



# Addressing Educator Workforce Shortages Colorado Bright Spots

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## Introduction

A talented teacher workforce is an essential foundation for improving educational outcomes for students. As such, securing teachers at all levels of the teacher pipeline (i.e., recruitment *into* the profession, onboarding *for* the profession, retention *in* the profession, and advancement *within* the profession) is necessary for student success. Unfortunately, the United States teacher workforce is experiencing significant shortages, especially in specific teaching fields such as mathematics, science, and special education (Lachlan et al., 2020). Additionally, in geographic locations where wages, the cost of living, and working conditions may be less appealing to potential teachers and teacher candidates alike, attracting them to the profession can be challenging (Sutcher et al., 2016).

A recent study on teacher retention, mobility, and attrition found that annually in Colorado, 9% of teachers leave to teach at other schools and another 13% leave the profession entirely (Meyer et al., 2019). Research indicates that schools serving high-need populations have traditionally experienced teacher turnover at rates higher than other schools (García & Weiss, 2019; Ingersoll, 2004). The Colorado General Assembly and State Board of Education have passed legislation and established a variety of policies and funding opportunities to help school districts mitigate teacher shortages including teacher residency programs, stipends for rural educators, and educator loan forgiveness (Colorado Department of Education, 2021). In 2020, the Region 12 Comprehensive Center (R12CC) supported the Colorado Department of Education (CDE) with the development of interactive geographic information system (GIS) maps that layer educator shortage data and empower the state and districts to better understand and contextualize workforce pipeline successes and challenges.

In addition to these initiatives, local school districts in Colorado are also working to mitigate teacher shortages in their communities. To highlight and share lessons learned from local initiatives with effective strategies—or “Bright Spots”—for recruiting and retaining effective teachers, R12CC collaborated with CDE to identify districts and schools for which the teacher workforce data (as of the 2019–2020 school year) show strong teacher retention rates despite having geographic or demographic factors that are typically associated with lower retention rates (e.g., districts/schools located in a rural setting or that serve high-need populations [e.g., a high percentage of low-income students]) (Geiger & Pivovarova, 2018).

The purpose of this report is to highlight districts and schools in Colorado that are experiencing success with retaining teachers through effective strategies in schools with high-need populations and geographic factors associated with lower retention rates. Five schools across three school districts were identified as Bright Spots and shared their experiences:

- » Adams 12 Five Star School District: McElwain Elementary School and Northglenn Middle School
- » Adams-Arapahoe 28J School District/Aurora Public Schools: Jewell Elementary School and Empower Community High School
- » Lamar School District RE-2: Washington Elementary School



This report presents a brief profile for each Bright Spot district and school with details including demographics and community context, an overview of the district/school successes, and the partnerships that drive that success. It offers district-specific and school-specific strategies for recruiting and onboarding teachers and retaining and advancing teachers.<sup>1</sup> In addition, the report shares how Bright Spot districts and schools addressed staffing challenges during the COVID-19 pandemic and features advice for other teachers, administrators, or district leaders who are seeking ways to address teacher shortages in their areas. The strategies, including practices and tools, most often used by the districts and schools featured in this report include:

- » Partnerships with educator preparation programs (EPPs)
- » Recruiting and hiring strategies to identify whether a candidate’s beliefs and values align to a school’s culture and mission
- » Teacher mentoring
- » Ongoing coaching and professional development for all teachers
- » Positive school climate
- » Emphasis on the social, emotional, and mental health of all teaching staff
- » Community connections and partnerships

Finally, the appendices provide the interview questions used in conversations with district leaders, school administrators, and classroom teachers for Bright Spots reporting. The responses to these questions yield valuable information, insights, and lessons learned for schools/districts considering the implementation of similar partnerships, programs, and practices.

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<sup>1</sup> The [National Comprehensive Center framework](#) for the pipeline consists of the following steps: Recruit into the Profession; Prepare; Recruit and Onboard; Retain; and Advance. This report presents district and school-level strategies for the Recruit and Onboard step and the Retain and Advance steps.

## Methodology

To identify the initial list of schools, the R12CC team determined the teacher mobility/attrition rate for all schools in Colorado for the 2019–2020 school year. The team scaled the teacher mobility/attrition rate per 100 students to establish a fair comparison between large and small schools and districts. This is important in the context of Colorado because it helps account for how teacher mobility and attrition can affect urban and rural communities differently. For example, a small district in a rural community with 100 students and 10 teachers leaving would have a rate of 10, while a larger district in an urban community with 10,000 students and 1,000 teachers leaving would also have a rate of 10. Next, the team identified the schools in the quartile with the lowest teacher mobility/attrition (lower or equal to 0.357 teachers per 100 students). From that list, schools had to meet at least one of the following criteria related to student population:

- » Reported serving a student population of 20% or more Black/African American students,
- » Reported serving a student population of 75% or more Hispanic/Latino students, or
- » Reported serving 75% or more students receiving free or reduced-priced lunch.

The selection of “Bright Spots” focused on schools serving larger populations of students of color and students from low socioeconomic backgrounds as research has shown that schools in both urban and rural settings with these characteristics often experience greater teacher mobility and attrition (Aragon, 2016). Students in these schools are more likely to be taught by inexperienced teachers or out-of-field teachers. These schools experience greater challenges with recruiting and retaining high-quality teachers due to inequitable funding of schools and less access to resources (Adamson & Darling-Hammond, 2012; Sutchter et al., 2016).

Then researchers used GIS mapping and conducted an outlier analysis to identify schools that met these criteria. Fifteen schools total met the student population criteria including three schools for the Black/African American student population, six schools for the Hispanic/Latino student population, and 11 schools for free or reduced-price lunch student population. Five schools met two criteria including a student population of Black/African American students or Hispanic/Latino students and students receiving free or reduced-priced lunch. Schools that serve a unique student population such as only pre-kindergarten children or are dedicated to alternative education programming were removed from the list of considered schools. These schools were removed to ensure that strategies shared in this report would be applicable for most Colorado schools. Table 1 outlines the schools that met the above criteria, agreed to participate in interviews, and whose strategies are included in this paper.

*Table 1. Eligible Bright Spot Districts and Schools*

District Name	School Name	Student Population Criterion/Criteria Met
Adams 12 Five Star Schools	McElwain Elementary School	Free or Reduced-Price Lunch
Adams 12 Five Star Schools	Northglenn Middle School	Hispanic/Latino and Free or Reduced-Price Lunch
Adams-Arapahoe 28J/ Aurora Public Schools	Jewell Elementary School	Black/African American and Free or Reduced-Price Lunch
Adams-Arapahoe 28J/ Aurora Public Schools	Empower Community High School	Black/African American and Free or Reduced-Price Lunch
Lamar RE-2	Washington Elementary School	Free or Reduced-Price Lunch

R12CC and CDE invited school district personnel, school principals, and teachers from each of the identified districts and schools to participate in 30–45-minute interviews<sup>2</sup> in spring 2021 to learn more about the strategies they use to consistently recruit, onboard, retain, and advance teachers in their schools. Representatives were invited to provide insights into the effective approaches that their district and/or school uses to address teacher shortages, and that might be used by other districts and schools across the state. The information contained in this report was collected through individual interviews with four school district personnel, four school principals, and ten classroom teachers identified and recommended by district and school leaders. The feedback gathered from each school-specific teacher and principal interview was aggregated and is presented in the Bright Spot profile for each school.

## Limitations

This report provides snapshots of strategies that specific districts and schools used to recruit and retain teachers. As such, the context of some Bright Spots may be too unique to generalize the strategies broadly. Therefore, it may be useful to consider how the strategies can be adapted for other contexts. Further, interview data revealed that interviewees conflated the meaning of terms “attract” and “recruit,” as well as “prepare” and “onboard.” These differences resulted in slight variances in how the strategies were categorized throughout this report. Finally, the schools featured in this report are not the only schools in Colorado utilizing innovative strategies to reduce teacher workforce shortages. Rather, they serve to highlight what some schools experiencing success are doing, providing examples of efforts employed throughout the state.

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<sup>2</sup> The interview questions can be found in the appendices of this report.



## Comprehensive Talent Development

To ensure that every student in Colorado has access to a high-quality teacher, many districts and schools have implemented various talent management strategies at points in the teacher career continuum to strengthen the teacher pipeline. There is no single solution for addressing teacher shortages. A multidimensional approach across the teacher continuum is needed to address the many aspects of this challenge (Rice et al., 2009). A comprehensive talent development system encompasses policies and practices in three key areas: 1) preparing for the profession, 2) recruiting and onboarding, and 3) retaining and advancing (National Comprehensive Center, n.d.). This report is focused on the latter two areas. The following section offers a high-level overview of these areas and some example strategies, including policies and practices, that will help provide the framework for how the strategies employed by the Bright Spot districts and schools are categorized.

### Recruiting and Onboarding

As part of a talent development system, districts and schools need strategies to recruit and onboard quality teachers. These efforts are focused on recruiting teachers that meet district and school needs to ultimately ensure that the teacher will be a good fit for the school community. Onboarding new teachers helps to ensure that they develop the skills and knowledge necessary to support the students they serve. For example, this may include efforts to acclimate teachers to the school's culture and context or advancing skills to support specific student populations through culturally responsive teaching practices. Some examples of strategies to recruit and onboard teachers include the following:

- » **Recruitment:** This strategy refers to the processes schools and districts adopt to receive teacher applicants (Liu & Johnson, 2006). This includes attending recruitment events hosted by educator preparation programs or other organizations, marketing efforts to attract candidates, and the application process.
- » **Selecting and Hiring:** This strategy includes processes and selection tools that ensure schools are hiring quality and diverse candidates who meet district and school leadership needs while being a right “fit” for the teacher and the school (Goldhaber et al., 2014). A teacher is a good fit if they share similar values and goals that align with the mission and vision of the school and the necessary skills and knowledge for the position.
- » **Mentoring and Induction:** Mentoring involves one-on-one support and feedback provided by an experienced veteran teacher to new teachers. Induction is a larger system of support for new teachers that includes mentoring and additional supports such as ongoing professional learning, curriculum planning, and orientation (Center on Great Teachers and Leaders, n.d.).

### Retaining and Advancing

A key factor to retaining teachers and advancing their professional growth is positive working conditions. Working conditions are the organizational characteristics or factors that influence teachers' satisfaction with the workplace and their ability to do their work well. Positive working conditions improve teacher retention and can predict student learning gains and student

perceptions of support (Boyd et al., 2011; Ferguson & Hirsch, 2014; Johnson, 2006; Johnson et al., 2012; Ladd, 2011). Some examples of strategies to retain and advance teachers that support positive working conditions include the following:

- » **Supportive School Leadership:** School leaders establish the culture of schools and ensure that teachers receive needed support and resources. Studies cite that the quality of school leadership is the primary reason teachers identify for staying in the profession and determining where to teach, and that teachers are more likely to remain at a school if they feel supported, are provided conditions for success with their students, and are heard by school leadership (National Commission on Teaching and America's Future, 2007; Hughes et al., 2015; Johnson et al., 2004).
- » **Community and Family Support:** Community and family support and involvement in the school can help ensure teachers educate all students, providing culturally relevant instruction and social and emotional support. Strong community partnerships can offer a positive culture where teachers feel valued and connected to the community. Family involvement has been shown to increase teacher morale and job satisfaction, and community and family support fosters teacher retention by providing additional resources to teachers and having a positive impact on teacher self-efficacy by seeing their impact on students' lives from the community (Ferguson, 2008).
- » **Professional Development and Support:** Effective professional development helps teachers learn and refine instructional practice to support the complex skills students need for college and career readiness. High-quality learning opportunities for teachers should lead to changes in their practices and improvements in learning outcomes. This includes providing time for teachers to collaborate, share new ideas, work together on common instructional problems, and model instructional practices (Darling-Hammond et al., 2017).

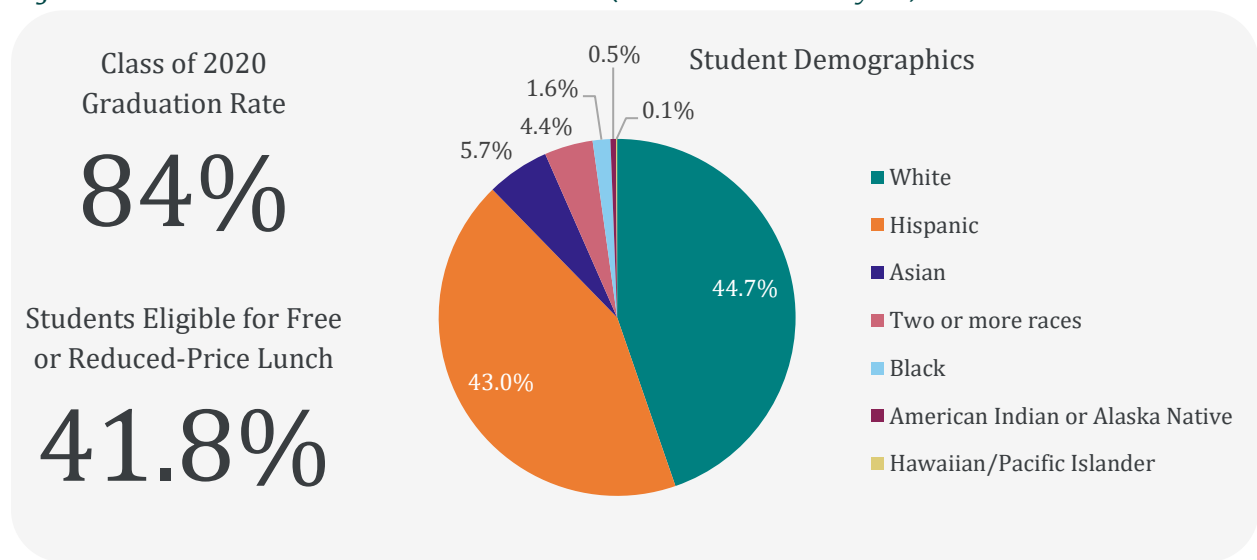
The Bright Spots highlighted in this report share various recruiting, onboarding, retaining, and advancing strategies to strengthen their teacher workforce pipeline. The lessons learned from these Bright Spot districts and schools can provide contextualized examples of how strategies are implemented in practice as other districts and schools in Colorado explore their own strategies for addressing teacher shortages and strengthening their talent pipeline.

# Adams 12 Five Star Schools

## Overview

The Bright Spots identified in Adams 12 Five Star Schools (“Adams 12”) are *McElwain Elementary School* and *Northglenn Middle School*. Adams 12 is within one of Colorado’s largest counties (Adams County) and is located on the northern portion of the Denver metro area. The district serves five cities: Broomfield, Federal Heights, Northglenn, Thornton, and Westminster. The district’s boundaries also include portions of Adams and Broomfield counties.<sup>3</sup> Adams 12 is also one of the largest public sector employers in Adams County. See Figure 1 for additional facts about the school district.

Figure 1. Facts about Adams 12 Five Star Schools (2020–2021 school year)<sup>4</sup>



## Districtwide Strategies for Addressing Shortages

District leaders from Adams 12 highlighted strategies that focus on teacher recruitment and onboarding efforts (see Table 2), and indicated that some of their challenges with recruiting and retaining teachers are subject-area specific. They experienced challenges recruiting and retaining teachers with expertise or endorsements in subject areas such as math, science, English as a second language/culturally and linguistically diverse (CLDE), and special education, especially in their Title I schools. Some of the known barriers for recruiting teachers in these subject areas are the additional licensure and training requirements associated with the positions. For example, adding a CLDE endorsement requires additional college hours, which can be costly.

<sup>3</sup> <https://www.adams12.org/district>

<sup>4</sup> <https://www.cde.state.co.us/district-school-dashboard>

Table 2. Adams 12 Five Star Schools’ Strategies to Address Teacher Shortages

Talent Development Component	Description of the Strategies
Recruiting and Onboarding	<ul style="list-style-type: none"> <li>» Prioritize attendance/engagement in recruitment events (in-person and virtual).</li> <li>» Leverage district communications and marketing supports to expand reach of recruitment efforts.</li> <li>» Evaluate employment and hiring application platform to improve user experience.</li> <li>» Provide financial incentives for hard-to-staff endorsement areas.</li> <li>» Develop mentoring program.</li> </ul>

### Recruiting and Onboarding

Adams 12 shared several strategies focused on strengthening their efforts to recruit and onboard high-quality teachers to the district. First, district-level personnel recruit teachers by attending as many in-person and virtual recruiting events as possible. Adams 12’s marketing and communication department supports efforts to expand the reach of recruitment efforts by advertising job openings on local job boards and the district website. Recently, with the purpose of generating a larger pool of diverse candidates (e.g., teachers of color, male teachers), the district has expanded its reach by recruiting via more than fifty online platforms. District leaders in Adams 12 also acknowledged that inefficient application processes can make it challenging to secure top candidates for teaching jobs. Poor hiring processes that lack quality information can negatively impact teacher recruitment efforts (Liu & Johnson, 2006), particularly for hard-to-staff schools in underserved communities (Simon et al., 2015). To test the efficiency of their employment and hiring application platform, district leaders invested time in evaluating the application system—viewing it from the applicants’ perspective—to help ensure that no inefficiencies associated with the application process remain and that it is as seamless as possible for applicants to effectively utilize.

Another strategy of Adams 12 to recruit high-quality teachers, particularly in hard-to-staff subject areas, is to offer financial incentives. For example, teachers who are willing to obtain an ELL endorsement receive a one-time stipend of \$3,000 for supporting the district in meeting the needs of its English learners. Some studies have found that stipends or bonuses have reduced teacher turnover rates in hard-to-staff subject areas in high-poverty or low-performing schools (Clotfelter et al., 2008; Springer et al., 2016).

Adams 12 also onboards new teachers through one-to-one mentoring. The literature indicates that new teachers are less likely to leave the profession if they are provided with a mentor in their content area and if they participate in formal planning and collaboration with other teachers (Ingersoll & Smith, 2004; Ingersoll & Strong, 2011). In the case of Adams 12, teacher interviewees report that they “enjoy seeing veteran educators in action” and spending time learning from experienced teachers. In interviews, Adams 12 staff shared feeling that, “teacher mentoring is among one of the highest rated strategies at Adams 12.”

## Staffing Challenges Related to the COVID-19 Pandemic

The COVID-19 pandemic presented challenges to school districts throughout the nation. Adams 12 decided to capture the reflections of first- and second-year teachers to better understand their experience of the school year. Many of the teachers reported that they learned a lot about their students and their families; seeing students in their home environment and getting a glimpse into their students’ lives outside the school building helped them appreciate the nuances associated with each students’ academic successes and challenges. For the 2021–2022 school year, the district planned to push back against the learning loss narrative associated with the effects of the pandemic and acknowledge the life skills that students developed throughout the challenging year.

## Bright Spot: McElwain Elementary School

McElwain Elementary School is a Title I school, located in Thornton, Colorado, that serves approximately 370 students in Kindergarten through Grade 5.<sup>5</sup>

*McElwain Elementary School Mission and Core Values<sup>6</sup>*

*McElwain is a caring community striving to challenge and empower each mind to achieve his or her greatest potential academically, socially, and emotionally. McElwain places an emphasis on the “strong values” of empathy, related connectedness, resilience, growth mindset, and integrity.*

## School-Level Strategies for Addressing Shortages

Table 3 includes the primary strategies McElwain Elementary School utilizes to address shortages, described in greater detail after.

Table 3. McElwain Elementary School’s Strategies for Addressing Shortages

Talent Development Component	Description of the Strategies
Recruiting and Onboarding	» Develop hiring and interview processes to identify whether a candidate is a good “fit” for the school.
Retaining and Advancing	» Establish community partnerships to support teacher’s work. » Develop supportive and collaborative working environments.

<sup>5</sup> <https://www.cde.state.co.us/district-school-dashboard>

<sup>6</sup> <https://mcelwain.adams12.org/about>

## Recruiting and Onboarding

For McElwain Elementary School (“McElwain”), hiring teachers that will be a good fit, that is their beliefs and values align to the school’s vision and students, is essential. The district gives school leaders support and autonomy in the hiring process. Candidate interview questions can help a school leader determine whether a teacher will be a good fit for the school’s mission and culture. It can be useful to determine whether the teacher has a growth mindset, grit, and willingness to meet the needs of the students in a school (Dweck, 2008). One example of an interview topic that McElwain found helpful for determining fit is asking about a teacher’s approach to discipline in the classroom. One respondent involved in the hiring process shared that they “like to hear more about understanding that kids have trauma and that we need to work with kids and [adopt] more of a restorative approach.” Other topics discussed during candidate interviews at McElwain include approaches to having difficult conversations with a colleague and understanding of diversity.

## Retaining and Advancing

A key component in the success of McElwain’s ability to retain teachers resides in its community partnerships. These partnerships create cohesion with the school community, helping teachers feel supported in their work. For example, the school has a crisis team that assists families in trouble, as well as a partnership with Community REACH, an organization that provides onsite therapy for students who have experienced trauma. The school also sponsors several community outreach programs to ensure students have clothes, shoes, books, and other essentials for participating in school activities. The idea behind this approach, according to one teacher, is that if students’ basic needs are met, then they come to school ready to learn. Responses collected from school staff indicate that as a close-knit community, McElwain puts students’ basic needs first, making it a desirable place to work.

Another retention strategy used by McElwain is to develop a supportive and collaborative work environment. According to one teacher, “When you have a really established, collaborative structure . . . then it creates an environment when you can feel free to make mistakes. It’s all about community.” Another teacher added, “We have high-leverage training around content and teaching strategies. That is an incentive to stay.” More specifically, it was shared that the collaborative environment has its foundation in restorative justice work. A core group of educators (referred to as the Justice League at the school) received training on restorative practices and justice four years ago and was responsible for both implementing practices in classrooms and teaching it to others. One teacher shared that the reason this restorative approach helps to retain teachers in the schools is because it creates a growth mindset in the school and makes teachers feel safe and supported. For example, when school leaders come to observe a lesson, teachers trust that the process is intended to give feedback to strengthen their instruction and not find mistakes. To further help implement the restorative practices, McElwain has three teachers dedicated to providing social-emotional learning (SEL) support with training in counseling, social work, and psychology. These educators can support both students and staff and be a thought partners for teachers on how to support students with an SEL and restorative lens.



## Responses to the COVID-19 Pandemic

The COVID-19 pandemic presented one primary staffing challenge for McElwain. In terms of student enrollment, the numbers of students in the kindergarten classes were lower than expected. As such, the school had to restructure staffing, resulting in the loss of one teacher. Beyond this challenge, each teacher at McElwain had a role, whether it was teaching remotely during the school year or teaching in person.

### Bright Spot: Northglenn Middle School

Northglenn Middle School is a Title I school located in Northglenn, Colorado, serving approximately 840 students in Grades 6–8.<sup>7</sup>

*Northglenn Middle School Mission<sup>8</sup>*

*Uncompromising in our commitment to learning – every student, every staff member, every minute, every day.*

### School-Level Strategies for Addressing Shortages

Table 4 includes the primary strategies Northglenn Middle School utilizes to address shortages, described in greater detail after.

Table 4. Northglenn Middle School’s Strategies for Addressing Shortages

Talent Development Component	Description of the Strategies
Retaining and Advancing	» Create a positive school culture via working conditions. » Foster opportunities for teachers to authentically collaborate.

### Retaining and Advancing

According to the educators interviewed, Northglenn Middle School (“Northglenn”) retains teachers by creating a positive school culture for new and experienced teachers to thrive. Educators at Northglenn shared that this culture is established through open, two-way communication with teachers, allowing teachers to have a voice in school-level policies, displaying support for teachers’ professional growth, and affirming that teachers are valued members of the school community. Teachers from Northglenn interviewed for this report expressed that they feel like valued members of the school and are treated “like professionals.” The school culture emphasizes a few key positive

<sup>7</sup> <https://www.cde.state.co.us/district-school-dashboard>

<sup>8</sup> <https://northglennm.adams12.org/>

working conditions including school leadership, opportunities for teacher leadership, and professional development.

Another key strategy to retain and advance teachers at Northglenn is fostering opportunities for authentic teacher collaboration. Research has found that positive working relationships between teachers and collaborative environments not only increase teacher job satisfaction and retention but improve student achievement, foster professional growth, and encourage teachers to share and try new instructional practices (Wei et al., 2009; Friedlaender & Darling-Hammond, 2007; Kraft & Papay, 2014; Snow-Gerono, 2005; Stockard & Leham, 2014;). Teachers shared some key structures established at Northglenn that allow for collaboration and sharing of instructional ideas. The first is a weekly PLC meeting (which in Northglenn stands for Plan, Learn, and Collaborate). Teachers who teach the same subject meet and the PLC is facilitated by an instructional coach and attended by an administrator. The PLC is focused on the larger instructional goals for students and the analysis of student data. According to one teacher interviewed, these PLCs provide opportunities for new teachers to learn instructional strategies from veteran teachers and for veteran teachers to learn new innovative teaching strategies. The second structure to foster collaboration for teachers are core meetings that occur twice a month. Facilitated by the grade level counselor and administrator, core meetings bring teachers who teach the same 120 students in the core content areas (math, social studies, language arts, and science) together to discuss student needs. Teachers can discuss learning needs, issues regarding attendance, and social and emotional concerns. It provides opportunities to collaborate and brainstorm strategies and supports from multiple teachers' perspectives and expertise. One teacher described the meetings as a "solution-based place to discuss kids and what their needs are."

### **Staffing Challenges Related to the COVID-19 Pandemic**

According to members of the Northglenn school community who were interviewed for this report, the school has a very strong and collaborative staff. This has been especially critical during the global pandemic as COVID-19 tested the strength of the school community. The administrators of Northglenn assured teachers that they were "all in this together" and would come out stronger than before. At the time of the interviews, they reflected that when the school staff were to return in-person for the 2021–2022 school year, it was anticipated that administrators would rely heavily on the school's social-emotional learning and counseling teams to help teachers and students begin the school year with a clear mind (e.g., focused, calm).

Northglenn Middle School navigated many challenges associated with the pandemic thanks in large part to the school's leadership. According to one Northglenn teacher, "Our principal did an outstanding job of surveying staff to learn about our preferences in terms of working in person or remotely—and did his best to match that. That level of support makes all the difference."

## Advice to Teachers, Administrators, and District Staff

When asked to offer words of advice for teachers, administrators, and district staff who are interested in improving the teacher retention rates in their district or school, the interviewees from Adams 12 shared the following:

- » If your school employs instructional coaches, recognize that they can be especially instrumental in supporting teachers' professional development and sense of professional efficacy.
- » When interviewing a candidate, search for traits such as a growth mindset and grit; if the candidate has a growth mindset, then they will probably be more likely to persist if instructional challenges arise.
- » Focus equally on teacher recruitment and teacher retention to mitigate teacher shortages.
- » Attend as many recruiting events as possible to explore the vast array of candidates who may be interested in working in your district or school.
- » Pursue the exit survey as a way of learning the drivers that are causing teachers to leave your district or school. Then, make decisions about what can be done to increase teachers' willingness to stay in the system.



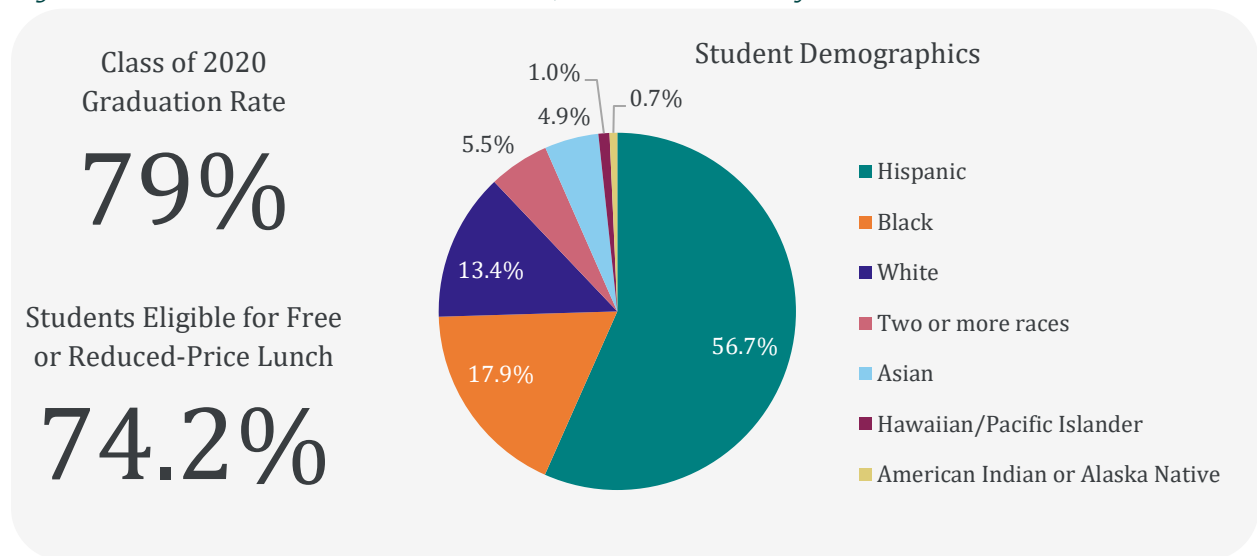
*“Instructional coaches can be especially instrumental in supporting teachers’ professional development and sense of professional efficacy.”*

# Adams–Arapahoe28J/Aurora Public Schools

## Overview

The Bright Spots identified in Aurora Public Schools (APS) are *Jewell Elementary School* and *Empower Community High School*. The APS district is located in Aurora, Colorado, an eastern suburb of Denver not far from downtown Denver and the Rocky Mountains.<sup>9</sup> See Figure 2 for additional facts about APS.

Figure 2. Facts about Aurora Public Schools (2020–2021 school year)<sup>10</sup>



Note. Percentages may not total 100 due to rounding.

## Districtwide Strategies for Addressing Shortages

District leaders shared that their most successful teacher recruitment and retention efforts stem from connections with the community and relaying information about openings via word of mouth. Some of APS’ challenges with its teacher workforce pipeline include shortages in specific content areas such as mathematics, science, special education, and some special service provider positions such as school psychologists, school nurses, and social workers. District leaders interviewed attribute this challenge to a small candidate pool for these positions or poorly prepared candidates who lack the skills and knowledge to be successful. To address these challenges, APS employs various recruitment and retention strategies.

Table 5 summarizes the district’s strategies according to two components of the talent development system—recruiting and onboarding and retaining and advancing.

<sup>9</sup> <https://aurorak12.org/community/>

<sup>10</sup> <https://www.cde.state.co.us/district-school-dashboard>

*Table 5. Aurora Public Schools’ Strategies to Address Teacher Shortages*

Talent Development Component	Description of the Strategies
Recruiting and Onboarding	<ul style="list-style-type: none"> <li>» View principals as human capital managers.</li> <li>» Recruit teachers locally by advertising open positions through existing school community outlets.</li> <li>» Expand recruitment efforts to target diverse applicants.</li> <li>» Establish partnerships with educator preparation programs.</li> </ul>
Retaining and Advancing	<ul style="list-style-type: none"> <li>» Use data to learn more about teachers’ needs and improve working conditions.</li> </ul>

### Recruiting and Onboarding

Leaders at APS view school administrators as the human capital managers of their respective schools. As such, while the district has a robust system of recruiting teacher candidates, a portion of the responsibility to onboard and retain teachers falls on the school principal. First, leaders reported that principals are encouraged to advertise their open positions across the metro Denver community, and in doing so, communicate specific details about the school—including the school profile, student body profile, information about the staff and community, district initiatives, and special school programs. This can help candidates gain a stronger awareness of the school environment and culture.

The district has also normalized the practice of relying upon their schools’ communities to learn about potential teacher candidates. Research has shown that most teachers tend to work in schools near their hometowns and in schools similar to those they attended as students (Boyd et al., 2005; Bragg, 2007; Engel et al., 2014). To help recruit potential teachers in their hometown, APS utilizes an automated calling system to reach out to every family with an enrolled student to inform them of open positions and job opportunities throughout the school district. If a family member expresses an interest in one of the positions, then the system directs them to the individual schools for follow-up and application. As an added measure, schools send informational flyers about the open positions home with students at the end of each week. This approach allows schools to hire individuals from within the Aurora community, some of whom have graduated from APS and are engaged in remote college work.

One of APS’ challenges in recruiting teachers is the lack of diversity in the pool of applicants. One individual responded, “The applicants do not look like our kids. They do not represent our kids.” Research reveals that teachers of color are vital to the success of students of color (Gershenson et al., 2021). The district is working toward increasing the diversity of its’ educator workforce by expanding its recruiting efforts to include participation in job fairs that are specifically designed to introduce schools to a large pool of teacher candidates of color. The teachers and administrators interviewed for this report shared their excitement about the potential of this effort. APS is also in the process of developing partnerships with higher education providers in the region as well as

local community partners to implement strategies that target teacher recruitment, in addition to Grow Your Own programs, with an emphasis on educator diversity.

## Retaining and Advancing

Data obtained from working conditions surveys help APS district and school leaders assess the school environment. The collected data helps reveal teachers' impressions of the support and planning time they receive, as well as their perceptions of their school administrator's responsiveness to their needs. Research on similar working conditions surveys has found that questions focused on school culture, leadership, and relationship among staff predict teacher job satisfaction and career plans (Johnson et al., 2012). This information allows district leaders to learn where they might make changes to improve working conditions, increase teacher satisfaction, and thereby support retention.

## Staffing Challenges Related to the COVID-19 Pandemic

When COVID-19 became prevalent, the district was primarily concerned with the wellbeing of its staff, especially those members of the teaching community who have underlying medical conditions. This would prove an enduring issue once schools reopened. To address this issue, the district collaborated with school principals to make staffing decisions that would ensure that there was appropriate classroom coverage. The district implemented the use of classroom monitors who served as teacher assistants and could supervise students when the teacher was absent or teaching a group of students remotely. These monitors were hired from the members of the Aurora community. The district plans to continue this program in the fall once the schools return to full time in-house schooling.

## Bright Spot: Jewell Elementary School

Jewell Elementary School is located in Aurora, Colorado, and serves approximately 340 students in Pre-Kindergarten through Grade 5.<sup>11</sup>

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### *Jewell Elementary School Vision<sup>12</sup>*

*We foster a community of ownership independence, motivation and self-advocacy in order to become active participants in our stories.*

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<sup>11</sup> <https://www.cde.state.co.us/district-school-dashboard>

<sup>12</sup> <https://jewell.aurorak12.org/about>



## School-Level Strategies for Addressing Shortages

Table 6 includes the primary strategies Jewell Elementary School utilizes to address shortages, described in greater detail after.

*Table 6. Jewell Elementary School’s Strategies for Addressing Shortages*

Talent Development Component	Description of the Strategies
Recruiting and Onboarding	» Communicate the school’s values and expectations when recruiting and hiring teachers.
Retaining and Advancing	<ul style="list-style-type: none"> <li>» Provide coaching and professional development offerings for teachers.</li> <li>» Prioritize the social and emotional health of teachers.</li> </ul>

### Recruiting and Onboarding

One barrier to attracting more teachers to Jewell Elementary School (“Jewell”) has been a persistent belief that it is more challenging to teach in APS than in other districts. According to one individual interviewed for this report, potential hires with prior teaching experience have expressed concerns about the performance of students in the district and as a result, demonstrated less willingness to take on the work that may be required to support those students. This limits the pool of candidates to mostly new teachers who frequently require additional support when working with high-need student populations. To mitigate this issue, Jewell communicates the school’s values and expectations by providing potential hires with as much information about the school as possible (e.g., points of school pride; expectations of staff) during the interview process. This helps to swiftly determine whether Jewell is the right environment for the teacher candidate.

### Retaining and Advancing

Jewell Elementary School supports teachers with coaching and collaborative planning so that teachers have the support they need to improve their instructional practices and meet the needs of the students. Research indicates that the most effective school-based policies and practices for recruiting and retaining strong teachers include improving teachers’ professional support and working conditions (Darling-Hammond et al., 2017). At Jewell, coaching happens for everyone—new and veteran teachers alike. A key component of this coaching and support for teachers is having school leaders participate as a part of the instructional team. An interviewee shared that the school leaders “have to get in there [classrooms]. . .right next to the teachers. Plan with them. Dig into the work.” Coaching teachers and responding to them as a “teammate, not a dictator” is among the most discussed strategies to retain teaching staff at Jewell. School leadership at Jewell Elementary School has weekly Data-Driven Instruction meetings with staff using resources from Paul Bambrick-Santoyo and the University of Virginia School Turnaround Program. On a weekly basis, teachers have collaborative planning meetings with a coach or an administrator and receive feedback on their lesson plans.

Educators at Jewell Elementary School shared that they believe an effective school leader takes the mental health of their teachers seriously. Teacher social and emotional health has been linked to teaching effectiveness, student achievement, and influencing the emotions and stress levels of students (Becker et al., 2014; Jennings & Greenberg, 2009). To better understand teachers' current mental health state, before each professional development session or key meetings, the school's counseling team will ask teachers to rate their current status from one—a state of calm—up to four—a state of fear. If higher, the counseling team will check-in with those teachers to understand how they are doing and assess their needs. The aforementioned coaching also provides opportunities for school leadership to understand the mental health of teachers, to build relationships with teachers, to check-in on them, and understand what is going on in their lives outside of the school. Respondents from Jewell believe it is "a key to the health of the school community [to ensure teachers receive mental and emotional support]." Jewell Elementary School prioritizes students' and teachers' mental and emotional health, utilizing restorative conversations and techniques with both groups.

### Staffing Challenges Related to the COVID-19 Pandemic

Interviewees from Jewell acknowledged that the COVID-19 pandemic posed challenges to school staffing, particularly related to supplying staff with the technology support needed for remote learning. To help support teachers, the school district hired classroom monitors to serve as teacher aides. The monitors assisted teachers by providing one-on-one support for students experiencing academic challenges or providing teachers with a momentary respite during the school day. Teachers and administrators at Jewell are hopeful that these roles will continue as the school community was enriched by getting to know “amazing community members” through the process.

### Bright Spot: Empower Community High School

Empower Community High School is a charter school located in Aurora, Colorado, serving approximately 130 students in Grades 9–10.<sup>13</sup>

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#### *Empower Community High School Vision<sup>14</sup>*

*Our students will claim their rightful place as agents of change, growth and social progress. The world is ours, and we must educate and foster the scholars, writers, artists and innovators who will build a just and equitable world.*

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<sup>13</sup> <http://www.cde.state.co.us/cdereval/2020-21membershipgradelevelbyschool>

<sup>14</sup> <https://empowerhighschool.org/>

## School-Level Strategies for Addressing Shortages

Table 7 includes the primary strategies Empower Community High School utilizes to address shortages, described in greater detail after.

*Table 7. Empower Community High School’s Strategies for Addressing Shortages*

Talent Development Component	Description of the Strategies
Recruiting and Onboarding	» Hire teacher candidates with beliefs and values that align to the school’s vision and culture.
Retaining and Advancing	» Develop positive school culture that prioritizes work/life balance and mental health of teachers. » Invest in community involvement and teacher collaboration.

### Recruiting and Onboarding

According to multiple staff members at Empower Community High School (“Empower”), “Empower does things differently.” Educators shared that it takes effort to recruit and hire teachers who are aligned to the school’s unique environment. For Empower, it is essential to recruit and hire teachers who are willing to move beyond traditional methods of teaching and adopt a new mindset essential for working in a non-traditional, innovative environment. The school staff reported interest in recruiting teachers who will be a good “fit,” that their beliefs and values align with the school’s vision and culture. To help identify if potential teachers will align with the school’s vision and collaborative culture, Empower uses a robust interview process. Potential hires participate in different interviews with not only school leadership but also with other teachers, staff, community members, and parents. This allows the entire school community to have a voice in the process and provide different perspectives on whether the candidate will align with the school’s culture. Next, potential hires participate in a 15-minute teaching demonstration. Finally, the candidate facilitates a co-creation exercise that allows the school community to see how the potential hire’s “instincts are about how to share power” and “how they make space for [others] to give constructive feedback” and their response to that feedback.

### Retaining and Advancing

Staff at Empower believe that to be a brilliant teacher, it takes a “significant amount of emotional intelligence and energy.” As such, school leaders respect teachers’ out-of-school time interests and urge them to prioritize their personal energy and mental health. For example, one interviewee shared that prior to being hired at Empower they were assured that they could continue to pursue their art interests while continuing to teach and worked on a project outside of school. To help provide this flexibility to allow teachers to take breaks and foster other interests, Empower leverages community partners. Community partners will take students on field trips, museum tours, college visits, or facilitate sessions at the school. Empower school leaders express that doing so helps teachers enjoy and succeed in their work, resulting in teacher satisfaction and retention.

According to one teacher “a shiny, amazing curriculum is nothing without great teachers to implement it.”

One practice that supports retention efforts at Empower is an event known as the “weeklong intensive.” During the weeklong intensive, community partners are leveraged to offer classroom coverage for teachers for five consecutive days and also facilitate learning sessions. Teams have an entire week to reflect on the quarter, plan, and connect beyond formal, professional development parameters. This approach gives teachers the freedom to work outside the bounds of the traditional, teacher-planning setting and generates wellness, belonging, and productivity through collaboration.

## Advice to Teachers, Administrators, and District Staff

When asked to offer words of advice for teachers, administrators, and district staff who are interested in improving the teacher retention rates in their district or school, the interviewees from APS shared the following suggestions:

- » Do not rely on a boilerplate approach to recruit or retain teachers. Look at your community, your individual schools, and get a sense of what is driving teacher attrition. Then, implement strategies that get to the heart of what’s happening.
- » Create structures that provide time and opportunity to develop principals as instructional and human capital leaders.
- » Find ways to make staff feel welcome in the work environment.
- » Invest resources in school culture.
- » Implement “weeklong intensives,” if possible, to provide teachers with extended time for planning, collaboration, and professional learning.



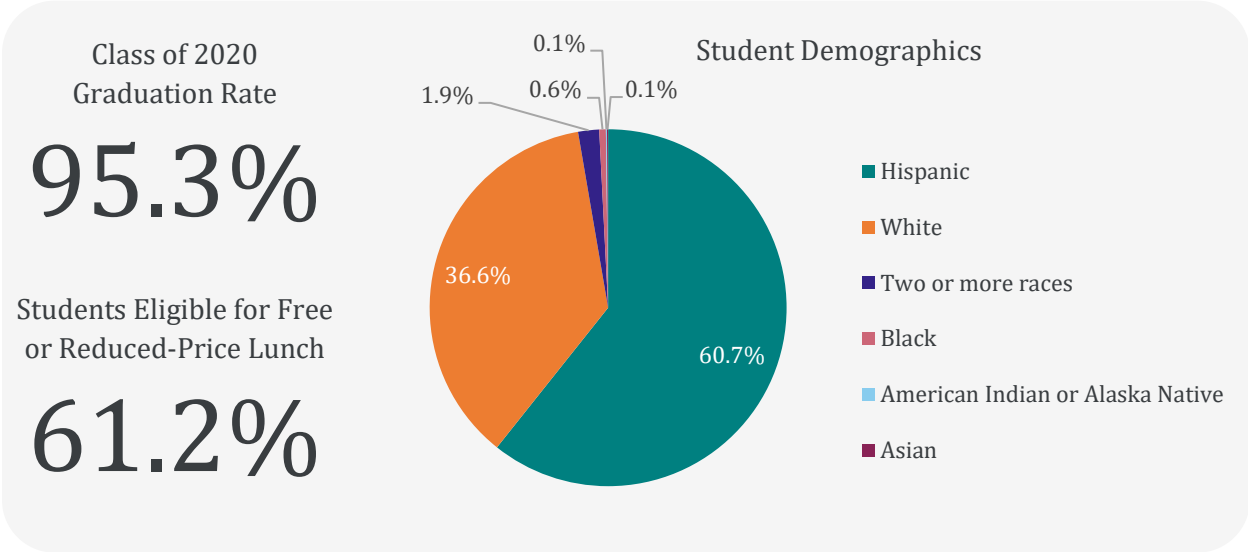
*“Create structures that provide time and opportunity to develop principals as instructional and human capital leaders.”*

# Lamar School District RE-2

## Overview

The Bright Spot identified in Lamar School District RE-2 (“Lamar”) is *Washington Elementary School*. Located in Lamar, Colorado, a rural area in the southeastern region of the state, the small school district employs 208 individuals and serves approximately 1,400 students across six schools. See Figure 3 for additional facts about Lamar School District.

Figure 3. Facts about Lamar School District (2020–2021 school year)<sup>15</sup>



## Districtwide Strategies for Addressing Shortages

Lamar leadership emphasized a focus on salaries and incentives to help retain and advance teachers (see Table 8 and the section that follows).

Table 8. Lamar RE-2 Schools’ Strategies to Address Teacher Shortages

Talent Development Component	Description of the Strategy
Retaining and Advancing	» Provide competitive salaries and financial incentives to recognize teachers.

### Retaining and Advancing

One strategy for retaining teachers in Lamar is through compensation and financial incentives. Studies have shown that teacher salaries can impact the supply of teachers and influence teacher attrition (Adamson & Darling-Hammond, 2012; Figlio, 1997). For example, teachers in Lamar schools received a holiday bonus in 2020 and an additional bonus at the end of the 2020–2021

<sup>15</sup> <https://www.cde.state.co.us/district-school-dashboard>

school year in appreciation of their response to the COVID-19 pandemic. The district also recently increased the salary scale for teachers to be comparable to the local cost of living.

### Bright Spot: Washington Elementary School

Washington Elementary School is in Lamar, Colorado, and serves approximately 240 students in Kindergarten through Grade 2.<sup>16</sup>

*Washington Elementary School Mission<sup>17</sup>*

*To instill and develop the foundations of life-long learning in our students. The ultimate goal of Washington is to produce capable, productive citizens that can successfully function in a democratic society.*

### School-Level Strategies for Addressing Shortages

Table 9 includes the primary strategies Washington Elementary School utilizes to address shortages, described in greater detail after.

Table 9. Washington Elementary School’s Strategies for Addressing Shortages

Talent Development Component	Description of the Strategies
Recruiting and Onboarding	<ul style="list-style-type: none"> <li>» Recruit and hire teachers with values and qualities that align to the school.</li> <li>» Provide mentoring and support to new teachers.</li> </ul>
Retaining and Advancing	<ul style="list-style-type: none"> <li>» Establish strong school leadership that fosters trusting and supportive environments.</li> </ul>

### Recruiting and Onboarding

One key recruiting and onboarding strategy for Washington Elementary School (“Washington”) is to recruit and hire teachers with values that align with the school. For example, educators at Washington shared that they seek to hire teachers who are coachable and open to feedback. Each teacher interview begins by sharing with the candidate information on the school’s values and expectations for teachers. Washington prioritizes candidates who can work well with others because school leaders believe this quality is amongst the most important to foster a collaborative school environment.

<sup>16</sup> <http://www.cde.state.co.us/cdereval/2020-21membershipgradelevelbyschool>

<sup>17</sup> <https://sites.google.com/lamarschools.org/washington-elementary/home/mission-statement>



Staff at Washington believe that teacher preparation doesn't stop upon certification but continues into the first year of a teacher's career. While nothing quite prepares a teacher for their first year of teaching, Washington provides mentors to support first-year teachers. Mentors visit the new teachers' classrooms to observe and provide feedback, ensure new teachers have the basic strategies essential for instruction such as classroom management strategies and questioning techniques, and open their classrooms for observation by the mentees. In addition, the school uses professional learning communities where teachers can share best practices, collaborate, and gain additional peer support.

### *Retaining and Advancing*

A key strategy for Washington Elementary School in retaining teachers is through strong school leadership. This is the ability of school leadership to create trusting, supportive environments, and address teacher concerns. The school principal is the leader of the school, and "the leader of the school sets the culture for the work," noted a Washington teacher. Having a strong leader gives teachers confidence in the school vision—"You can feel that Washington is a great place to work when you walk in the door. It's not perfect, but we enjoy coming to work every day and being around each other." According to one teacher, the school leader can build trust by making an effort to visit every classroom, even if it is just to say "good morning." Another way school leadership at Washington build a supportive environment is through instructional leadership. For example, during an observation, one teacher was struggling, and the school leader modeled the approach to help the teacher visually understand an instructional practice. Establishing opportunities for teachers and staff to get together outside of the school (e.g., beginning of school year barbeque) is another example of Washington's efforts to build a supportive environment. School leaders also leverage constructive conflict management strategies which respondents felt helped maintain the familial connection that teachers feel at the school.

Another strategy for retaining teachers at Washington is letting them know on a consistent basis that they are appreciated, not just during Teacher Appreciation Week. A respondent shared that appreciation for teachers can be expressed in large and small ways such as checking on them, offering them a much-needed break in the middle of the day, or even providing professional development opportunities that appeal to their interests and needs.

### *Staffing Challenges Related to the COVID-19 Pandemic*

While Washington Elementary School did not report any significant impact on staffing, they acknowledged that COVID-19 created a situation where teachers had to be more flexible in their approach to instruction. For example, classes such as physical education (PE) and music were cancelled due to the increased potential of COVID-19 exposure. In response, the school principal developed a schedule where each teacher had an additional aide or teacher in their classroom throughout the day—providing support as needed. This was possible because PE teachers, music teachers, and interventionists were available to assist other classes. Although these teachers supported classes that differed from their areas of expertise, they remained flexible—largely because a culture of collaboration exists at Washington. Supporting one another is a key to teacher retention.

## Advice to Teachers, Administrators, and District Staff

When asked to offer words of advice for teachers, administrators, and district staff who are interested in improving the teacher retention rates in their district or school, the interviewees from Lamar shared the following suggestions:

- » Create a teaching community where teachers can share their best practices.
- » Demonstrate care for teachers and students to help them both succeed.
- » Recognize that engaged school principals are vital to the success of a school.



*“Create a teaching community where teachers can share their best practices.”*

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## Conclusion

Overall, proactive policies, practices, and partnerships at state and local levels are critical for success in addressing teacher shortages. The Region 12 Comprehensive Center report, [Addressing Educator Workforce Shortages: A State Comparison Brief](#), provides additional information about actions states and districts throughout the country are taking in response to educator shortage concerns. Expert guidance recommends that teacher shortages be addressed from a comprehensive point of view that considers the entire talent development continuum, from attracting to retaining teachers (Lachlan et al., 2020).

The Colorado Bright Spots highlighted in this report leverage a combination of recruiting and onboarding and retaining and advancing strategies to address teacher shortage challenges. Table 10 summarizes the primary strategies used across districts and schools.

Disaggregating teacher workforce data (i.e., examining school-level or subject-area problem areas) to get a clearer picture of shortages is also a useful approach to determining which practices and policies may be most beneficial for a state or district’s political context (Lachlan et al., 2020). Doing so supports state and local education agencies and other education entities in making strategic decisions about funding, incentives, and other programmatic supports, including how to support districts in staffing decision making.

*Table 10. Summary of Strategies Employed by Bright Spot Districts and Schools to Address Teacher Shortages*

Talent Development Component	Description of the Strategies
Recruiting and Onboarding	<ul style="list-style-type: none"> <li>» Prioritize attendance/engagement in recruitment events (in-person and virtual).</li> <li>» Leverage district communications and marketing supports to expand reach of recruitment efforts.</li> <li>» Evaluate employment and hiring application platform to improve user experience.</li> <li>» Provide financial incentives for hard-to-staff endorsement areas.</li> <li>» View principals as human capital managers.</li> <li>» Recruit teachers locally by advertising open positions through existing school community outlets.</li> <li>» Expand recruitment efforts to target diverse applicants.</li> <li>» Hire teacher candidates with beliefs and values that align to the school’s vision and culture.</li> <li>» Establish partnerships with educator preparation programs.</li> <li>» Provide mentoring and support to new teachers.</li> </ul>

Talent Development Component	Description of the Strategies
Retaining and Advancing	<ul style="list-style-type: none"> <li>» Establish community partnerships to support teacher’s work.</li> <li>» Develop supportive and collaborative working environments.</li> <li>» Create a positive school culture via working conditions.</li> <li>» Foster opportunities for teachers to authentically collaborate.</li> <li>» Use data to learn more about teachers’ needs and improve working conditions.</li> <li>» Provide coaching and professional development offerings for teachers.</li> <li>» Prioritize the social and emotional health of teachers.</li> <li>» Provide competitive salaries and financial incentives to recognize teachers.</li> <li>» Establish strong school leadership that fosters trusting and supportive environments.</li> </ul>

## References

- Adamson, F., & Darling-Hammond, L. (2012). Funding disparities and the inequitable distribution of teachers: Evaluating sources and solutions. *Education Policy Analysis Archives*, 20(7), 1–46. <https://doi.org/10.14507/epaa.v20n37.2012>
- Aragon, S. (2016, May). *Teacher shortages: What we know*. Education Commission of the States. <https://www.ecs.org/wp-content/uploads/Teacher-Shortages-What-We-Know.pdf>
- Becker, E. S., Goetz, T., Morger, V., & Ranellucci, J. (2014). The importance of teachers' emotions and instructional behavior for their students' emotions: An experience sampling analysis. *Teaching and Teacher Education*, 43, 15–26. <https://doi.org/10.1016/j.tate.2014.05.002>
- Boyd, D., Grossman, P., Ing, M., Lankford, H., Loeb, S., & Wyckoff, J. (2011). The influence of school administrators on teacher retention decisions. *American Educational Research Journal*, 48(2), 303–333. <https://doi.org/10.3102/0002831210380788>
- Boyd, D., Lankford, H., Loeb, S., & Wyckoff, J. (2005). The draw of home: How teachers' preferences for proximity disadvantage urban schools. *Journal of Policy Analysis and Management*, 24(1), 113–132. <https://doi.org/10.1002/pam.20072>
- Bragg, D. D. (2007). Teacher pipelines: Career pathways extending from high school to community college to university. *Community College Review*, 35(1), 10–29. <https://doi.org/10.1177/0091552107302375>
- Center on Great Teachers and Leaders. (n.d.). *Mentoring & induction toolkit: Introduction to the Toolkit*. <https://gtlcenter.org/technical-assistance/toolkits/mi-toolkit/module-1>
- Clotfelter, C., Glennie, E., Ladd, H., & Vigdor, J. (2008). Would higher salaries keep teachers in high-poverty schools? Evidence from a policy intervention in North Carolina. *Journal of Public Economics*, 92(5–6): 1352–1370. <https://doi.org/10.1016/j.jpubeco.2007.07.003>
- Colorado Department of Education. (2021, October 14). Educator talent – policy updates. <https://www.cde.state.co.us/educatortalent/policyupdates>
- Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017, June). *Effective teacher professional development*. Learning Policy Institute. <https://eric.ed.gov/?id=ED606743>
- Dweck, C. S. (2008). *Mindset: The new psychology of success*. Random House Digital, Inc.
- Engel, M., Jacob, B., & Curran, F. (2014). New evidence on teacher labor supply. *American Educational Research Journal*, 51(1), 36–72. <https://doi.org/10.3102/0002831213503031>
- Ferguson, C. (2008). *The school-family connection: Looking at the larger picture, a review of current literature*. National Center for Family and Community Connections with Schools at SEDL. <https://sedl.org/connections/resources/sfclitrev.pdf>

- Ferguson, R., & Hirsch, E. (2014). How working conditions predict teaching quality and student outcomes. In T. J. Kane, K. A. Kerr, & R. C. Pianta (Eds.), *Designing teacher evaluation systems: New guidance from the Measures of Effective Teaching project*. Jossey-Bass.
- Figlio, D. N. (1997). Teacher salaries and teacher quality. *Economic Letters*, 55(2): 267–271. [https://doi.org/10.1016/S0165-1765\(97\)00070-0](https://doi.org/10.1016/S0165-1765(97)00070-0)
- Friedlaender, D., & Darling-Hammond, L. (2007). *High schools for equity: Policy supports for student learning in communities of color*. School Redesign Network at Stanford University. <https://edpolicy.stanford.edu/sites/default/files/scope-pub--high-schools-for-equity-report.pdf>
- García, E., & Weiss, E. (2019). *The teacher shortage is real, large and growing, and worse than we thought. The first report in "The perfect storm in the teacher labor market" series*. Economic Policy Institute. <https://files.epi.org/pdf/163651.pdf>
- Geiger, T., & Pivovarova, M. (2018). The effects of working conditions on teacher retention. *Teachers and Teaching*, 24(6), 604–625. <https://doi.org/10.1080/13540602.2018.1457524>
- Gershenson, S., Hansen, M., & Lindsay, C. A. (2021). *Teacher diversity and student success: Why racial representation matters in the classroom*. Harvard Education Press.
- Goldhaber, D., Grout, C., & Huntington-Klein, N. (2014). *Screen twice, cut once: Assessing the predictive validity of teacher selection tools*. CALDER Working Paper 120. National Center for Analysis of Longitudinal Data in Education Research. <https://caldercenter.org/sites/default/files/WP%20120%20Final.pdf>
- Hughes, A. L., Matt, J. J., & O'Reilly, F. L. (2015, January). Principal support is imperative to the retention of teachers in hard-to-staff schools. *Journal of Education and Training Studies*, 3(1), 129–134. <https://eric.ed.gov/?id=EJ1054905>
- Ingersoll, R. M. (2004). *Why do high-poverty schools have difficulty staffing their classrooms with qualified teachers?* *Renewing Our Schools, Securing Our Future: A National Task Force on Public Education; A Joint Initiative of the Center for American Progress and the Institute for America's Future*. [https://repository.upenn.edu/cgi/viewcontent.cgi?article=1505&context=gse\\_pubs](https://repository.upenn.edu/cgi/viewcontent.cgi?article=1505&context=gse_pubs)
- Ingersoll, R. M., & Smith, T. M. (2004). Do teacher induction and mentoring matter? *NASSP Bulletin*, 88(638), 28–40. <https://doi.org/10.1177/019263650408863803>
- Ingersoll, R., & Strong, M. (2011). The impact of induction and mentoring programs for beginning teachers: A critical review of the research. *Review of Educational Research*, 81(2), 201–233. <https://doi.org/10.3102/0034654311403323>

- Jennings, P. A., & Greenberg, M. T. (2009). The prosocial classroom: Teacher social and emotional competence in relation to student and classroom outcomes. *Review of Educational Research*, 79(1), 491–525. <https://doi.org/10.3102/0034654308325693>
- Johnson, S. M. (2006). *The workplace matters: Teacher quality, retention, and effectiveness*. National Education Association. <https://eric.ed.gov/?id=ED495822>
- Johnson, S. M., Kardos, S. M., Kauffman, D., Liu, E., & Donaldson, M. L. (2004). The support gap: New teachers' early experiences in high-income and low-income schools. *Education Policy Analysis Archives*, 12(61), 1–25. <https://doi.org/10.14507/epaa.v12n61.2004>
- Johnson, S. M., Kraft, M. A., & Papay, J. P. (2012). How context matters in high-needs schools: The effects of teachers' working conditions on their professional satisfaction and their students' achievement. *Teachers College Record*, 114(10) 1–39.
- Kraft, M. A., & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, 36(4), 476–500. <https://doi.org/10.3102/0162373713519496>
- Lachlan, L., Kimmel, L., Mizrav, E., & Holdheide, L. (2020). *Advancing quality teaching for all schools: Examining the impact of COVID-19 on the teaching workforce*. American Institutes for Research, Center on Great Teachers and Leaders. [https://gtlcenter.org/sites/default/files/Examining\\_Impact\\_COVID19\\_Workforce.pdf](https://gtlcenter.org/sites/default/files/Examining_Impact_COVID19_Workforce.pdf)
- Ladd, H. (2011). Teachers' perceptions of their working conditions: How predictive of planned and actual teacher movement? *Educational Evaluation and Policy Analysis*, 33(2), 235–261. <https://doi.org/10.3102/0162373711398128>
- Liu, E., & Johnson, S. M. (2006). New teachers' experiences of hiring: Late, rushed, and information-poor. *Educational Administration Quarterly*, 42(3), 324–360. <https://doi.org/10.1177/0013161X05282610>
- Meyer, S. J., Espel, E. V., Weston-Sementelli, J. L., & Serdiouk, M. (2019). *Teacher retention, mobility, and attrition in Colorado, Missouri, Nebraska, and South Dakota* (REL 2019–001). U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central. [https://ies.ed.gov/ncee/edlabs/regions/central/pdf/REL\\_2019001.pdf](https://ies.ed.gov/ncee/edlabs/regions/central/pdf/REL_2019001.pdf)
- National Commission on Teaching and America's Future (2007). *Policy brief: The high cost of teacher turnover*. <https://nieer.org/wp-content/uploads/2015/06/NCTAFCostofTeacherTurnoverpolicybrief.pdf>
- National Comprehensive Center. (n.d.). *Strengthen and diversify the educator workforce*. <https://compcenternetwork.org/national-center/our-work/collection/6271>



- Rice, J. K., Roellke, C., Sparks, D., & Kolbe, T. (2009). Piecing together the teacher policy landscape: A policy problem typology. *Teachers College Record*, 111(2), 511–546.  
<https://journals.sagepub.com/doi/abs/10.1177/0161468109111100206>
- Simon, N. S., Johnson, S. M., & Reinhorn, S. K. (2015). *A quest for 'The Very Best': Teacher recruitment in six successful, high-poverty, urban schools*. Harvard Graduate School of Education.  
[https://robobeeseas.harvard.edu/files/gse-projectngt/files/a\\_quest\\_for\\_the\\_very\\_best\\_recruitment\\_july\\_2015.pdf](https://robobeeseas.harvard.edu/files/gse-projectngt/files/a_quest_for_the_very_best_recruitment_july_2015.pdf)
- Snow-Gerono, J. L. (2005). Professional development in a culture of inquiry: PDS teachers identify the benefits of professional learning communities. *Teaching and Teacher Education* 21(3), 241–256. <https://doi.org/10.1016/j.tate.2004.06.008>
- Springer, M. G., Swain, W. A., & Rodriguez, L. A. (2016). Effective teacher retention bonuses: Evidence from Tennessee. *Education Evaluation and Policy Analysis*, 38(2), 199–221.  
<https://doi.org/10.3102/0162373715609687>
- Stockard, J., & Lehman, M. B. (2014). Influences on the satisfaction and retention of first-year teachers: The importance of effective school management. *Educational Administration Quarterly* 40(5), 742–771. <https://doi.org/10.1177/0013161X04268844>
- Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). *A coming crisis in teaching? Teacher supply, demand, and shortages in the U.S.* Learning Policy Institute.  
[https://learningpolicyinstitute.org/sites/default/files/product-files/A\\_Coming\\_Crisis\\_in\\_Teaching\\_REPORT.pdf](https://learningpolicyinstitute.org/sites/default/files/product-files/A_Coming_Crisis_in_Teaching_REPORT.pdf)
- Wei, R. C., Darling-Hammond, L., Andree, A., Richardson, N., & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the U.S. and abroad*. National Staff Development Council.  
<https://edpolicy.stanford.edu/sites/default/files/publications/professional-learning-learning-profession-status-report-teacher-development-us-and-abroad.pdf>

# Appendix A. District Leader Interview Questions

## Section 1: Background Information

1. Please describe your role in [district name].
2. How long have you worked in [district name], including this year?
3. How many years total have you worked at the school district level, including [district name]?

## Section 2: Knowledge about Educator Workforce Shortages

4. What do you know about teacher shortages in your district (e.g., what shortages exist, what leads to shortages)?
5. During your time at [district name], what have been the greatest challenges and successes in attracting, preparing, and/or retaining teachers?
6. Has your school district reported staffing gaps among teachers in particular subject areas? If so, what are those subjects?
  - a. What strategies is the district using to address those gaps?
  - b. How effective are those strategies? How do you know they are effective?

## Section 3: Successful Practices to Prepare, Attract, and/or Retain Teachers

7. What policies, programs, or strategies does your district implement to attract, prepare, and/or retain teachers to address shortage areas?
  - a. Have those approaches been successful? How do you know?
  - b. Do you feel those strategies could be replicated by other schools and districts?
  - c. Does your district differentiate strategies for schools that serve higher percentages of students from historically disadvantaged backgrounds? If so, in what ways?
8. To what (or whom) do you attribute the successful teacher retention rate of [name of bright spot school/s]? Please explain.
9. Did your school district experience staffing challenges related to the COVID-19 pandemic? If so, please describe them.
  - a. What did your district do to address those challenges?
  - b. What, if any, challenges remain?
  - c. How do you plan to address those challenges in the future?

## Section 4: Advice for Other Teachers, Administrators, or District Leaders

10. What advice do you have for individuals who may be considering adopting similar strategies or policies that you shared to address teacher shortages? What would other districts and schools need to implement those approaches?
11. What suggestions or recommendations (e.g., potential partnerships, funding sources, contextual factors) do you have for school districts that may be experiencing challenges with attracting, preparing, and/or retaining teachers, if any?

## Section 5: Wrap-Up

12. Is there anything else you would like to share about your experiences working in [district name] and efforts to attract, prepare, and/or retain teachers?

## Appendix B. School Administrator Interview Questions

### Section 1: Background Information

1. How long have you been an administrator, including this year?
2. How long have you been an administrator at [school name]? In [district name]?

### Section 2: Knowledge about Educator Workforce Shortages

3. During your time at [school name], what have been the greatest challenges and successes in attracting, preparing, and/or retaining teachers?
4. What more do you think your district can do to attract, prepare, and/or retain teachers? Please explain.
5. Are there strategies your district should consider for schools that serve higher percentages of students from historically disadvantaged backgrounds?

### Section 3: Successful Practices to Prepare, Attract and/or Retain Teachers

6. What programs, practices, and/or strategies does your school use to attract, prepare, and/or retain teachers?
  - a. How effective have those strategies been? Please explain.
  - b. How do you know if they are effective?
  - c. Do you feel those strategies could be replicated by other schools and districts?
7. What kinds of partnerships, funding sources, contextual factors, or other variables play a role in the ability of those strategies to be effective? Please explain.
8. Which strategies will you continue using to attract, prepare, and/or retain teachers at your school? Which will you change or stop using? Please explain.
9. Did your school experience any staffing challenges related to the COVID-19 pandemic? If so, please describe them.
  - a. How did you address those challenges?
  - b. What, if any, challenges remain?
  - c. How do you plan to address those challenges in the future?

### Section 4: Advice for Other Teachers, Administrators, or District Leaders

10. What advice do you have for individuals who may be considering adopting similar strategies or practices that you shared to address teacher shortages? What would other schools need to implement those approaches?

### Section 5: Wrap-Up

11. Is there anything else you would like to share about your experiences as an administrator in [school name] in attracting, preparing, and/or retaining teachers?

## Appendix C. Classroom Teacher Interview Questions

### Section 1: Background Information

1. How long have you been a teacher, including this year?
2. How long have you taught at [school name]?
3. What grade(s)/subject(s) do you teach this year?

### Section 2: Successful Practices to Prepare, Attract, and/or Retain Teachers

4. What strategies does your school use to attract teachers? Prepare? Retain (e.g., improving school climate or supporting teachers)?
  - a. How do those strategies work?
  - b. Do you think these strategies are effective? Why or why not?
  - c. Do you think those strategies could be replicated by other schools?
5. What more do you think your school and/or district can do to attract, prepare, and/or retain teachers? Please explain.
6. Are there strategies your school and/or district should consider for schools that serve higher percentages of students from historically disadvantaged backgrounds?
7. Did your school experience any staffing challenges due to the COVID-19 pandemic? If so, please describe them.
  - a. How did your school address those challenges?
  - b. What, if any, challenges remain?
  - c. How does your school plan to address those challenges in the future?

### Section 3: Advice for Other Teachers, Administrators, or District Leaders

8. What would encourage YOU to join a new school or district? To stay in your current school or district?
9. What advice do you have for individuals who may be considering adopting similar strategies or practices that you shared to address teacher shortages? What would other schools need to implement those approaches?

### Section 4: Wrap-Up

10. Is there anything else you would like to share about your experience as a teacher in [school name] in attracting, preparing, and/or retaining teachers?