

STATE OF THE STATES 2022

Teacher Compensation Strategies

SEPTEMBER 2022

INTRODUCTION

Thinking strategically about teacher salaries is critical to attracting and retaining qualified, effective, and diverse teachers.

Salaries are one of the most powerful policy levers states and school districts can use to attract qualified, effective, and diverse teachers. However, strategic pay remains underutilized as a tool to attract teachers to the schools or subjects that are traditionally harder to staff.¹ Similarly, few states have policies that consider performance in salary schedules or reward prior relevant work experience in order to attract career switchers to the teaching profession.

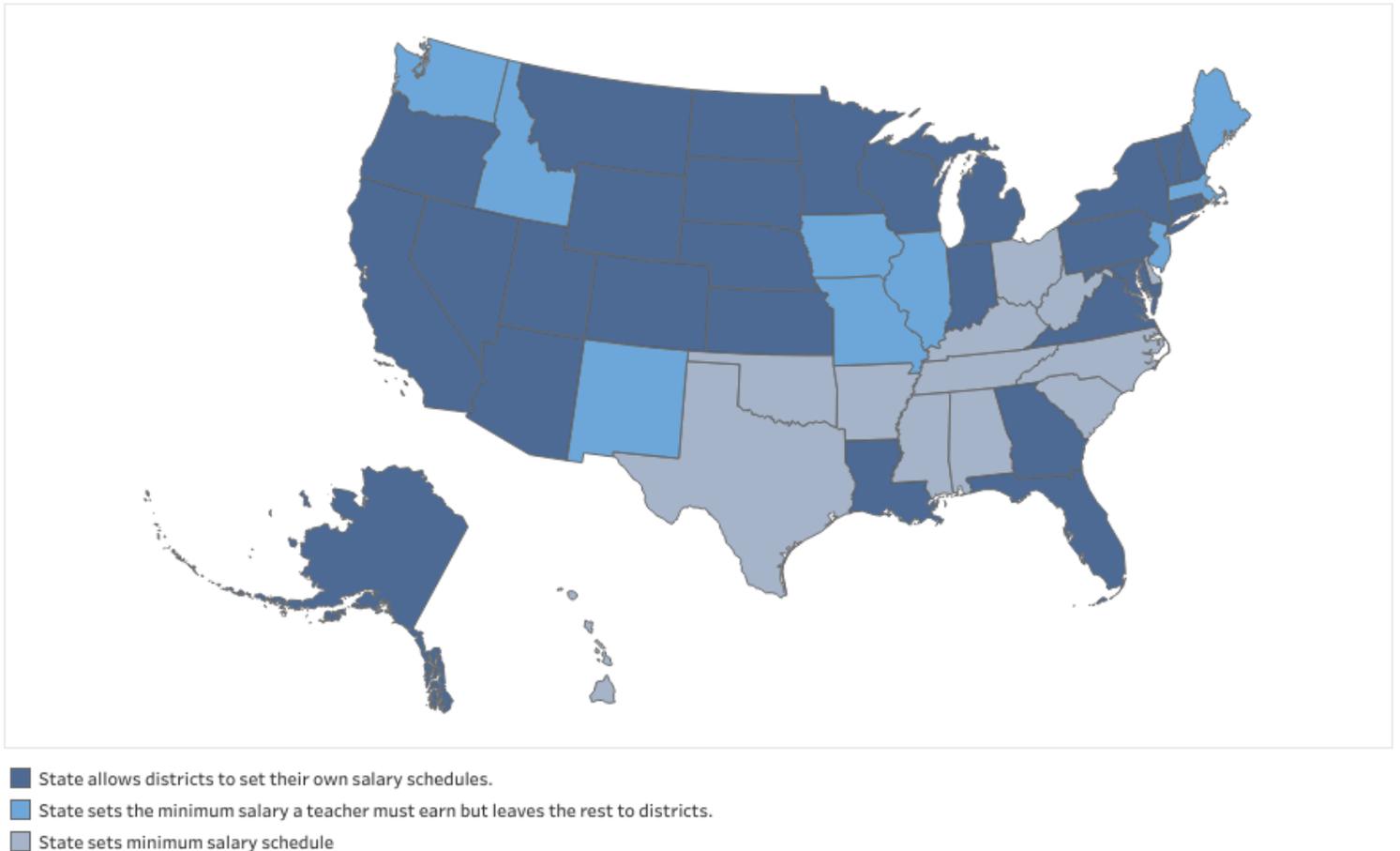
Most states (29) leave it up to individual school districts to set their own salary schedules, but in 13 other states, the salary schedule is determined by state authority. In the remaining nine states, the state sets the minimum salary a teacher must earn.

State policies on teacher salaries play an important role in district implementation. The state policy sets the framework for the local design of salary schedules that can

help secure a high quality teacher workforce—or create barriers—and states can also provide funds for districts to use additional pay to offer incentives targeted to district needs.

Figure 1.

What role do states play in deciding teacher pay rates?



Thinking strategically about salaries is critical. Compensation in the public K-12 education sector is typically set by a bargaining agreement or policy a year in advance or for multiple years at a time, and therefore it is often slow to respond to the pressures in the teacher labor market.

What role do states play in supporting strategic use of salaries? This report examines the state teacher compensation policies that influence districts' potential

strategic use of teacher pay. We analyzed three types of state policies that aim to attain three purposes:

- **Differentiated pay:** To attract teachers to traditionally hard-to-staff subjects or schools.
- **Performance pay:** To reward high-performing teachers.
- **Pay for prior work:** To compensate teacher candidates for prior experience relevant to teaching.

With the influx of federal Elementary and Secondary School Emergency Relief (ESSER) funds, some states have designed new or expanded already existing initiatives aimed to attract or retain teachers to hard-to-staff positions. The analysis in this report includes these state strategies, while acknowledging that they might only remain in place temporarily while ESSER funds remain available.

SECTION 1

Differentiated pay for hard-to-staff schools and subjects

What does the research say?

It is no secret that better pay attracts teachers to hard-to-staff schools² or subjects.³ Recent research found that providing teachers with a bonus to teach in high-poverty schools in Washington state improved hiring and reduced turnover in the schools eligible for the bonus.⁴

Other research found that selective retention bonuses for highly effective teachers in low-performing, high-poverty schools resulted in greater numbers of those teachers in the participating schools than in similar non-participating schools, as well as

greater test score gains for students in the years following the bonus program, especially on state reading exams.⁵

Given the potential positive impact of monetary incentives⁶ on student learning, this section examines how state policies support differentiated pay to attract teachers to hard-to-staff schools and subject areas.

Strategic pay for hard-to-staff schools or subjects by the numbers

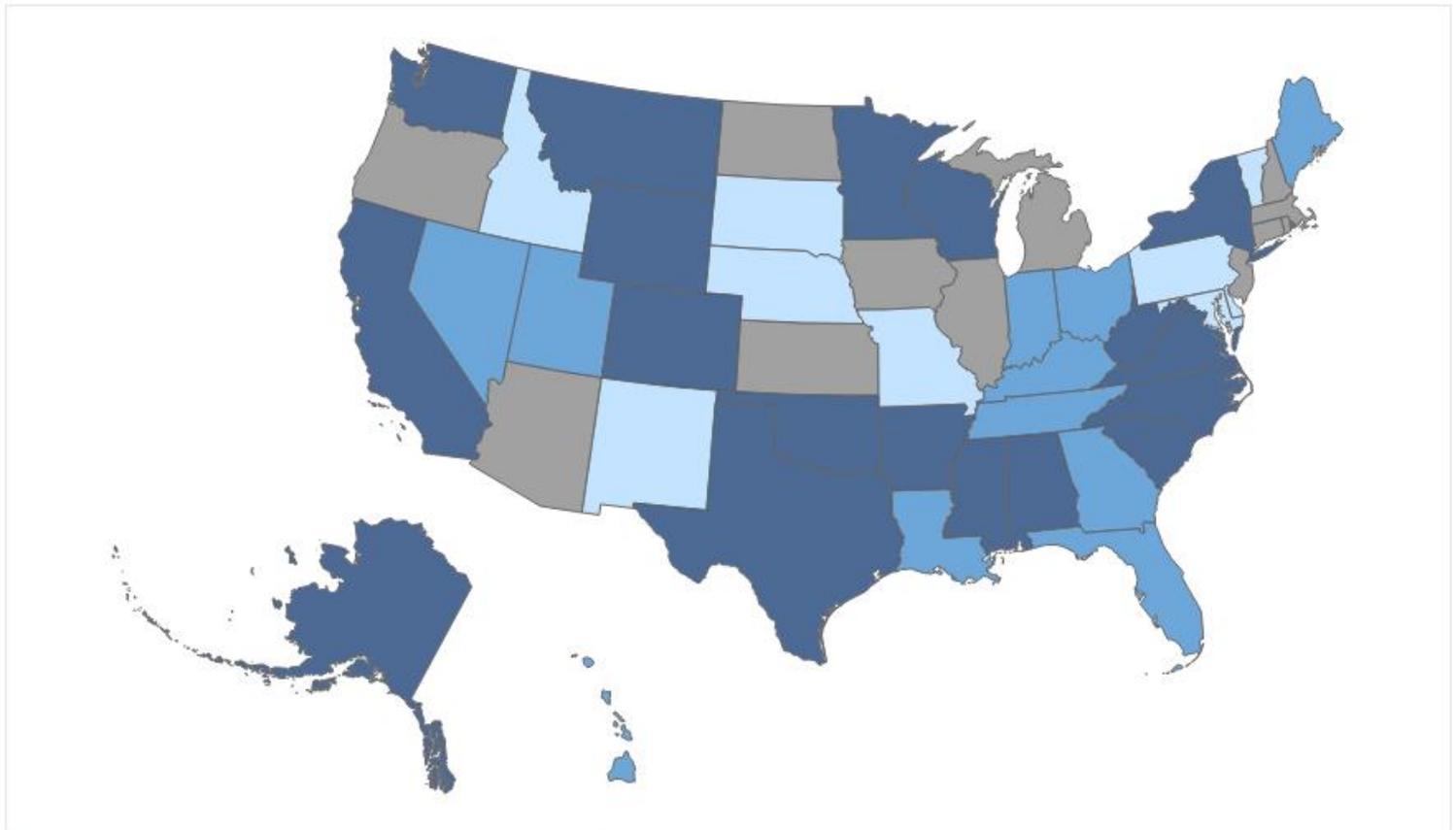
- Using differentiated pay to attract teachers to hard-to-staff schools or subjects is the most prevalent of the three types of strategic pay analyzed in this report, even more as recently some states used available ESSER dollars to fund this type of strategy.
- Thirty-nine states sanction the use of monetary incentives to attract teachers to either hard-to-staff schools or subject areas, although those policies are not currently funded in four of those states: **Kentucky, Louisiana, and Ohio**.
- Eighteen of the 39 states incentivize teachers using *both* additional pay and student loan forgiveness. Twelve others allow only additional pay, and nine allow only loan forgiveness.
- Thirty of the 39 states use monetary incentives for *both* hard-to-staff schools and subjects.
- Four states—**Idaho, Maine, Missouri, and Nevada**—use monetary incentives to attract teachers to hard-to-staff schools, but make no use of monetary incentives to staff specific subject areas.
- Five states—**Georgia, Indiana, Maryland, South Dakota, and Vermont**—use monetary incentives to attract teachers to hard-to-staff subject areas only, and four use student loan forgiveness.

In **West Virginia**, beginning in 2019, teachers who teach math and special education are given three additional years of experience in calculating their salary on the state's salary schedule. State policy also allows districts to provide "additional compensation or other financial assistance" to teachers who teach in subjects for which the district has a critical need and shortage of fully certified teachers. West Virginia also offers a loan assistance program to teachers who agree to teach a subject area of critical need or in a school or geographic area identified as an area of critical need. Each teacher is eligible to receive up to \$3,000 annually, for a maximum of five years, for a total available award amount of \$15,000. The state also offers tuition reimbursement for teaching in shortage-subject areas.

In **Connecticut**, incentives to teachers do not come in the form of differentiated pay, but rather in the form of [mortgage assistance](#) for those seeking to become homeowners in the communities where they work. Teachers in districts identified by the state as "Priority"⁸ or "Transitional,"⁹ or those who teach in one of the subject-specific shortage areas, may be eligible for a below-market-rate mortgage loan, or even down payment assistance loans.

Figure 3.

What type of monetary incentives do states use to attract teachers to hard-to-staff schools or subject areas?



Both differential pay and loan forgiveness Loan forgiveness only
Differential pay only None

SECTION 2

Performance pay

What does the research say?

The effect of performance-based teacher compensation on student achievement is well documented, showing not only concurrent gains in student achievement, but also positive long term effects in education, employment, and earnings.¹⁰ There is

also evidence that compensation that rewards performance has positive effects on the achievement of students in hard-to-staff schools¹¹ due to the increased retention of highly effective teachers.¹²

Performance pay plans also help districts recruit high quality teachers. Research shows that, on average, school districts that adopted pay for performance hired new teachers who had graduated from colleges and universities with average SAT scores that were about 30 points higher than new teachers hired by districts that didn't adopt performance pay.¹³

Although concerns over teacher evaluation methods have limited the implementation of performance pay, recent research on years of teacher evaluation implementation has identified aspects of teacher evaluation that support identification of high performing teachers¹⁴ and increase teacher satisfaction and retention.¹⁵ Yet across the nation, compensation is still largely determined by advanced degree attainment and teacher seniority, which beyond the first few years have not been found to consistently correlate with student achievement.¹⁶

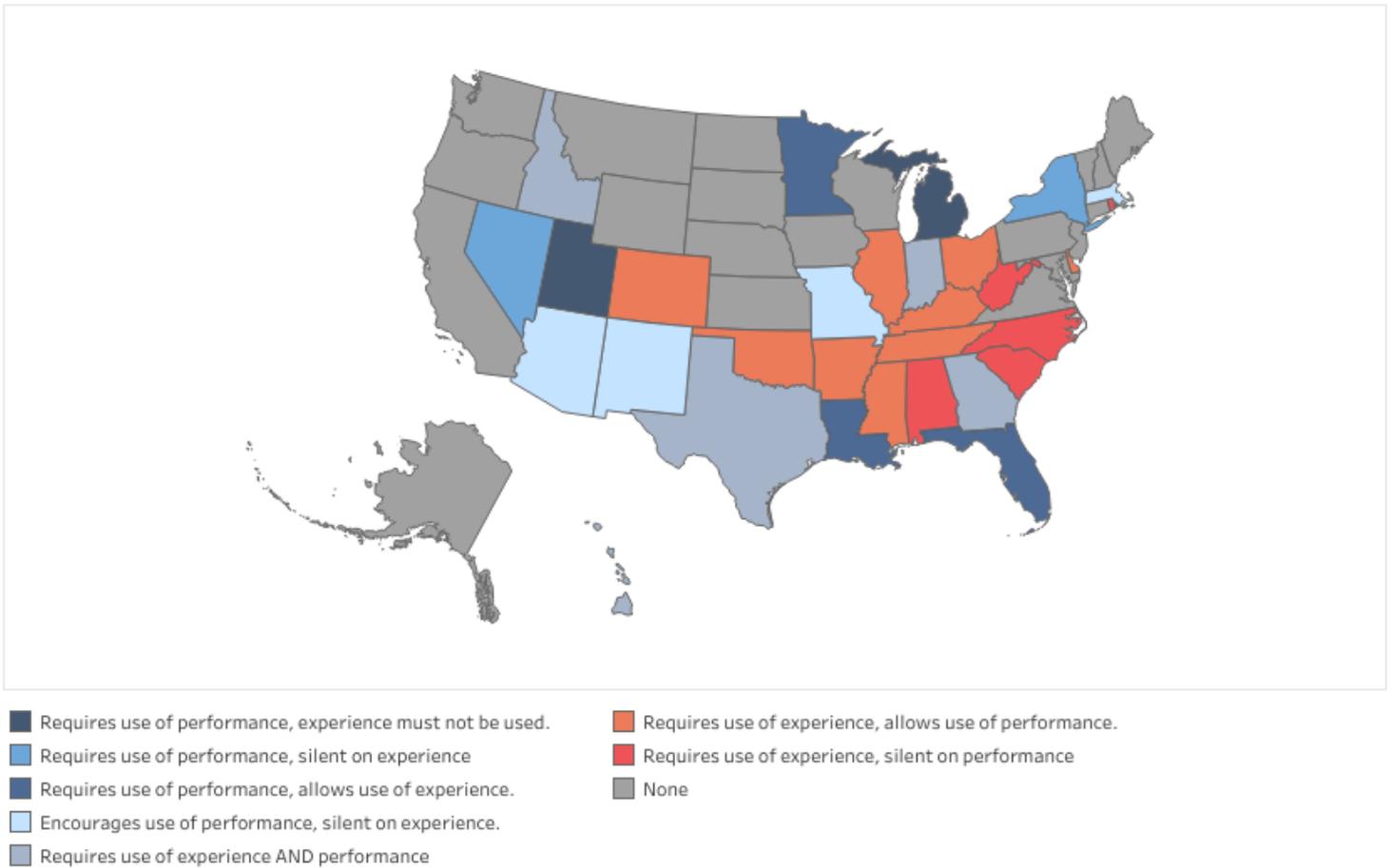
Fortunately, states have an opportunity to influence new types of salary structures and which factors are considered in determining salaries.

Performance pay by the numbers

- Eleven states require the use of teacher performance in determining compensation.
- Thirteen other states encourage or allow, but do not require, the use of teacher performance to be considered.
- Twenty-seven states do not have policies about teacher performance and salaries.
- Only two states—**Michigan** and **Utah**—explicitly require the use of performance to determine teacher compensation, while prohibiting the use of experience.
- Three states—**Florida**, **Louisiana**, and **Minnesota**—require the use of performance to determine teacher salaries, and also allow the use of experience, as long as it is not the single or most important factor.
- Two states—**New York** and **Nevada**—require the use of performance, but make no requirements one way or another when it comes to the use of experience.
- Five states—**Georgia**, **Hawaii**, **Idaho**, **Indiana**, and **Texas**—require the use of both performance and experience.
- Five states—**Alabama**, **North Carolina**, **Rhode Island**, **South Carolina**, and **West Virginia**—do not mention performance as a factor to be considered, but rather require that districts use experience.

Figure 4.

What are states' requirements for use of teacher performance and experience in determining pay?



What do these performance pay policies look like in practice?

Funding, specificity, and accountability are the elements in a state's legislation that appear to play a role in whether performance pay initiatives that look good on paper are actually implemented and the extent to which they adhere to the law.

For example, **Michigan** and **Utah** laws explicitly require the use of performance and prohibit the use of experience in determining teacher compensation, though districts in both states still use traditional step and lane salary schedules that reward years of experience.

Utah's legislation on additional pay for teacher effectiveness is limited to high poverty schools, and the role of effectiveness is limited to deciding whether or not a teacher advances along the salary schedule—in most cases a "satisfactory" rating will qualify a teacher for advancement.

Michigan has performance-based compensation requirements, but the application in Michigan school districts varies widely. Recent [research findings](#) as well as an analysis of a random sample of district collective bargaining agreements in Michigan found the traditional step and lane salary schedules remain in full use in the vast majority of districts we analyzed. State education agency representatives indicated to us that they do not collect data on district salaries, and therefore it is not possible to evaluate districts' implementation of the law. Some Michigan school districts offer their high performing teachers small bonuses, with compensation largely determined under traditional schedules, while other districts make advancement through the salary schedule steps conditional to demonstrating a minimum level of effectiveness. In most district agreements, mention of pay for performance is entirely absent.

On the other hand, while policies in Florida and Texas do not prohibit the use of seniority in their districts' determination of teacher compensation, thanks to either specific funding directed to strategic pay initiatives or specific language in their legislation, districts in those states seem to have moved away from traditional step and lane salary schedules and adopted some type of performance-based pay, although the additional pay for performance that teachers receive varies widely depending on the district.

In Florida, since July 2014, districts must use a performance-based salary schedule for new teachers, through which salary adjustments are granted in proportion to a teacher's level of effectiveness; for example, new teachers as of 2014 who are effective must receive salary adjustments that are between 50% and 75% of the adjustments given to *highly* effective teachers, and teachers who do not reach any of those categories are not given salary adjustments. Districts have some flexibility in their measurement of teacher effectiveness, but they must meet certain

requirements, such as a minimum of one third of the teacher's rating based on indicators of student growth. Teachers who were employed by the district before performance-based salary adjustments were enacted have been able to choose to remain on the pre-2014 salary schedule.

Texas currently leads the way in terms of performance pay structures, by providing both funds and support to districts to develop systems and reward teachers, including supporting more objective teacher evaluations with [validation by an outside party](#). In 2019, the Texas legislature passed [House Bill 3](#), which includes the Teacher Incentive Allotment (TIA). The TIA provides between \$3,000 and \$32,000 per year per "identified" teacher based on teacher performance, and other characteristics, such as high-need areas, rural district campuses, and student population characteristics. Districts may identify teachers using their local criteria, and submit their criteria to the state for approval. At least 90% of these state-provided funds must be spent on teacher compensation. Texas districts are also [required to report](#) to the state education agency on the use of these funds and salary increases. In the [2020-21 school year](#), 4,617 teachers received a designation for which they were paid out over \$43 million across 127 school districts.

Texas has also recently developed a [new program](#) that is aimed to give grants to districts to secure dedicated personnel or technical assistance in order to develop strategic compensation systems. This program tends to focus on smaller districts that did not have the resources to design strategic compensation systems initially.

Another example of the importance of funding is **Arkansas**, where the state's Alternative Pay Program was recently eliminated. Through this program, participating schools or districts were to use "a variety of objective criteria that are credible, clear, specific, measurable indicators of student achievement, and generally accepted best practices to determine pay."¹⁷ However, as far as we were able to establish, this program had never been funded, and therefore it had never been implemented. The pertinent code was [repealed in 2021](#).

Wisconsin deserves special attention because it took a completely different approach from all of the previously cited examples. In 2011 Wisconsin *eliminated* collective bargaining requirements on the topic of teacher salary schedules. Wisconsin also makes no requirements regarding performance or seniority to be part of the teacher salary calculations. The result of the elimination of collective bargaining requirements is a mix of districts that opted for a change towards flexible pay schemes that also allowed performance-based differentiated pay and districts that opted to continue with a traditional step and lane salary schedule.

SECTION 3

Pay for prior work outside K-12 education

What does the research say?

More often than not, average teacher salaries are not a match for the average salaries of professionals with comparable education in their localities,¹⁸ and that is even more true for *starting* teacher salaries. This makes attracting career switchers to the field of education extremely challenging. The unfavorable gap between teacher salaries and other professions often means that education only attracts career switchers who hold low paying jobs in other industries, and has been found to lower the average quality of teachers.¹⁹

State policy can help attract career switchers with prior content knowledge and relevant experience by authorizing incentives that recognize candidates' previous relevant experience. Research has shown that those with a particular industry background or degree are more familiar with the applied field's standards and can better identify students' practical strengths and weaknesses in the

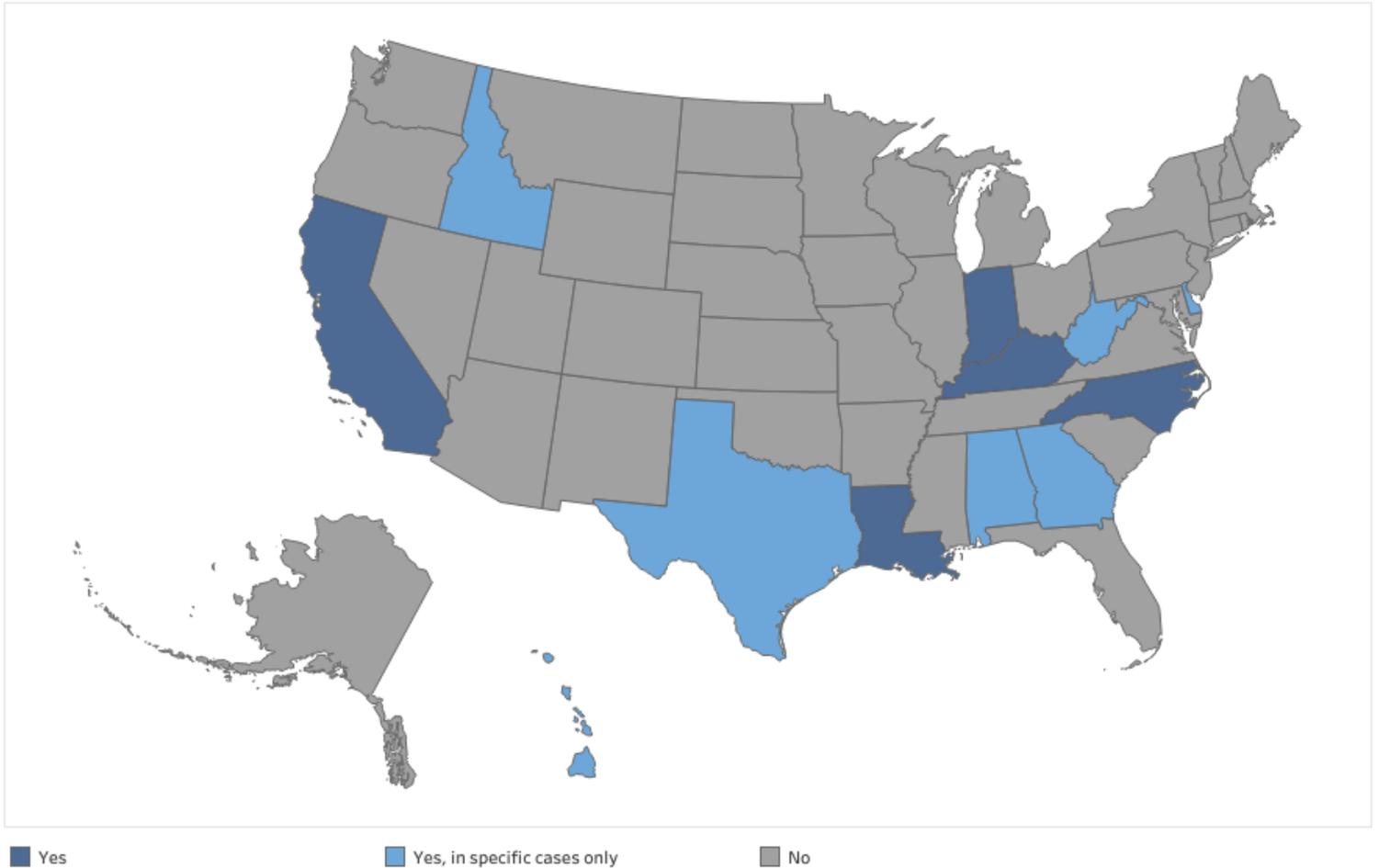
subject.²⁰ Observers also rank them consistently better when teaching highly technical subjects, such as engineering, math, or science.²¹

Prior experience-based strategic pay by the numbers

- When it comes to paying for prior experience, only five states—**California, Indiana, Kentucky, Louisiana,** and **North Carolina**—grant extra pay for relevant prior experience in another industry and allow administrators the discretion to determine the relevance of it.
- Seven states allocate pay for prior experience in other industries in selected cases only. The majority of those states limit this extra pay to teachers of career and technical education only. **Hawaii** limits this extra pay to those who have prior military experience.
- Thirty-nine states make no mention of adjustments in starting salary for prior relevant experience for people entering teaching from other professions.

Figure 5.

Do states direct districts to make adjustments in starting salary for new teachers who have relevant work experience?



What does pay for prior relevant work look like in some states?

Louisiana supports its districts to provide compensation for related prior subject-area work experience. Districts are required to develop local compensation plans based on effectiveness, experience, and demand with no one factor accounting for more than 50 percent. Experience may include "relevant non-educational professional experience related to the teacher's content area."

North Carolina teachers are awarded one year of credit, for salary purposes, for every two years of "full-time relevant non-teaching work experience" prior to earning a bachelor's degree and one year of experience credit for every year of "full-time relevant non-teaching experience" after earning a bachelor's degree. "Relevant non-teaching work experience" is defined as professional work experience in public or private sectors that is directly related to the individual's area of licensure and work assignment.

Indiana allows districts to make salary adjustments based on the need to attract an individual with specific qualifications to fill a teaching vacancy. Note that the related policy indicates that boards of education "may" adopt differentiated compensation for specific qualifications. The same is true for the state of Kentucky, which begs the question of whether districts are indeed implementing this type of strategic compensation.

Finally, the state of **Washington** recently eliminated the language from their laws that enabled districts to recognize up to six years of prior experience in determining the school district salary for career and technical education teachers.

CONCLUSIONS AND RECOMMENDATIONS

Guidance for state education leaders

Although teacher compensation is set by individual school districts in most states, states have an opportunity to establish the framework within which districts can make use of strategic pay, and could promote flexibility often lacking in rigid salary schedules, in order to attract the teacher talent needed to address local school district needs. Therefore, when considering strategic pay policy, states should take into account the following recommendations:

- **Funding matters.** Initiatives that receive funding from the state are more likely to be implemented by school districts in a way that more closely aligns with what the state's regulation initially intended. Such is the contrast between **Texas'** performance pay initiative, which is funded by the state, and the one in **Arkansas**, which did not take hold in all likelihood because it was never funded, and then was recently repealed.
- **Language matters.** States should make sure that the language of their strategic pay policy is specific, so as to not create loopholes or cancel out its intended effects. For example, policies that require the use of performance, but are silent about or allow the use of experience might not result in salary structures that actually reward or encourage performance. **Louisiana** allows districts to establish a salary schedule based on effectiveness, need, and experience, with no single criterion accounting for more than 50% of salary computation; as well as establishing that teachers rated ineffective may not receive a salary step increase.
- **Evaluating policy implementation is key.** States should evaluate the implementation and the concrete results of strategic pay policies. Are districts implementing those policies according to what the legislation intended, or in ways that don't produce the desired effects? Contrasting policy to practice will give states a better idea on how to craft or revise strategic pay policies to accomplish what the state needs in terms of attracting and retaining teachers to their workforce. **Texas** is a prime example of evaluating implementation, as the state requires districts to report back on the use of the funds awarded to them.
- **You get what you pay for (most of the time).** Only 11 states require the use of teacher performance in setting salaries, but 17 states require the use of experience. The natural consequence of this compensation structure is a teacher workforce with more senior teachers that are not necessarily more effective, and larger turnover rates for early career teachers regardless of their effectiveness. Districts in **Wisconsin** took advantage of the change in state policy, and moved away from traditional step and lane salary schedules into flexible salaries, accounting for performance, and as a result saw an increase in their average teacher quality.

- **The salary schedule should work for your people, not your people for the salary schedule.** A little over half of all states include provisions for additional pay that districts can use to attract teachers where they need them the most, such as in specific schools or subjects. On the other hand, almost 90% of states have compensation policies that allow for higher pay for teachers who obtain a master's degree,²² which [does not correlate with better outcomes for students](#). Given these structures, it is not surprising to find there is an abundance of teachers who obtain master's degrees—oftentimes unnecessarily—, but still a scarcity of teachers for the most vulnerable student populations and hard-to-fill subject areas.
 - **Value specific content knowledge and experience.** Only five states—California, Indiana, Kentucky, Louisiana, and North Carolina—have provisions for extra pay for relevant prior experience in other fields to be determined by the school or district administrators. The absence of such a policy may deter potential career changers with relevant professional experience in fields in high demand from entering teaching. Some states already offer extra pay only in the case of career and technical education, but this is a policy tool that can be extended to other subjects as needed. **North Carolina** recognizes this, and allows districts to adjust salaries for full-time relevant non-teaching work experience.
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APPENDIX

State summary data

Please view this interactive data table on the web to see state details in hover-text.

State	What role do states play in deciding teacher salaries?	Does the state promote the use of monetary incentives for teachers in hard-to-staff schools?	Does the state promote the use of monetary incentives for teachers in hard-to-staff subjects?	Does the state require the use of effectiveness in the determination of teacher salaries?	Does the state require the use of experience in the determination of teacher salaries?	Does state policy promote the use of monetary compensation for relevant (non-K12) prior experience?
Alabama	State sets minimum salary schedule	Yes	Yes	No	Requires	In some cases only
Alaska	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	No
Arizona	Districts set own salary schedules	No	No	Allows but does not require	Allows but does not require	No
Arkansas	State sets minimum salary schedule	Yes	Yes	No	Requires	No
California	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	Yes
Colorado	Districts set own salary schedules	Yes	Yes	Allows but does not require	Requires	No
Connecticut	Districts set own salary schedules	No	No	No	Allows but does not require	No
Delaware	State sets minimum salary schedule	Yes	Yes	Allows but does not require	Requires	In some cases only
District of Columbia	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	No
Florida	Districts set own salary schedules	Yes	Yes	Yes	Allows or requires but may not be primary factor	No
Georgia	Districts set own salary schedules	No	Yes	Yes	Requires	In some cases only
Hawaii	State sets minimum salary schedule	Yes	Yes	Yes	Requires	In some cases only
Idaho	State sets minimum salary	Yes	No	Yes	Allows or requires but may not be primary factor	In some cases only

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Illinois	State sets minimum salary	No	No	Allows but does not require	Requires	No
Indiana	Districts set own salary schedules	No	Yes	Allows but does not require	Allows or requires but may not be primary factor	Yes
Iowa	State sets minimum salary	No	No	No	Allows but does not require	No
Kansas	Districts set own salary schedules	No	No	No	Allows but does not require	No
Kentucky	State sets minimum salary schedule	Yes	Yes	Allows but does not require	Requires	Yes
Louisiana	Districts set own salary schedules	Yes	Yes	Yes	Allows or requires but may not be primary factor	Yes
Maine	State sets minimum salary	Yes	No	No	Allows but does not require	No
Maryland	Districts set own salary schedules	No	Yes	No	Allows but does not require	No
Massachusetts	State sets minimum salary	No	No	Allows but does not require	Allows but does not require	No
Michigan	Districts set own salary schedules	No	No	Yes	Prohibits	No
Minnesota	Districts set own salary schedules	Yes	Yes	Yes	Allows or requires but may not be primary factor	No
Mississippi	State sets minimum salary schedule	Yes	Yes	Allows but does not require	Requires	No
Missouri	State sets minimum salary	Yes	No	Allows but does not require	Allows but does not require	No
Montana	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	No
Nebraska	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	No
Nevada	Districts set own salary schedules	Yes	No	Yes	Allows but does not require	No
New Hampshire	Districts set own salary schedules	No	No	No	Allows but does not require	No
New Jersey	State sets minimum salary	No	No	No	Allows but does not require	No

State	What role do states play in deciding teacher salaries?	Does the state promote the use of monetary incentives for teachers in hard-to-staff schools?	Does the state promote the use of monetary incentives for teachers in hard-to-staff subjects?	Does the state require the use of effectiveness in the determination of teacher salaries?	Does the state require the use of experience in the determination of teacher salaries?	Does state policy promote the use of monetary compensation for relevant (non-K12) prior experience?
New Mexico	State sets minimum salary	Yes	Yes	No	Allows but does not require	No
New York	Districts set own salary schedules	Yes	Yes	Yes	Allows but does not require	No
North Carolina	State sets minimum salary schedule	Yes	Yes	No	Requires	Yes
North Dakota	Districts set own salary schedules	No	No	No	Allows but does not require	No
Ohio	State sets minimum salary schedule	Yes	Yes	In some cases only	Requires	No
Oklahoma	State sets minimum salary schedule	Yes	Yes	Allows but does not require	Requires	No
Oregon	Districts set own salary schedules	No	No	No	Allows but does not require	No
Pennsylvania	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	No
Rhode Island	Districts set own salary schedules	No	No	No	Requires	No
South Carolina	State sets minimum salary schedule	Yes	Yes	No	Requires	No
South Dakota	Districts set own salary schedules	No	Yes	No	Allows but does not require	No
Tennessee	State sets minimum salary schedule	Yes	Yes	Allows but does not require	Requires	No
Texas	State sets minimum salary schedule	Yes	Yes	Yes	Requires	In some cases only
Utah	Districts set own salary schedules	Yes	Yes	Yes	Prohibits	No
Vermont	Districts set own salary schedules	No	Yes	No	Allows but does not require	No
Virginia	Districts set own salary schedules	Yes	Yes	Allows but does not require	Allows but does not require	No
Washington	State sets minimum salary	Yes	Yes	No	Allows but does not require	No

State	What role do states play in deciding teacher salaries?	Does the state promote the use of monetary incentives for teachers in hard-to-staff schools?	Does the state promote the use of monetary incentives for teachers in hard-to-staff subjects?	Does the state require the use of effectiveness in the determination of teacher salaries?	Does the state require the use of experience in the determination of teacher salaries?	Does state policy promote the use of monetary compensation for relevant (non-K12) prior experience?
West Virginia	State sets minimum salary schedule	Yes	Yes	No	Requires	In some cases only
Wisconsin	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	No
Wyoming	Districts set own salary schedules	Yes	Yes	No	Allows but does not require	No

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Author

Dr. Patricia Saenz-Armstrong

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Data collection and analysis

Kelli Lakis, Lisa Staresina

Advocacy and communications

Nicole Gerber, Ashley Kincaid, Andrea Browne Taylor

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How have states responded to a 2015 federal law that they collect and report on the equitable distribution of teacher talent across their schools?

ENDNOTES

1. Saenz-Armstrong, P. (2021). *Smart Money 2.0*. Washington, D.C.: National Council on Teacher Quality.
2. Hard-to-staff schools include but are not limited to schools designated as “high-need,” which are most commonly defined as those schools with the lowest student performance or the highest rates of students living in poverty.
3. Glazerman, S., Protik, A., Teh, B. R., Bruch, J., & Max, J. (2013). *Transfer Incentives for High-Performing Teachers: Final Results from a Multisite Randomized Experiment*. NCEE 2014-4003. National Center for Education Evaluation and Regional Assistance.
4. Cowan, J., & Goldhaber, D. (2018). Do bonuses affect teacher staffing and student achievement in high poverty schools? Evidence from an incentive for national board certified teachers in Washington State. *Economics of Education Review*, 65, 138-152. <https://doi.org/10.1016/j.econedurev.2018.06.010>.
5. Swain, W. A., Rodriguez, L. A., & Springer, M. G. (2019). Selective retention bonuses for highly effective teachers in high poverty schools: Evidence from Tennessee. *Economics of Education Review*, 68, 148-160.
6. Monetary incentives include teacher pay and loan forgiveness.

7. Effective teachers in Utah are defined as those who show a Median Growth Percentile (MGP) of 70 or higher in a course for which a standardized assessment is administered *or* who teach grades 1, 2, or 3 and achieve at least 85% of students whose progress is assessed as typical or better. The MGP is determined at a teacher level by combining all the tests in a single subject from two years prior and then finding the median growth score.
8. Three types of towns in Connecticut qualify as priority school districts: (1) the eight towns with the largest populations, based on the last census; (2) in the first year of each biennium, the 11 towns with the highest numbers of children on welfare plus the largest numbers of children scoring below the remedial level on the Connecticut Mastery Test (CMT); and (3) in the first year of each biennium, the 11 towns that rank highest in the number of children on welfare divided by the “grant mastery percentage.” The grant mastery percentage is the number of students in the district scoring below standard on CMT divided by the number taking the test.
9. A transitional school district in Connecticut is one that does not qualify as a priority district and ranks from one to 21, when towns are ranked in descending order, on either of two alternate measures of student educational and economic need. One is the number of children on welfare plus the district's “mastery count,” which is the number of students in the district scoring below state standards on mastery tests divided by the number who take CMT, multiplied by the number of the district's regular education students. The other is the ratio of students on welfare to all the district's students plus the mastery percentage.
10. Lavy, V. (2020). Teachers’ Pay for Performance in the Long-Run: The Dynamic Pattern of Treatment Effects on Students’ Educational and Labour Market Outcomes in Adulthood. *The Review of Economic Studies*, 87(5), 2322—2355. <https://doi.org/10.1093/restud/rdaa002>.
11. Eren, O. (2019). Teacher Incentives and Student Achievement: Evidence from an Advancement Program. *Journal of Policy Analysis and Management*, 38(4), 867-890. <https://doi.org/10.1002/pam.22146>.
12. Swain, W. A., Rodriguez, L. A., & Springer, M. G. (2019).
13. Jones, M., & Hartney, M. (2017). Show Who the Money? Teacher Sorting Patterns and Performance Pay across U.S. School Districts. *Public Administration Review*, 77(6), 919—931. <https://doi.org/10.1111/puar.12789>.
14. Close, K., Amrein-Beardsley, A., & Collins, C. (2020). Putting Teacher Evaluation Systems on the Map: An Overview of State's Teacher Evaluation Systems Post-Every Student Succeeds Act. *Education Policy Analysis Archives*, 28(58); Grissom, J. A., & Bartanen, B. (2019). Strategic retention: Principal effectiveness and teacher turnover in multiple-measure teacher evaluation systems. *American Educational Research Journal*, 56(2), 514-555.
15. Ford, T. G., Urick, A., & Wilson, A. S. (2018). Exploring the effect of supportive teacher evaluation experiences on US teachers' job satisfaction. *Education Policy Analysis Archives*, 26(59); Nguyen, T. D., Pham, L. D., Crouch, M., & Springer, M. G. (2020). The

correlates of teacher turnover: An updated and expanded meta-analysis of the literature. *Educational Research Review*, 31, 100355; Sun, M. (2018). Black teachers' retention and transfer patterns in North Carolina: How do patterns vary by teacher effectiveness, subject, and school conditions?. *AERA Open*, 4(3), 2332858418784914.

16. Ladd, H. F., & Sorensen, L. C. (2017). Returns to teacher experience: Student achievement and motivation in middle school. *Education Finance and Policy*, 12(2), 241-279; Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement. *Econometrica*, 73(2), 417-458; Harris, D. N., & Sass, T. R. (2011). Teacher training, teacher quality and student achievement. *Journal of Public Economics*, 95(7-8), 798-812.
17. To amend various provisions of the Arkansas Code concerning public education. SB64, State of Arkansas 93rd General Assembly (2021). <https://www.arkleg.state.ar.us/Bills/FTPDocument?path=%2FBills%2F2021R%2FPublic%2FSB64.pdf>.
18. Saenz-Armstrong, P. (2021); Baker, B. D., Di Carlo, M., & Weber, M. (2019). *School finance and teacher pay competitiveness*. Albert Shanker Institute and Rutgers Graduate School of Education.
19. Han, E. S. (2021). Teacher wage penalty and decrease in teacher quality: Evidence from career-changers. *Labor Studies Journal*, 46(3), 251-285.
20. Brobst, J., Markworth, K., Tasker, T., & Ohana, C. (2017). Comparing the preparedness, content knowledge, and instructional quality of elementary science specialists and self-contained teachers. *Journal of Research in Science Teaching*, 54(10), 1302-1321. <https://doi.org/10.1002/tea.21406>.
21. Hynes, M. M. (2012). Middle-school teachers' understanding and teaching of the engineering design process: a look at subject matter and pedagogical content knowledge. *International Journal of Technology and Design Education*, 22(3), 345-360. <https://doi.org/10.1007/s10798-010-9142-4>.
22. Sixteen states require differentiated pay for advanced degrees, while 29 other states don't require it, but allow districts to include educational attainment as a factor in a teacher's salary determination.