quality—including measures of school climate, rich curriculum, college and career-ready learning opportunities, and other factors that inform improvement, as well as a range of measures of student achievement and attainment.

For example, a bipartisan task force of state leaders convened by the Aspen Institute in 2022<sup>168</sup> outlined a set of principles that might guide this new approach, suggesting indicators that would support monitoring of key goals for education systems, opportunities that should be provided to all students, and state roles in doing so. (See “Aspen Institute Principles to Advance an Opportunity Agenda Through Public Education.”)

A federal expectation that states should develop accountability systems that monitor students' opportunities to learn in meaningful ways and that focus on valued outcomes could inspire investments in factors that influence student learning as well as equity. Such systems could also empower educators with data that help them understand where to go and how to get there.<sup>169</sup> Such a system would, as in other countries, feature close educator involvement in designing and using assessments and other measures of student outcomes and available supports to foster authentic learning for children and adults in a cycle of continuous improvement. Participating in a profession shaped by the opportunity to improve teaching and schooling, rather than one governed by fear of punishment and sanctions, will also support educator recruitment and retention.

### **Aspen Institute Principles to Advance an Opportunity Agenda Through Public Education**

1. All students deserve the opportunity to develop their character, talents, and interests, while receiving support to address individual learning needs.
2. All students deserve opportunities that prepare them to succeed in the future of work.
3. All students deserve opportunities that prepare them to fully participate in American democracy.
4. All students deserve safe and healthy environments that are conducive to academic learning.
5. All students deserve access to caring adults with expertise in creating quality learning environments and experiences.
6. All students deserve instruction and tasks that are worthy of their effort, aligned to state standards, and relevant to the skills they will need to succeed in life.
7. States should establish essential policy context and enabling conditions regarding all students' opportunities to learn.
8. Schools and public education systems need partnerships with other public agencies and service providers to adequately understand and address students' needs, opportunities, and outcomes.
9. States must strategically collect and use data to illuminate the extent to which schools are providing all students with opportunities to learn.

Source: Aspen Institute. (2022). *Opportunity to learn, responsibility to lead*. [https://www.aspeninstitute.org/wp-content/uploads/2022/09/Aspen-Ed-Soc-Opportunity-Responsibility\\_v8-single.pdf](https://www.aspeninstitute.org/wp-content/uploads/2022/09/Aspen-Ed-Soc-Opportunity-Responsibility_v8-single.pdf)

## A Moment for Action

With the extraordinary needs for learning recovery in the wake of the COVID-19 pandemic at a time when the teaching profession is in crisis, this moment marks a critical time for concerted federal and state leadership to rebuild the teaching profession. The convening power of the federal government, including the secretary of education, can be used to help encourage all levels of government to make investments that will support a well-prepared and diverse educator workforce. For example, the administration could create a Commission on the Future of the Teaching Profession to examine the pressing needs impacting the teacher workforce; better coordinate the administration's current efforts on supporting teachers; and galvanize more action at the federal, state, and local levels.

Given the acute and growing shortages of teachers, a Marshall Plan-level effort will be needed that attends to the broad array of factors affecting who enters and stays in teaching and how effective teachers can be with their students. Considerations include recruitment and preparation, mentoring, ongoing professional learning and growth opportunities, financial supports, and the conditions for teaching and learning in schools designed for the needs of this century.

Research confirms that the kinds of investments described here, which enable teachers to be well-prepared, mentored, and supported in their work, can reduce attrition from the profession while improving student learning and school functioning. Since 9 of 10 open teaching positions each year are the result of those who left the year before, reducing this turnover will reduce the number of new teachers needed, allowing for more investment in those who are entering the workforce so that they can better meet student needs and stay in the profession.

One way to enable a more holistic approach to the design and development of a strong, diverse, stable profession of teaching would be for the federal government to substantially increase state- and district-level Title I allocations—which are distributed based on student poverty levels—for the purpose of building systems to recruit, prepare, support, and retain fully prepared teachers. These funds would be usable for educator residencies and GYO programs, mentoring, the development and sharing of expertise, and school redesigns that support personalization for students and collaboration time for teachers. Coupled with meaningful evaluation strategies, such an initiative would allow the nation to learn about what works while allowing states, districts, and schools to move beyond the heritage of the factory model and invent systems that better enable powerful teaching and learning.

The current crisis offers the opportunity to break with the past, rethink schools, and reconsider what teaching should look like and how it can be supported. Educators are inspired and motivated by the opportunity to help students succeed. Creating the conditions of schooling that support them in this work can simultaneously build the profession.

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