



Teacher Shortages: What We Know

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This brief is the first in a series of reports examining the teacher shortage dilemma. It considers what the research says about teacher shortages and highlights recent state task force findings. Designed to guide state leaders in policy decisions, the briefs that follow examine five strategies states are using to address shortages:

- 1 ALTERNATIVE CERTIFICATION**
- 2 FINANCIAL INCENTIVES**
- 3 INDUCTION AND MENTORSHIP**
- 4 EVALUATION AND FEEDBACK**
- 5 TEACHER LEADERSHIP**



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What does the data tell us?

There is no doubt teacher shortages have plagued the minds of education leaders across the states. In October 2015, the president of the Nevada State Board of Education described the state’s teacher shortage as “horrific” and warned that absent improvement “we’re going to all sink.”¹ In the same month, the Texas Education Commissioner labeled the state’s shortage as the “biggest threat” to schools.²

THE TEACHER LABOR MARKET

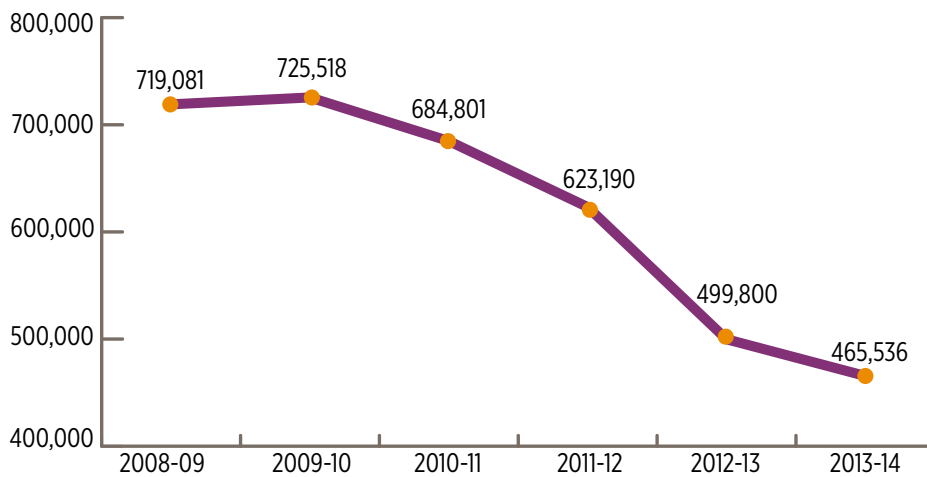
Fears stem in part over concerns about the overall condition of the teacher labor market. Recent national analyses suggest potential problems with teacher recruitment and retention. According to recent data from ACT and the Department of Education, fewer high school graduates are interested in pursuing education majors³ and fewer college students are pursuing teaching careers (See Figures 1 and 2).⁴

FIGURE 1: HIGH SCHOOL STUDENT INTEREST IN GENERAL TEACHER EDUCATION MAJORS: 2010-2014

		2010	2011	2012	2013	2014
Nation	Percent	15%	13%	12%	12%	12%
	N Count	15,595	13,754	11,347	11,089	10,678

Source: ACT, *The Condition of Future Educators 2014* (Iowa City: ACT, 2015), 3, <http://www.act.org/content/dam/act/unsecured/documents/CCCR-2014-FutureEducators.pdf> (accessed April 6, 2016).

FIGURE 2: ENROLLMENT IN TEACHER PREPARATION PROGRAMS: 2008-2009 THROUGH 2013-2014



Source: U.S. Department of Education, Office of Postsecondary Education, *Enrollment in Teacher Preparation Programs* (Washington, D.C.: U.S. Department of Education, 2015), 5-6, https://title2.ed.gov/Public/44077_Title_II_Issue_Brief_Enrollment_V4a.pdf (accessed April 7, 2016). States first began reporting the number of individuals enrolled in teacher preparation programs in AY 2008-09.



Of those who do enter the profession, many go on to report overall job dissatisfaction, a loss of autonomy, and limitations in feedback, recognition, advancement and reward.⁵ Though their effects vary, these conditions can and do contribute to teacher turnover.⁶ In a recent longitudinal study of a nationally representative cohort, teacher turnover, as measured annually by the combined percentage of “movers” and “leavers,” after five years was 46 percent (29 percent of teachers moved schools or districts and 17 percent stopped teaching).⁷

These data, coupled with concerns about a growing K-12 student population, suggest the makings of supply deficits in the teacher labor market.

HOWEVER, A MORE THOROUGH REVIEW OF LONG-TERM TRENDS INDICATES THAT THE NATION AS A WHOLE IS UNLIKELY EXPERIENCING A SHORTAGE CRISIS.

LONG-TERM TRENDS

Teacher Production

According to the National Center for Analysis of Longitudinal Data in Education Research (CALDER), long term trends indicate two major points about teacher production:

- 1.) **Teacher production is cyclical and responsive to the state of the economy.**⁸ While it is true that enrollment in teacher preparation programs has diminished in recent years, this is more likely due to the Great Recession than to systemic, long-term issues with the teacher labor market. According to one recent study, college students exposed to higher unemployment during their school tenure “select majors that earn higher wages, that have better employment prospects, and that [...] lead to work in a related field.”⁹ As a result, poor economies tend to drive students away from teaching to careers that are more lucrative.¹⁰ Notably, in 2013-14 enrollment drops were less steep than they were in 2010 and 2011 (see Figure 1).
- 2.) **Overall, teacher production has grown steadily since 1985** and is projected to continue to grow.¹¹ According to the National Center for Education Statistics (NCES), the number of new teacher hires in the United States is projected to increase 29 percent between 2011 and 2022, and the total number of elementary and secondary teachers is projected to increase 12 percent. Despite increasing student enrollment, NCES projects that student-teacher ratios in elementary and secondary schools will continue to decrease.¹²

According to CALDER, about half of the teachers who complete teacher preparation programs are hired to teach in classrooms, meaning as a nation, we continually produce more teachers than the market demands.¹³

Teacher Turnover

The data on teacher turnover suggests that the teacher labor market might not be in as bad a condition as some suggest. According to one analysis of national data, teacher turnover has been fairly stable since 2004-05.¹⁴ And recent federal data indicates that five year teacher attrition rates are 17 percent, much lower than the 50 percent attrition rates commonly reported.¹⁵ What was once a “catch-all statistic based on the work of University of Pennsylvania Professor Richard Ingersoll—that half of all teachers leave within the first five years of entering the profession—has shown to be unreliable, even according to Ingersoll himself.”¹⁶ In fact, even among the 17 percent of individuals who left teaching, approximately half are expected to return because they left for reasons such as changing residences, pregnancy and child-rearing and involuntary transfers.¹⁷



Where do shortages exist?

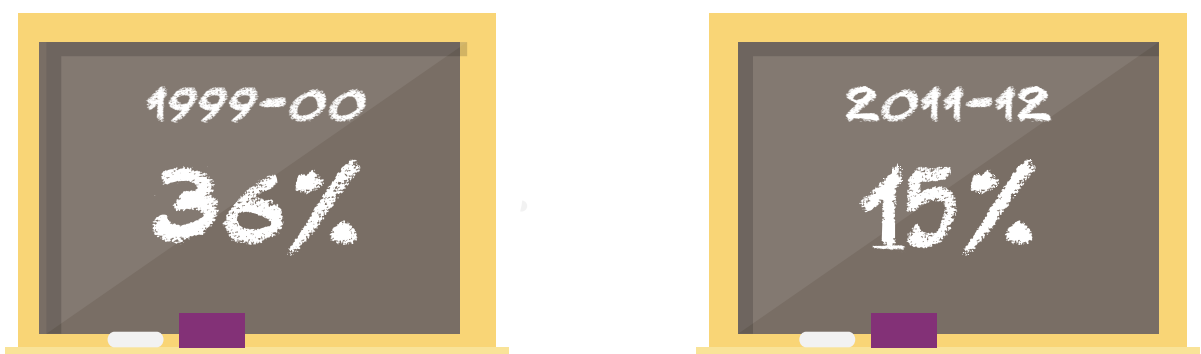
Reports of Teacher Shortages: According to recently released federal data, the percentages of schools reporting that they had teaching vacancies and difficult-to-staff positions have declined significantly since 1999-00.¹⁸ Overall, reports of teacher shortages were fewer in 2011-12 than they were in 1999-00 (See Graphic 1).

GRAPHIC 1:

Percent of schools with at least one teaching vacancy



Percent of schools with at least one subject area with difficult-to-staff teaching positions



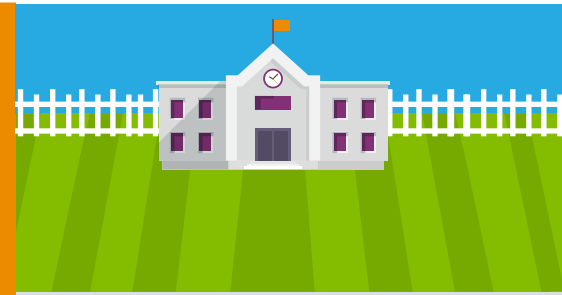


To date, evidence is insufficient to support claims of an increasing teacher shortage on a national level.

WHAT REMAINS, HOWEVER, ARE SERIOUS CONCERNS ABOUT SHORTAGES IN MANY SCHOOLS, DISTRICTS AND STATES.

Research supports three main points about teacher shortages:

- 1.) **Teacher shortages *within* states are impacted by the unique education policies that govern that state.** Variations in state policy make national teacher supply numbers largely irrelevant when considering state shortages.¹⁹ In-state teacher licensure requirements and the ease or difficulty of transferring licensing credentials between states, for instance, can affect a state's ability to attract or retain teachers. While national numbers suggest an overabundance of new teacher candidates, many states struggle to align their own candidate supply with their workforce needs, and as a result, face real teacher shortage crises.²⁰
- 2.) **Teacher shortages are often confined to certain subject areas** such as math, science and special education.²¹ Since 1999-00, staffing challenges have lessened but remain in math and special education, but since 2003-04 staffing challenges in science have failed to improve.²² Colleges in many states are overproducing candidates with expertise in already-staffed, low-demand subjects such as elementary education and under-producing candidates with expertise in understaffed, high-demand subjects such as science and math.²³
- 3.) **Teacher shortages are often confined to schools with specific characteristics.** Urban, rural, high-poverty, high-minority and low-achieving schools face persistent staffing challenges. Although significantly smaller percentages of these schools reported having one or more difficult-to-staff teaching positions in 2011-12 than in 1999-00, problems persist.²⁴ Working conditions (such as lower salaries and bigger classes) and neighborhood characteristics (such as safety and amenities) influence teachers' decisions about where to teach.²⁵



RURAL SHORTAGES:

Some rural schools see consistent staffing problems and can struggle to attract highly qualified teachers. Recruiting obstacles include: a limited local teacher supply, lack of rigorous training and certification options, and geographic and social isolation. Strategies to attract quality teachers to rural areas are provided by the Rural Opportunities Consortium of Idaho in **The Supply and Demand for Rural Teachers** and **Boosting Idaho Rural Students' College Prospects by Expanding Access to Great Teaching.**



How are states responding?

STATE TEACHER SHORTAGE TASK FORCES AND OTHER WORKING GROUPS

State legislatures, legislative research offices and departments of education have and continue to examine their own teacher shortages by convening task forces and other working groups to explore the data and provide recommendations for policymakers. Table 1 on page 8 highlights the findings and recommendations of reports in 2015 and 2016 from the seven states that have released findings.

Though the findings varied from one state to the next, all of the task forces that set out to identify whether shortages actually existed identified a shortage of some kind. In addition:

- Four states explicitly identified a shortage of teachers in hard-to-staff subject areas such as science, math and special education.
- Two states explicitly identified a shortage of teachers in hard-to-staff schools such as inner-city, low-income and rural schools.

Though topics such as licensure reciprocity, teacher pensions and professional development made the list of recommendations, the most common recommendations involved financial incentives, induction and mentoring, teacher leadership and marketing/outreach. Accordingly:

- Six states recommended offering financial incentives such as diversified pay and loan forgiveness.
- Five states recommended creating or improving teacher induction and mentoring programs.
- Three states recommended creating pathways for teacher leadership.
- Three states recommended launching marketing/outreach campaigns to recruit teachers and elevate the profession.

For general employee retention guidelines and best practices, see [Retaining Talent: A Guide to Analyzing and Managing Employee Turnover](#) by the SHRM Foundation.



Common policy responses

In order to fill vacant teaching positions, many states and districts choose to loosen hiring standards by, for instance, issuing emergency teaching certificates and allowing teachers to teach in classrooms for which they are not qualified to teach. While these responses limit vacancies, they might also contribute to staffing inadequacies, where students are receiving instruction from the least experienced and/or least qualified teachers.²⁶ This is especially a problem in high-poverty, urban and low-performing schools where staffing inadequacies and turnover are most common.²⁷ Unfortunately, “when the labor supply improves [...] there isn’t the same countervailing pressure to tighten up hiring practices.”²⁸ Over time, desperate recruitment efforts might lower teacher workforce quality. In addition, efforts focused solely on recruitment fail to address longstanding retention issues, and as a result, contribute to a “revolving door of in-and-out recruits.”²⁹

Accordingly, with a ready supply of entrants into most teaching positions, efforts to address shortages should be less about recruiting teachers generally, and more about recruiting and retaining the right teachers, in the right subjects, for the right schools. In the briefs that follow, we examine five common policy responses to state teacher shortage crises. They are:

1 ALTERNATIVE CERTIFICATION

2 FINANCIAL INCENTIVES

3 INDUCTION AND MENTORSHIP

4 EVALUATION AND FEEDBACK

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TABLE 1: SUMMARIES OF TASK FORCE REPORTS AND OTHER INTERNAL REVIEWS

Since 2015, at least 11 state task forces and other working groups have been created to examine teacher shortages and provide potential solutions to policymakers. The table below highlights the findings and recommendations from seven states. The findings of task forces and other working groups convened in Hawaii, North Dakota, Wisconsin and West Virginia to examine teacher recruitment and/or retention are forthcoming.

STATE	BACKGROUND	IDENTIFIED SHORTAGES	RECOMMENDATIONS FOR POLICYMAKERS
<p>Arizona</p> <p>Educator Retention and Recruitment Initial Report (2015); Educator Retention and Recruitment Second Report (2016)</p>	<p>Formed by the Arizona Department of Education to summarize data and research on teacher recruitment and retention and to provide recommendations for policymakers and educators.</p>	<p>Statewide teacher shortage. Science, math, special education and kindergarten.</p>	<ol style="list-style-type: none"> 1.) Publicly acknowledge the value and need of teachers. 2.) Increase K-12 funding to address compensation issues. 3.) Reduce the administrative burden on school districts.
<p>California</p> <p>The 2016-17 Budget: Proposition 98 Education Analysis (Legislative Analyst's Office, 2016)</p> <p>For an external review, see Addressing California's Emerging Teacher Shortage: An Analysis of Sources and Solutions (Learning Policy Institute, 2016)</p>	<p>Set out to analyze Gov. Jerry Brown's Proposition 98 budget package. Reviews demand, supply and turnover trends in the market for teachers in the state, examines evidence for shortages and past responses to shortages, and raises issues for the legislature to consider when developing new policy responses.</p>	<p>Special education, science and math, and in inner-city and low-income schools. Found that staffing difficulties in rural schools are more nuanced.</p> <p>*Found that the state teacher market appeared to be in the process of correcting itself.</p>	<ol style="list-style-type: none"> 1.) Focus on longstanding shortage areas. 2.) Encourage districts to engage in quality teacher induction programs. 3.) Offer a bonus for teachers who teach in perennial shortage areas. 4.) Create a tuition grant program for teachers to work in perennial shortage areas. 5.) Re-engage former teachers or recruiting out-of-state teachers through outreach. 6.) Re-establish a database to link teacher data across several state agencies.
<p>Delaware</p> <p>Committee to Advance Educator Compensation and Careers (CAECC): Provisional Recommendations (2015)</p>	<p>S.B. 254 (2014) recognized that teachers are assuming more responsibility and leadership roles not reflected in the teacher compensation system, and that more should be done to attract and retain quality teachers. Created the CAECC to design recommendations within a set of parameters.</p>		<ol style="list-style-type: none"> 1.) A new career pathway framework, to include opportunities for teacher leadership roles and higher pay. 2.) The inclusion of opt-in considerations for current educators so they can elect to remain in the current system. 3.) The formation of two working groups to clarify leadership roles and details associated with implementation.
<p>Illinois</p> <p>Teacher Recruiting and Retention Task Force Report (2015)</p>	<p>H.J.R. 27 (2013) created the Teacher Recruiting and Retention Task Force to examine the impact of lower pension benefits on the recruitment and retention of public school teachers.</p>		<ol style="list-style-type: none"> 1.) A follow-up study to include another review on the effect of lower pensions as well as a broader examination of teacher preparation enrollment and completion trends.



STATE	BACKGROUND	IDENTIFIED SHORTAGES	RECOMMENDATIONS FOR POLICYMAKERS
<p>Indiana</p> <p>Interim Study Committee on Education (2015)</p>	<p>The committee was charged by the legislature to study a number of education topics including teacher shortages.</p>	<p>STEM, special education and dual credit classes.</p>	<ol style="list-style-type: none"> 1.) Encourage or provide incentives for the establishment of viable mentorship programs. 2.) Provide further review for increased salary flexibility in teacher shortage areas per school district. 3.) Provide incentives for STEM grant programs to focus resources directly on the most critical shortage areas. 4.) Establish a comprehensive annual summary of school corporation teacher needs by subject area and geographic location. 5.) Conduct a study on providing incentives and flexibility to transition to teaching programs. 6.) Provide a significant amount of new money to schools for educator salaries, specifically to educators with one to ten years of experience. 7.) Consider the feasibility of expanding Indiana teacher loan forgiveness programs or providing additional incentives for teachers teaching in a content shortage area or locality shortage area. 8.) Consider the feasibility of policies which remove barriers pertaining to teacher licensure to encourage more reciprocity with other states. 9.) Review teacher benefits to determine if increasing teacher salaries and the transition to a defined contribution retirement plan would improve teacher retention. 10.) Consider the feasibility of recommendations made by the Dual Credit Advisory Commission and the Indiana Department of Education Teacher Shortage Commission. 11.) Consider additional funding and incentives for teacher professional development.



STATE	BACKGROUND	IDENTIFIED SHORTAGES	RECOMMENDATIONS FOR POLICYMAKERS
<p>Indiana</p> <p>Blue Ribbon Commission on the Recruitment and Retention of Excellent Educators (2016)</p> <p>For an external review, see Indiana's Demand & Supply Issues for K-12 Educators (Ball State University, 2015)</p>	<p>Established by Supt. of Public Instruction Glenda Ritz and the Indiana Department of Education to examine to craft recommendations for the Indiana General Assembly to address teacher shortages.</p>	<p>Excellent teachers in the state.</p>	<ol style="list-style-type: none"> 1.) Establish a state-funded, ongoing investment in a mentoring system. 2.) Create and sustain a marketing campaign to promote the profession. 3.) Allow for locally-developed compensation models that meet specified criteria. 4.) Clarify how teachers use data from assessments to clarify the purpose and reduce the number of assessments. 5.) Recruit and retain a diverse workforce. 6.) Strengthen partnerships between schools and colleges and requiring extensive pre-service clinical experiences. 7.) Fund job-embedded professional development. 8.) Re-envision teacher career pathways and leadership opportunities.
<p>Oklahoma</p> <p>Teacher Shortage Task Force Preliminary Report (2015)</p> <p>See also Oklahoma Educator Workforce Shortage Task Force Initial Report (2014) for additional findings/recommendations not summarized here.</p>	<p>Formed by the Oklahoma State Department of Education to identify and recommend successful strategies for curbing the statewide teacher shortage crisis.</p>	<p>Statewide teacher shortage.</p>	<ol style="list-style-type: none"> 1.) Allow retired teachers to serve as mentors. 2.) Create a scholarship program for test-takers of certification exams. 3.) Extend certification to teachers from other states, regardless of teaching experience. 4.) Allow certain work experience to substitute for the GPA requirement. 5.) Increase time adjunct teachers can teach in a classroom. 6.) Support a more cost effective certification program. 7.) Fund a teacher recruitment program with matching funds from the business and education community. 8.) Incentivize graduates of educator preparation programs to teach in hard-to-staff schools. 9.) Create a teacher/leader pilot program.
<p>South Dakota</p> <p>Blue Ribbon Task Force Final Report (2015)</p>	<p>Established by Gov. Dennis Daugaard to examine school funding, student achievement and the state's teacher shortage.</p>	<p>Statewide teacher shortage. Struggles persisted in rural districts and in certain subjects, such as math. Projected that in five years, new teacher supply would not meet district needs.</p>	<ol style="list-style-type: none"> 1.) Increase teacher salaries. 2.) Grant full reciprocity. 3.) Invest in mentoring. 4.) Create a New Teachers Academy, (a summer workshop for novice teachers). 5.) Fund National Board Certification.



Endnotes

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