

## **Memo**

**Date:** 9/23/2022

**To:** Wyoming Joint Education Committee (Committee)

**From:** Dr. Christiana Stoddard

**Subject:** Teacher Shortages and Effective Policies to Improve Recruitment and Retention

At the request of the Committee, I compiled the following report to summarize what is known about teaching shortages nationally and in Wyoming. The report includes a list of the most effective policies that have been found to improve teacher recruitment and retention and specific state examples. Based on this review, the following are options for consideration by this Committee and the Wyoming Legislature.

- 1. Improve the collection of school level data on recruitment and retention.** Wyoming is one of 13 states with no data on teacher vacancies. Recruitment and retention issues tend to be concentrated in specific districts and subject areas, and target policies are the most effective. At a minimum, data for each district should include:
  - Number of teacher openings unfilled by the start of the school year and the specific subject areas of these positions (e.g., elementary special education, high school STEM field, etc.)
  - Number and subject areas of teaching openings with fewer than 5 applicants
  - Number and subject areas of teaching positions filled by (1) teachers who are neither fully certified nor earning an alternative certification; or (2) teachers who are not authorized to teach the courses to which they are assigned.
- 2. Develop pipelines of new teachers directed at specific school districts.** These could include teacher pathway programs for paraprofessionals and teacher residency programs for education students targeted at the school districts with the most recruitment difficulties. According to the New America report in June 2022, Wyoming was the only state in the nation without any “Grow Your Own” program either at the state or district level to build the pipeline of teachers. As a rural state, this is one of the most promising policies Wyoming could adopt.
- 3. Examine the rate at which University of Wyoming education graduates take and pass the teacher certification exam.** As reported in the “Current Status of Cost Pressures on Teacher Salaries in Wyoming”, the number of individuals taking and passing the certification exam compared to the number of graduates is far lower in Wyoming than other states in the region. This means that many potential teachers are not being brought into the profession.

# **An Overview of State Policies to Improve Teacher Recruitment and Retention**

**Report to the  
Wyoming  
the Joint Education Committee**

**September 2022**

Report prepared by Dr. Christiana Stoddard

## Is there a teaching shortage?

- One commonly cited fact is that **fewer college students are going into teaching as a profession**. Teacher preparation programs across the United States saw a 22% decline in enrollment from 2005/06 to 2018/19. In contrast, other BA degrees rose by 29 percent.<sup>1</sup>
- Most studies show that problems with teacher recruitment and retention are not universal, but are instead **clustered in key areas and subjects**. Studies find the most problems in highly disadvantaged communities and rural areas, and in special education, foreign languages, and STEM (i.e., science, technology, engineering, and mathematics) fields (Education Commission of the States 2022, Dee and Goldhaber 2016, Cowan et al., 2016; Goldhaber & Theobald, 2016). As the Education Commission of the States suggests:

“Given that shortages are most pronounced in specific settings, recruiting and retaining teachers is less about teachers generally and more about finding and keeping the right teachers, in the right subjects, for the right schools.”<sup>2</sup>

- **Student enrollments are also projected to drop steeply** over the next several decades. Some researchers argue that the decline in teacher preparation programs will match the coming decline in student enrollment.

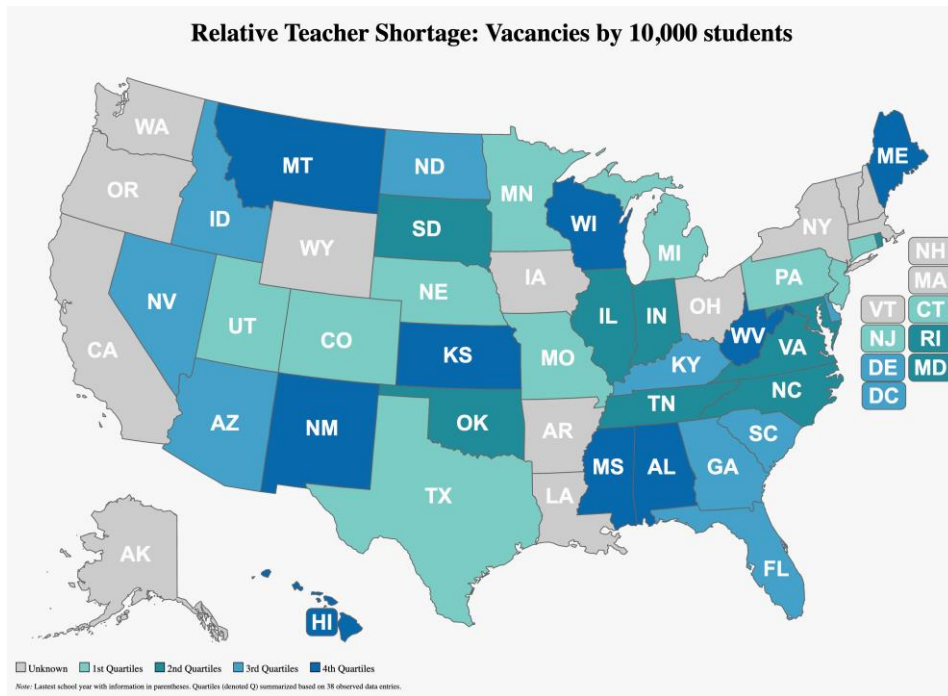
## Is there a teaching shortage in Wyoming?

- According to one recent study, **Wyoming is one of 13 states with no data on teacher vacancies**, making it difficult to assess the extent of shortages or to compare Wyoming to other states (Nguyen et al 2022). (See **Figure 1**.)
- For underqualified hires, **Wyoming ranks 27<sup>th</sup> in terms of the number of underqualified teachers** per 10,000 students, with 181 underqualified teachers or 19.45 underqualified teachers per 10,000 students. (See **Figure 2**.)
- Wyoming does not have state level data that allow for an assessment of: (1) whether there is a teaching shortage, (2) if there is a shortage, whether it is widespread or concentrated in certain communities, and (3) to what degree shortages are mostly specific to certain teaching fields (e.g., special education).

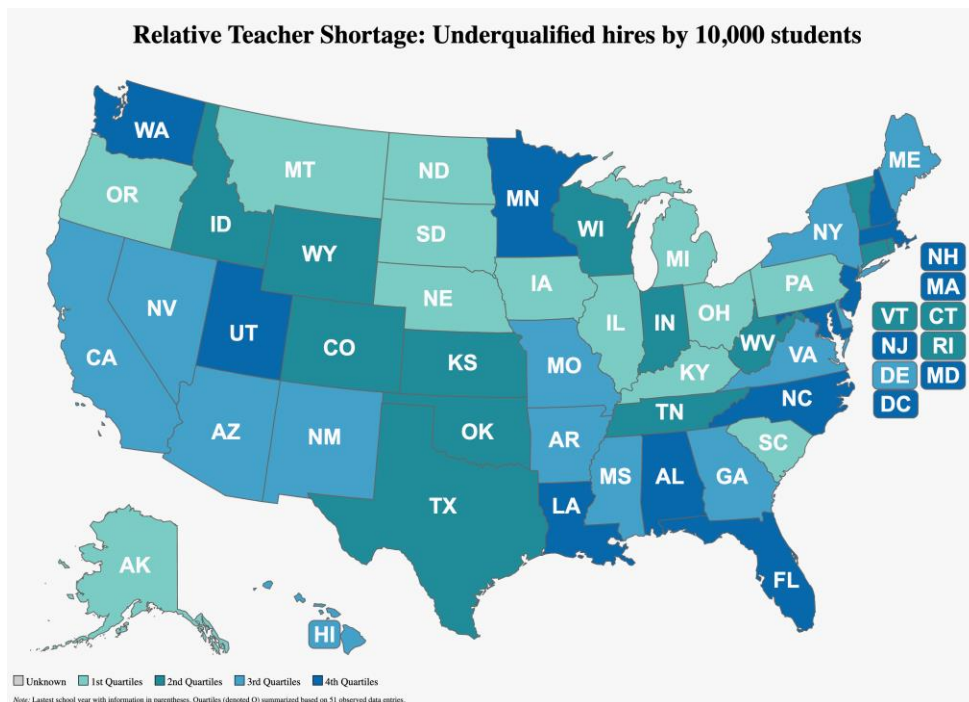
<sup>1</sup> <https://www.edweek.org/teaching-learning/fewer-people-are-getting-teacher-degrees-prep-programs-sound-the-alarm/2022/03>

<sup>2</sup> Education Commission of the States. (June 2022) *State Policy Levers to Address Teacher Shortages*. <https://www.ecs.org/state-policy-levers-to-address-teacher-shortages/>

**Figure 1:** Wyoming is one of 13 states without data on teacher vacancies



**Figure 2:** Wyoming ranks in the 2<sup>nd</sup> quartile for underqualified hires.



**Source:** Figures from <https://www.teachershortages.com/> These figures derived from the research in Nguyen, T., Lam, C., & Bruno, P. (2022). Is there a national teacher shortage? A systematic examination of reports of teacher shortages in the United States. (EdWorkingPaper: 22-631).

## Effective policies to increase teacher recruitment and retention

The following is a list of strategies with evidence indicating improvement in teacher recruitment and retention. This is followed by an explanation of each policy and examples from adopting states.

### A. Update administrative policies

1. Collect data on vacancies across the state, in specific schools, and by field.
2. Strengthen hiring practices. Recruit early—ideally in the spring.
3. Modify license requirements and interstate license agreements to allow for more applicants.

### B. Target specific fields and areas

4. Improve the match between state needs and student training.
5. Provide service scholarships/loan forgiveness/tax credits for prospective teachers, particularly in specific fields.
6. Give targeted teacher retention bonuses for specific areas/fields.

### C. Develop pipelines of new teachers linked to specific schools

7. Develop year-long residencies for teachers in training that pay a stipend and tuition.
8. Build pathways programs for paraprofessionals and others to become credentialled at lower cost.
9. Develop high quality induction programs for first-year teachers.

#### Other ideas with less support or negative outcomes:

- One suggestion in recent years is to provide more support staff, including mental health professionals or high impact tutoring, to reduce burdens on teachers. To date there is little data on how this effects teacher recruitment and retention, although future research may find positive effects.
- Some areas have implemented a four-day school week to attract teachers. However, research increasingly finds that this schedule leads to worse student outcomes (Thompson 2022).

## A. Update administrative policies

### 1. Collect data on vacancies across the state, in specific schools, and by field.

Recent research by Nguyen, et al (2022) describes the level of teacher shortages across states. They note that better state data is a requirement for addressing shortages:

“We recommend districts or other relevant regional or statewide authorities maintain and make accessible **data on job postings and unfilled teaching positions**. . . without this kind of detailed, readily-available data on which schools are experiencing shortages of which kind of teacher, state policymakers themselves are likely to struggle to make targeted investments in teacher preparation that we recommend”

“**More data on actual job openings and posting**—and ideally detail such as the **number of applicants**—could help illuminate the extent to which weaker teacher certifications indicate true teacher shortages. Data of this sort may be increasingly available **as districts use electronic job boards to post openings and solicit applications**. States may also find it worthwhile to bolster district capacity to collect these data because additional evidence on local teacher labor markets could be useful for developing state policy aimed at addressing teacher shortages.”

#### State Examples:

FL Florida produces school level reports with detailed information on staff shortages and qualifications. These include:

- the total number of full-time equivalent teaching positions at the school,
- the numbers that are completely unfilled,
- the numbers filled by (i) teachers who have completed their teacher certification and are authorized for their subjects; (ii) teachers enrolled in an alternative certification program (i.e., who are in the process of earning certification); (iii) teachers who are neither fully certified nor earning an alternative certification; and (iv) teachers who are not authorized to teach the courses to which they are assigned.

IN Indiana launched a new data system measuring educator marketplace demand in March 2022. Another system measuring teacher supply is expected to begin this fall.

## 2. Strengthen hiring practices to recruit earlier in the year

Clear evidence shows late hiring harms both student achievement and teacher retention. Papay and Kraft (2016) find that students in classrooms staffed by teachers who were hired after the beginning of the school year perform worse on math and reading tests, and that retention of late-hired teachers is substantially lower (Dee and Goldhaber 2017).

- Kraft et al (2020) describe efforts in MA that allowed schools to conduct early, open searches rather than prioritizing internal transfers. The hire dates moved about two months earlier, which increased new hire retention and improved student achievement.
- Flanigan (2016) reports successful use of data mining and analytics to guide early and effective recruiting in specific districts; Wexler (2016) reports use of social media (e.g., Twitter, Facebook, LinkedIn) to identify promising candidates.

## 3. Allow for more interstate license agreements.

Many states have reciprocity agreements to allow transfers of teachers from other states, however, few states allow full reciprocity for all fully licensed teachers from a different state. The limits on moving across states limits efforts to address teacher shortages if surplus teacher labor in one subject area and state cannot easily be transferred to a different state.

Several studies find that the interstate mobility of teachers, even those residing near state borders, is substantially below levels that would be expected given the mobility of workers in other contexts (Goldhaber et al. 2015; Kim et al. 2016). For example, one study found that that 5 to 10 percent of the teacher workforce moved within the state each year, but less than 0.1 percent moved across states (Podgursky et al. 2016).

### State Examples:

As of June 2020, the Education Commission of the States reported that 8 states offer full teacher license reciprocity. In these states, fully licensed out-of-state teachers, regardless of experience, are immediately eligible to receive a standard teaching license and are subject to few or no additional requirements. These include AZ, FL, HI, IL, MS, MO, NV, and OK.

AZ Out-of-state applicants who: 1) are in good standing with their state, 2) hold a comparable valid certificate, and 3) and hold a fingerprint clearance card, are to be issued a standard teaching certificate without any other requirement.

## **B. Target specific fields and areas**

### **4. Improve the match between state needs and student training.**

Students in teacher preparation programs have starkly different employment outcomes based on their field of specialization: special education and STEM graduates in one study were 10 to 12 percentage points more likely to be hired than elementary education majors (Goldhaber, Krieg, and Theobald 2014). One proposal that has been made is to disseminate specific information on job prospects in particular fields/areas to education students to enable better matches between state needs and student training. This would include hiring rates for specific teaching majors—e.g., track the fraction of elementary education majors who get jobs, special ed majors, STEM teaching majors, etc. (Dee and Goldhaber 2017).

### **5. Provide scholarships/loan forgiveness/tax credits for prospective teachers in specific fields or areas.**

This is one of the most common state policies to recruit students into teaching, with Wyoming being reported as one of the states with forgivable student for shortage subject areas. In accordance with W.S. 21-7-601(o), the Wyoming Teacher Shortage Loan Repayment Program expired effective June 30, 2016.

#### **State Examples:**

- MD** The University of Maryland gives in-state education majors a two-year \$2,000 scholarship for students in specific fields. In 2022, the eligible areas included special education, high school Spanish, art, computer science, and middle school math and science. Maryland also offers loan repayment assistance for public teachers who have taught in the state for at least two years; have received the highest performance evaluation rating; and teach in high-need subject areas or in schools serving large percentages of students with families from low incomes.
- NC** North Carolina State's college of education is partnering with school districts in the state with difficulty attracting teachers, stating "Our mission is to support the state and produce the teachers the state needs."<sup>3,4</sup> Students apply to the program. After each of the first four semesters of student-teaching in the district, they receive a \$2,500 award for a total of \$10,000 total. Preference is given to those planning to teach in math, science, and special education.

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<sup>3</sup> <https://www.edweek.org/teaching-learning/fewer-people-are-getting-teacher-degrees-prep-programs-sound-the-alarm/2022/03>

<sup>4</sup> <https://ced.ncsu.edu/ncstate-education-scholars/>

## 6. Give targeted teacher retention bonuses for specific areas/fields.

The Education Commission of the State reports that as of 2019, 29 states allowed additional pay for teachers working in underserved schools or shortage subject areas. Wyoming is reported as one of these states, with the note that “Statute permits districts in locations with “unique circumstances” to provide additional compensation in order to employ teachers.”<sup>5</sup> (Note that Wyoming also provides an annual \$4,000 bonus for National Board Certified Teachers, but this is not directed at specific fields or areas.)

There are a variety of different ways that additional payments are structured.

### State Examples:

FL: Newly hired certified teachers in mathematics, science, computer science, reading, or civics are eligible for a **one-time recruitment incentive**.

GA: Secondary math and science teachers are compensated at the level of an educator with six years of experience on the state salary schedule. After five years of service, they are awarded **an additional year of credit on the salary schedule**.

LA: The Critical Teacher Shortage Incentive Program provides a **\$3,000 salary supplement** for newly certified teachers who teach mathematics, biology, chemistry, physics, or special education for their **first four years** in the classroom. The Teach Louisiana First Program provides incentive payments to highly-qualified teachers who teach a core subject in a low-performing school.

MN: Statute provides that **alternative teacher pay system** agreements between districts and teachers may include a hiring bonus or other added compensation for teachers identified as highly effective, teachers qualified for high-need or hard-to-fill positions and teachers in hard-to-staff schools including those identified as high-poverty, geographically isolated, or low-performing.

UT: The Teacher Salary Supplement Program provides a **salary supplement of \$4,100** for qualified teachers who are employed to teach secondary-level mathematics, grade seven or eight integrated science, chemistry, physics, computer science, special education, or deaf education. The Effective Teachers in High Poverty Schools Incentive Program provides funding for an **annual salary bonus of \$5,000** for teachers working in a high-poverty school that achieve a median growth percentile of at least 70 percent.

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<sup>5</sup> <https://reports.ecs.org/comparisons/teacher-recruitment-and-retention-12>

## **Develop pipelines of new teachers linked to specific schools**

Research has found that where a prospective teacher does student teaching is more closely linked to their first job location than where their teacher education program was located or the candidate's home-town. Dee and Goldhaber (2017) found that 40 percent of teachers got their first job teaching in the same district in which they taught as students, and more than 15 percent of teacher candidates were employed in the same school in which they student taught. This has led to a number of residency, "grow your own," and pathway programs that connect hard-to-staff schools with teachers-in-training or community members.

### **7. Develop residencies for teachers-in-training.**

Typically, these residency programs allow not-yet licensed teachers to teach as apprentices for one year under the intensive supervision and mentorship of an experienced teacher. Residents also complete course work during that year, but they are compensated with a stipend and tuition assistance, usually in exchange for agreeing to teach in the district for a minimum number of years. These programs are often developed in partnership with districts and universities. Papay et al (2012) and Podolsky et al (2019) both find reduced teacher exits from residencies, and some evidence of positive effects on student outcomes.

#### **State Examples:**

West Virginia, New Mexico, Pennsylvania, California, and Mississippi are all reported to be developing significant residency programs.

NM The University of New Mexico and New Mexico State University are partnering with districts in a residency program established in 2021, with \$1 million in state funds. Students are given a \$20,000 stipend in the year of their residency.

### **8. Build "grow your own" pathways programs for paraprofessionals or other local residents to become credentialed at lower cost.**

"Grow your Own" programs are typically partnerships between school districts and higher education institutions that recruit and prepare teachers from a school district's community, particularly for high need subjects like special education or bilingual education and in rural areas. A 2022 review of these programs showed 29 programs with official state-led policies, and many other states with some GYO programs operating in individual districts. In fact, according to this review "Only one state (WY) did not have some type of GYO program."<sup>6</sup>

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<sup>6</sup> See <https://www.newamerica.org/education-policy/reports/grow-your-own-teachers/a-look-at-the-data>

### **State Examples:**

- MN: High school students can enroll in education-focused courses and earn dual credit for high school and college. (This is a common option in many states.)
- UT: Utah State University has partnered with some school districts to establish a certificate program for current paraprofessionals who only have a high school degree. If they earn the certificate, some of the participating districts will give them an hourly raise—and the paraprofessionals will have credits under their belt that can be applied toward an associate’s degree. If they choose to go on and earn their associate degree, Utah State will recruit them to earn their bachelor’s degree.
- CA: California’s Classified School Employee Teacher Credentialing Program, provides annual scholarships of \$4,000 to help paraeducators and other school staff earn an undergraduate degree and teaching credential.

## **9. Develop high quality induction programs for first year teachers.**

National research finds that 20 percent of new teacher hires have limited classroom experience before being hired and 44 percent of new teachers exit teaching within 5 years.<sup>7</sup> Accordingly, 31 states as of 2019 had induction or mentoring programs for new teachers, with 10 states requiring mentoring for one year and 17 requiring mentoring for 2 or 3 years.<sup>8</sup> As of that report, Wyoming did not have a teacher induction program. Research on mentoring and induction programs has been somewhat mixed in terms of the effects on teacher retention, but most have found that intensive and comprehensive mentoring and induction programs reduce teacher exits and improve student outcomes.<sup>9</sup> The New Teacher Center model is a common model with strong research support, although less comprehensive mentoring programs show limited effects (Goldrick 2009).

### **State Examples:**

- AK: “Alaska employs select retired teachers as full-time mentors for first and second-year teachers — a program based on the model developed at the New Teacher Center. Mentors use formative assessment tools to guide mentoring activities, and the program has demonstrated success in improving the retention of early career teachers. Before the program’s implementation, the retention rate for new teachers was about 68%. According to the most recent data, the average retention rate of early career teachers in the induction and mentorship program averages 79%.”<sup>10</sup>

<sup>7</sup> Ingersoll, Richard M.; Merrill, Elizabeth; Stuckey, Daniel; and Collins, Gregory. (2018).

<sup>8</sup> <https://reports.ecs.org/comparisons/teacher-recruitment-and-retention-16>

<sup>9</sup> <https://files.eric.ed.gov/fulltext/ED597293.pdf>

<sup>10</sup> <https://www.ecs.org/wp-content/uploads/State-Policy-Levers-to-Address-Teacher-Shortages.pdf>

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