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#PANeedsTeachers: Addressing Pennsylvania's Teacher Shortage Crisis Through Systemic Solutions



Year	Teacher Count
Year 1	15,000
Year 2	13,500
Year 3	16,500
Year 4	10,000

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“A teacher shortage creates an educational famine that affects every child and every teacher in a school. How do we try to find people to fill these positions that are going to bring academic rigor and emotional connectedness to our children? I think it’s the kids who end up really losing the most when they don’t have a teacher in the classroom. I see that big picture, and it scares me.”

– **Holly Meade**, Teacher and Teach Plus Policy Fellow,
Scranton School District

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“We have become conditioned to believe teacher shortages are the new normal. It is disheartening to see us adapt to this situation.”

– PA Needs Teachers summit participant

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“Education is incredibly partisan – when it shouldn’t be. Education should be about everybody, not Democrat or Republican.”

– Dr. Ed Fuller, Professor of Education,
Pennsylvania State University

Executive Summary

Pennsylvania’s teacher shortage has been described as a “crisis” and “the biggest threat facing not only our educational system but our future prosperity as a commonwealth.” This crisis has been accelerated by the pandemic, but its root causes are long-term and systemic. As a result, bold, structural solutions will be necessary to address the root causes of educator staffing challenges and transform teaching into a desirable profession that attracts and retains highly qualified and diverse educators to shape not only our children’s futures but also our commonwealth’s future economy and workforce.

This report summarizes the ideas that emerged from the PA Needs Teachers Summit, hosted by Teach Plus and the National Center on Education & the Economy (NCEE) in September 2022, which brought together leaders from across education and government sectors to understand the scale of educator shortages, explore root causes, and identify solutions.

The scope of Pennsylvania’s educator staffing challenges is staggering: the supply of teachers has plummeted by two-thirds over the past decade, and a wide range of data points indicate that educator shortages and vacancies are at record-high levels, with low-income, urban, and rural schools impacted the most, and particularly acute shortages in certain subject areas and among teachers of color. Educator shortages force schools and districts to rely on unprepared teachers, creating a vicious cycle of underperformance and turnover. They also have other wide-ranging ripple effects across schools and communities, creating unsustainable conditions that harm student achievement and mental health, lower the morale and retention of remaining school staff, and hamper the ability of schools and districts to perform basic functions.

“Our educator workforce crisis is one of the most urgent challenges facing our schools. We owe it to our students to innovate and ensure a robust pipeline of great teachers for years to come.”

– Eric Hagarty, Acting Secretary of Education, 2022-23
Pennsylvania Department of Education

The shortage of highly qualified teachers and diverse teachers in Pennsylvania can be traced to **four systemic root causes**, which are explored in detail in this report:

1. The financial value proposition for becoming a teacher in Pennsylvania continues to worsen as the cost of college and other expenses to enter the profession rise and teacher compensation remains low.
2. Interest in teaching and the status of the profession continue to decline, particularly among younger generations, making recruitment into the profession more and more difficult.
3. Many new teachers in Pennsylvania do not receive preparation and induction experiences that build their subject matter expertise, give them sufficient on-the-job clinical experience, and provide support from highly effective mentor teachers, making these teachers less likely to succeed and persist.
4. Many Pennsylvania teachers experience stressful and isolating workplace conditions, without opportunities for career progression or input into school-wide decision-making.

Based on these challenges, we recommend **six policy principles** to guide the creation of solutions to teacher shortages in Pennsylvania:

1. In order to make teaching more attractive as a career, the job of the teacher must fundamentally change.
2. Teacher shortages cannot be solved in the long term by lowering the bar to become a teacher.
3. Any policy solutions that involve investment of additional public funds should improve both the quality and quantity of the educator workforce.
4. Policy solutions should function primarily as incentives rather than requirements in order to reduce compliance mentality.
5. Policy solutions should be systemic and address root causes.
6. Policy solutions should drive both excellence and equity.

Finally, we offer **five policy strategies**, aligned with our policy principles, to build a strong and diverse educator workforce in Pennsylvania:

1. Incentivize high-quality teacher preparation, characterized by rigorous coursework and intentionally designed clinical experiences developed in partnership with local education agencies.
2. Invest in teacher retention through well-defined career ladders.
3. Expand pathways into teaching for youth and paraprofessionals.
4. Improve the financial value proposition for becoming a teacher.
5. Improve data collection to allow for targeted investments in the teacher pipeline.

Introduction

Pennsylvania is facing a dire and worsening teacher shortage crisis. While COVID-19 has exacerbated and accelerated this crisis, its roots can be traced back over a decade to a wide range of systemic factors that predate the pandemic. As a result, systemic solutions will be needed to address the root causes of educator staffing challenges and build Pennsylvania's teaching profession into a desirable career pathway that attracts and retains an abundance of diverse, dedicated, well-prepared, and well-supported professionals.

This report summarizes the information, themes, and ideas that emerged from the PA Needs Teachers Summit, held on September 22nd, 2022 by Teach Plus and the National Center on Education and the Economy (NCEE). The summit served as the launch of a new coalition effort to tackle the challenges school districts and charter networks are experiencing with hiring and retaining teachers.

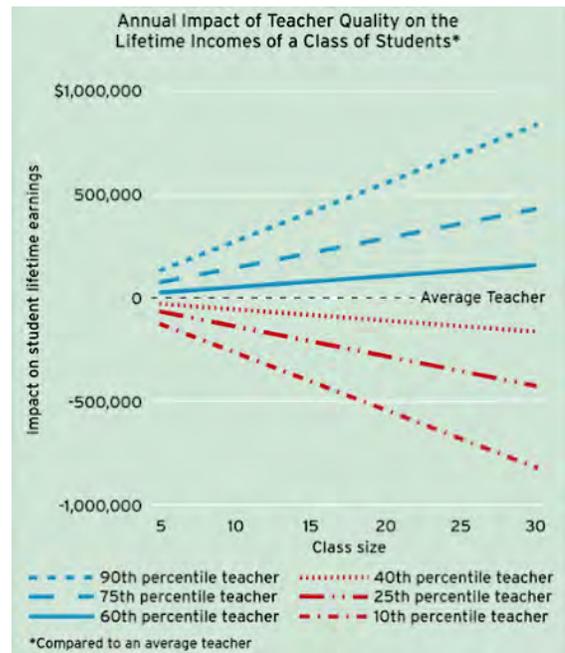
At this summit, 150 participants—including policymakers, K-12 educators, higher education leaders, non-profit leaders, and public education advocates—gathered at the Pennsylvania Training and Technical Assistance Network (PaTTAN) in Harrisburg to understand the scale of educator staffing challenges, explore root causes, and identify policy solutions. In addition to presentations and panel discussions featuring educational experts and practitioners, heterogeneous, cross-sector table groups engaged in multiple rounds of facilitated discussion to share additional experiences, insights, and recommendations, which were captured by trained table facilitators to inform this report. Participants also shared ideas and suggestions in a post-event survey, and a follow-up virtual educator roundtable was held to obtain additional input from practitioners.

This report synthesizes research- and field-based quantitative and qualitative data shared throughout the summit by presenters, panelists, and participants. It also contains policy principles and recommendations that were synthesized by Teach Plus and NCEE based on the themes that emerged from the summit.

Over time, policy changes and investments that address systemic challenges within our teacher workforce can be expected to pay dividends in the form of reduced teacher turnover, higher student achievement, higher economic productivity, and less need for social safety net and criminal justice expenditures. It is our hope that the report will serve as a resource for policymakers, advocates, and education leaders as they work to address this crisis from their respective vantage points at the start of a new gubernatorial administration and legislative session in Pennsylvania.

The Importance of High-Quality and Diverse Teachers

Research is clear that a highly qualified, adequately staffed, and diverse teacher workforce is essential for any thriving educational system, workforce, and economy. Teacher quality is the most important in-school factor affecting student achievement,¹ and it has also been linked to longer-term outcomes including graduation rates, college attendance rates, and future earnings.² The highest-performing educational systems internationally recruit teacher candidates from amongst their top-performing secondary and postsecondary students,³ and their teachers have deep subject-matter expertise.⁴ The benefits of a diverse teacher workforce are also well-documented: teachers of color improve outcomes for all students, and particularly for students of color.⁵



Source: Hanushek, E. (2011). Valuing Teachers: [How Much is a Good Teacher Worth?](#)

Conversely, both teacher shortages and teacher turnover have been linked to lower student achievement and poorer school climate, with particularly large effects on more vulnerable students.⁶ Teacher turnover is also expensive and wasteful, costing districts tens of thousands of dollars per teacher.⁷ Finally, insufficiently prepared and ineffective teachers lower student achievement,⁸ leave the classroom at higher rates,⁹ and contribute to lower perceptions of the profession that drive a vicious cycle of shortages.

The data is clear: ***If Pennsylvania hopes to be an educational and economic leader in the future, then recruiting and retaining a skilled and diverse teacher workforce must be a top priority of policymakers.***

“If schools are engines of educational and economic opportunity, then educators are the conductors who keep the train moving forward.”

– Laura Boyce, Executive Director,
Teach Plus Pennsylvania

The Scope of Teacher Shortages in Pennsylvania

“Our applicant pools have shrunk dramatically. In some cases, we have no applicants for positions.”

– Sylvia Rockwood, Director of Human Resources, Phoenixville Area School District

While Pennsylvania does not collect detailed data on teacher supply and demand, there are numerous data points as well as a great deal of anecdotal evidence demonstrating that districts across the commonwealth are facing dramatic and unprecedented challenges in recruiting and retaining highly qualified and diverse teachers. The Pennsylvania Department of Education reports the number of subject areas experiencing shortages to the U.S. Department of Education; since 2013, this number has risen from three to 15.¹⁰ Other proxy measures point to a rapidly declining supply of new teachers: the state department of education reports fewer applicants per position across every subject area, and for the first time in 2020-21, there were more teachers on emergency permits than teachers obtaining traditional certification in Pennsylvania.¹¹

These trends are largely traceable to a long-term decline in teachers pursuing certification in Pennsylvania; since 2010, the number of teachers certified annually in Pennsylvania has plummeted from 20,000 per year to fewer than 7,000 per year.¹² While teacher preparation program enrollment has declined nationally, Pennsylvania’s decline of over two-thirds in ten years is twice as steep as the national average, which has declined by one-third over the past decade.¹³



Source: Pennsylvania Department of Education, Act 82 Report, March 2021

While the pandemic has raised concerns about increasing numbers of teachers leaving the profession, existing data does not support the idea of a mass exodus of Pennsylvania teachers; however, teacher attrition has increased slightly, and demand for teachers has increased with the influx of federal stimulus dollars and heightened academic and mental health needs of students in the wake of the pandemic.¹⁴ As a result of these combined factors, districts across Pennsylvania are competing to hire

from a shrinking supply of highly qualified educators, with media outlets across the commonwealth describing schools opening with vacancies, superintendents and principals covering classes, and districts beseeching parents and other community members to serve as substitutes and bus drivers.

“When you have subs, or you have different teachers covering on different days, you are not making connections and bringing academic rigor to your students.”

– Holly Meade, Teacher and Teach Plus Policy Fellow,
Scranton School District

Although educator shortages are being felt throughout the commonwealth, they are not felt equally across districts. Data suggests that rural schools and schools with high proportions of students of color and students living in poverty, which are also likely to be the most under-resourced and least able to offer competitive salaries, have the greatest challenges recruiting teachers. Charter schools and schools with high proportions of students of color and students living in poverty also struggle the most to retain teachers. As a result, students of color and students living in poverty are much more likely to be taught by novice or underqualified teachers and to learn in schools affected by high teacher turnover than their white and wealthier peers.¹⁵

“Shortages are not distributed equitably. The schools that need a high-quality and stable workforce the most are the ones impacted the most. [High-poverty schools] always suffer. Now it’s a big deal, and in the newspaper, but they’ve been suffering shortages for a long time.”

– Dr. Ed Fuller, Professor of Education,
Pennsylvania State University

Similarly, educator shortages are most pronounced in certain subject areas and for certain demographic groups. The state department of education reports the greatest shortages in special education, English language instruction, and science, technology, engineering, and mathematics (STEM) subjects.¹⁶ Meanwhile, Pennsylvania has a particularly acute shortage of educators of color, with only 6% of the educator workforce identifying as persons of color, compared to 37% of the student population.¹⁷

At the summit, panelists and participants described the impact of these educator shortages and the ripple effects they cause for students, teachers, and schools:

- Larger class sizes and less time for individualized student support as classes are merged temporarily or permanently
- Increased workloads, stress levels, and burnout rates among current teachers due to lost prep periods and increased responsibilities covering for vacancies, leading to higher absence and resignation rates
- Principals and district leaders covering classes when teachers are not available, reducing their ability to support school improvement efforts and other priorities
- Loss of learning and positive, stable relationships for students
- Inability to comply with individualized education plans for students with disabilities and other legal requirements due to insufficient staff

“My school year began with having two administrators serving as content specialist teachers teaching 7th and 8th grade math, and so that has put an enormous strain on the building, and also across the district.”

– Dr. Camille Hopkins, Director of Schools,
School District of Lancaster

“Even though I’m a principal, I have spent the last two and a half weeks teaching kindergarten because I had an educator who decided that this was not the best career path for herself.”

– Robert Powell, Principal,
Propel Charter Schools

*“The one thing I will add, which is most heartbreaking for me, is that **we have actual learners who are asking the teachers, ‘Why are you leaving us?’** So when you think about a learner’s need to form a sustained and nurturing relationship with an adult, that is starting to erode. A number of our learners already have abandonment issues, and for some of them, that school relationship is the one positive relationship that they have. So it is definitely impacting our learners and our existing staff.”*

– Dr. Tamara Willis, Superintendent,
Susquehanna Township School District

Root Causes of the Teacher Shortage Crisis

While public awareness of Pennsylvania's teacher shortage is relatively recent, and many point to the pandemic as its cause, the roots of this crisis are deep and can be traced back many years. At the summit, Teach Plus and NCEE identified four primary root causes to explore:

1. **Financial Considerations:** Rising costs versus stagnant financial compensation
2. **Recruitment Challenges:** Declining interest in and status of the profession
3. **Inconsistent Preparation and Induction:** Insufficient exposure to subject-area content and research on teaching and learning accompanied by high-quality support
4. **Unattractive Working Conditions:** Stressful and isolating workplace conditions without opportunities for career progression

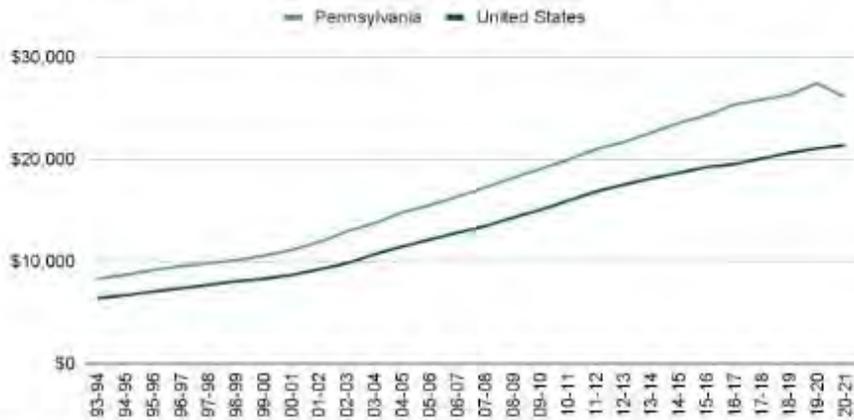
This list is not exhaustive, but it covers many of the primary systemic factors that must be addressed to build and sustain a high-quality and diverse teacher workforce. This section will examine each root cause and accompanying quantitative and qualitative data. Other systemic factors that contribute to teacher shortages, including a lack of actionable data and a mismatch between teacher supply and demand, are also examined.

Financial Considerations

The first root cause, financial considerations, connects to all the other root causes because it affects prospective teachers' interest in the profession, willingness to pursue preparation and induction, and retention in the classroom. However, it is addressed as a separate root cause because it is important to understand the economic cost-benefit calculations that dissuade talented and diverse individuals from entering and staying in the profession.

First, there is a significant and growing mismatch between the cost of becoming a teacher in Pennsylvania compared to the compensation one can expect to earn as a teacher, especially in comparison with other professions that require a bachelor's degree or higher. Over the past 30 years, the cost of college in Pennsylvania has risen dramatically. The cost of public in-state college has more than tripled from \$8,000 per year to over \$26,000.¹⁸ Pennsylvania has consistently had higher college costs than the national average, and that gap has widened over time as state investments in higher education have stagnated.

Average undergraduate cost (in-state tuition, fees, room, & board) for full-time students in public four-year institutions

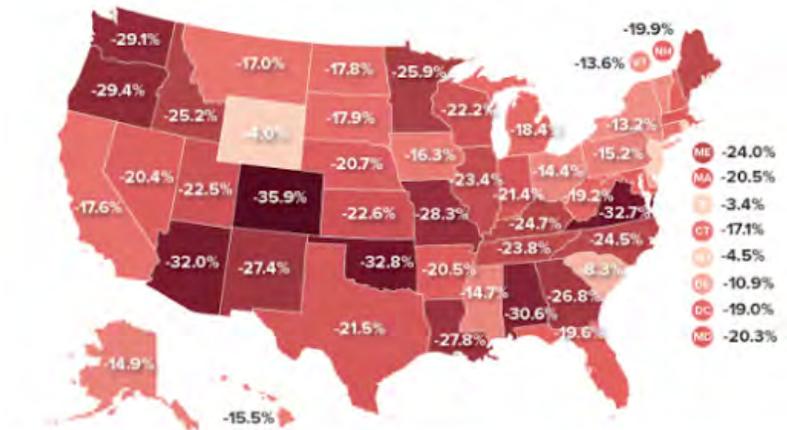


Graph Source: National Center for Education Statistics, Table 330.20, 1994-2021

Meanwhile, as college gets more expensive, teacher salaries have stagnated. Inflation-adjusted average weekly wages of teachers have been relatively flat since 1996, while weekly wages of other college graduates rose 28% over the same period.¹⁹ This leads to a so-called “wage penalty” of 15.2% for Pennsylvania teachers; in other words, college graduates who pursue teaching as a career earn, on average, 15.2% less than their classmates who are employed in other fields. While this penalty is not as high as in some other states in the nation, it’s higher than that of our neighbors in New Jersey, New York, and Delaware.²⁰ The relatively low compensation of teachers compared to other college-educated workers is an American phenomenon: teachers in the United States earn only 60% of the salary of other workers with college degrees, while the international average is 90-100%.²¹

Overall, the rising cost of college compared with the stagnant wages of teachers leads to an unattractive cost-benefit equation for prospective teachers, particularly for those from low-income backgrounds who must take on significant debt to attend college. Outstanding high school graduates are disinclined to enroll in educator preparation programs when the same level of education can yield a higher salary and greater ability to pay back the student loans that may have been required to earn their bachelor’s degrees.

Teacher Wage Penalties by State



Source: Economic Policy Institute based on BLS data, 2022

This is particularly true for some subject areas with the worst shortages, like STEM fields, where the wage penalty is particularly high. The wage penalty is also particularly harsh for teachers in Pennsylvania’s most underfunded districts, which serve a disproportionate number of students of color and students living in poverty.²² Due to inequities in Pennsylvania’s K-12 school funding system, these poorest districts have the fewest resources for teacher salaries and benefits despite serving the students with the greatest needs, stacking the deck further against underfunded districts as they compete for teachers.

“Everyone does the calculus in their head: they think, ‘Okay, should I become a teacher, or should I go get an MBA?’ Becoming a teacher only pays X, so I’m going to go get the MBA. We all do this calculus when we decide our careers. So you’ve got to raise the standards, but you also have to raise the rewards.”

– Dr. Richard Ingersoll, Professor of Education and Sociology,
University of Pennsylvania

The high cost of college paired with low future pay isn’t the only financial barrier stopping potential teachers from entering the profession. Although on-the-job clinical experience is one of the most important preparation experiences for pre-service teachers, unpaid student teaching is a major barrier for many potential teachers, especially those like paraprofessionals who already have other full-time jobs. Future teachers have to pay tuition, work for free, and often forgo other employment while completing their on-the-job training—unlike some other professions where residents and apprentices earn while they learn.

The costs of certification exams also add up quickly, particularly for those who may need to take them multiple times. These financial barriers disproportionately impact people of color and those from low-income backgrounds, contributing to the lack of diversity in the profession.

“It never made sense to me: why do I pay tuition to a university to provide free labor to a school district? And we call that ‘student teaching.’”

David Donaldson, Founder & CEO,
National Center for Grow Your Own

“It’s expensive to be poor, and I think we often underestimate what is the Black tax, or indigenous or Latino tax, that a lot of people are just totally unaware of...When we started our paid apprenticeship program for high school and college students to learn about teaching, many people said, ‘Oh, you should just get them to volunteer.’ And we were just like, ‘We’re not going to start their exposure to teaching by asking them to do a bunch of stuff for free.’”

– Sharif El-Mekki, Founder & CEO,
The Center for Black Educator
Development

Spotlight on Promising Practices

In Tennessee, the state department of education used federal stimulus funds to launch a statewide Grow Your Own program with an explicit goal: “make it free to become a teacher and get paid to do so.” Through this program, teacher preparation programs received support and also identified efficiencies and cost savings to cover the entire cost of a teaching degree and certification, and teacher candidates participated in paid residency experiences with partner school districts. This program also produced the nation’s first registered apprenticeship in teaching, opening up new potential funding streams from the workforce development sector to allow prospective teachers to earn while they learn.²³

States across the country, including Mississippi, New Mexico, Florida, and Georgia, have invested in large across-the-board teacher pay raises in recent years.²⁴ Additionally, an increasing number of states and school districts have adopted strategic pay increases to attract and retain teachers in hard-to-staff schools and subject areas.²⁵

In Pennsylvania, several teacher preparation programs and school districts have also embraced the teacher residency model,²⁶ which usually includes a stipend for teacher residents, eliminating the financial barrier of unpaid student teaching. While few teacher preparation programs have found ways to offer their programs entirely free of charge, several have identified grant funds to reduce the cost of becoming a teacher.

In Philadelphia, the School District of Philadelphia recently expanded a new paraprofessional pathway program that completely subsidizes the cost of becoming a certified teacher for paraprofessionals.²⁷

“We need to make it free to become a teacher to attract more people into the profession, but we can’t recruit teachers into a burning building.”

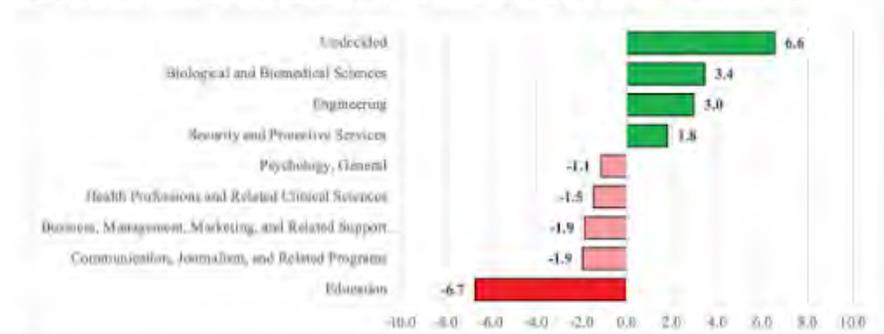
Fatim Byrd,
Teacher & Teach Plus Policy Fellow,
School District of Philadelphia

Recruitment Challenges

Challenges with recruiting talented and diverse individuals into the teacher pipeline are examined next. For the purposes of this report, “recruitment” refers to efforts to build interest in entering teaching among potential candidates, including high school students, paraprofessionals, career changers, and others prior to entry into teacher preparation programs, not to efforts by schools and districts to recruit and hire program graduates.

While recruitment into the profession is certainly hampered by the financial barriers discussed in the previous section, it is also affected by more general perceptions of the status of the profession and interest in teaching among younger generations.

Change in the Percentage of Student-Reported Intended Majors on SAT (2009 to 2019)



Source: SAT College Bound Seniors Report for Pennsylvania (2009 and 2019); calculations and graphs by Ed Fuller

As high school graduates consider their post-secondary options, teaching as a career has become less and less popular over time. The College Board reports a significant decline in the number of Pennsylvania students choosing to major in education in college over time, as shown in the chart above. This mirrors data from three different national surveys, which all have seen all-time lows for interest in teaching among high school seniors in recent years.²⁸

While more research is needed to understand young people’s perceptions of teaching as a career, surveys of members of the Gen X, Millennial, and Gen Z generations suggest that those who make up the bulk of potential teachers in the workforce are looking for working conditions that the current teaching profession doesn’t typically provide:

What attracts Gen X, Millennials and Gen Z to certain careers?

- Opportunities for advancement based on demonstrated competency.
- A team environment with shared responsibility for their organization’s success.
- Their expert knowledge is sought and valued by both their employers and their clients.

Specific to Gen Z (born 1997 or later):

- A workplace that’s meaningful, both for their career and in the impact the employer has on the local/global community.
- Desire to work for an employer that is speaking up for or addressing social justice issues.
- More than half (56%) of Gen Z said they would leave their job if it interfered with their personal lives.
- Almost half of Gen Zers said they wouldn’t accept a job at a company that didn’t align with their views on social and environmental issues.

Source: Business Insider (2022)

An analysis of national survey data found that the prestige of the teaching profession has been declining steadily in recent years. Only 59% rated teaching as a profession with “considerable prestige” in 2022, down from a peak of 78% in 1998. Only 37% of parents wanted their children to become a teacher in 2022, down from above 65%.²⁹ These declines may be connected to financial considerations, but are likely also affected by the increase in political attacks on teachers in recent years.

Students’ own K-12 experiences also affect their interest in the profession. Individuals who do not have engaging, intellectually stimulating, and affirming experiences as students are unlikely to opt to continue in such a system as teachers, and too many current students, particularly students of color, have had traumatic and dehumanizing K-12 experiences. Author and researcher Chris Emdin refers to this as asking students of color to return to the scene of the crime.³⁰

Students also receive implicit and explicit messages from teachers about the profession. Teachers can be the most compelling recruiters of future teachers, but many teachers are dissuading would-be teaching candidates in their K-12 classrooms from pursuing this profession either directly or indirectly due to their own dissatisfaction, burnout, or lack of self-efficacy. Although there is a strong tradition of multigenerational families of teachers in this country, where generation after generation go into the classroom, many teachers today tell their students, and their own children, not to go into this line of work. In a recent national poll, over half of teachers said they wouldn’t advise their younger self to become a teacher.³¹

*“One of my kids asked me, ‘Why did you choose to be a teacher?’ one day, and another kid shouted from the side of the room, ‘Being a teacher sucks!’ And I was like, ‘Whoa! It’s not that bad!’ But he said, ‘Well, my dad said it does, and I see on Tik Tok, and I see online, all these people don’t like teaching.’ And I’m on the same internet, and they have a point. **What they’re seeing from their parents, online, and on the news, it doesn’t look good.** They’re not inclined to go teach. They’re not inclined to be in the place that they just struggled in, because we have 40 kids in my class.”*

– Josamarie Stalcar, First-Year Teacher,
Susquehanna Township School District

Spotlight on Promising Practices

Recognizing the declining interest in education in their communities and across the country, several Pennsylvania school districts, teacher preparation programs, and non-profits have developed new programs to build early interest in the teaching profession among current high school students—an approach commonly referred to as “grow your own.” These programs also offer the benefit of reducing the cost of teacher preparation by allowing students to earn college credit—and sometimes stipends as well—while still in high school.³²

In Palisades School District, high school students in the Education Career Pathway complete a defined series of high school and college-level courses to develop skills in literacy, research, cultural awareness, and technology through both coursework and field experience.³³ Bethlehem Area School District offers a similar program.³⁴ Kennett Consolidated School District developed a partnership with West Chester University to create an eight-year grow-your-own teacher pipeline that supports students from junior year of high school through college graduation, with a focus on BIPOC (Black, indigenous, and people of color) students. Aspiring educators may enroll in the PRIZE Program as Kennett High School juniors and receive systematic support, including dual-enrollment coursework, job shadowing and mentorship, throughout the remainder of their two secondary and four undergraduate years. As novice educators, participants will return to teach in the district and pursue an onsite master’s program and leadership certificate.³⁵

The Center for Black Educator Development, based in Philadelphia, operates several summer and school-year programs to inspire high school students, particularly Black students, to become educators. CBED’s Freedom Schools Literacy Academy and Liberation Academy offer opportunities for high school students to explore the profession and practice teaching skills under the mentorship of college students and experienced educators while earning stipends and college credit.³⁶

The Pennsylvania Department of Education is in the process of developing a program of study for a career and technical education (CTE) pathway in K-12 teaching. Beginning in 2023-24, high schools and career and technical centers will be able to offer this program, allowing more high school students to build early interest in teaching while earning an industry-recognized credential and college credit.

*“The idea that Philadelphia has to hire about 900 teachers a year and not a single teacher academy...For some reason we invest in table skirts and go to [hiring fairs] and try to convince strangers to come back and teach our kids, and ignore the ones that are right there in front of us. And so I would say, what is talent? How do we cultivate it in many of our cities? If an 8th grader is interested in art, literature, STEM, there’s probably a program for them. But **we have to make sure that we are creating a pipeline for the youth who actually are interested in teaching.** Last summer we had 142 high-school-aged Black and brown teacher apprentices who signed up to teach first, second, and third graders. So people can’t tell us that they’re not interested. They might not be interested in what you’re selling, but they’re interested in the idea of lifting as they climb and teaching as a profession.”*

– Sharif El-Mekki, Founder & CEO, The Center for Black Educator Development

Inconsistent Preparation and Induction

The quality of preparation and induction experiences of new teachers entering the profession is the next systemic factor impacting teacher shortages. For the purposes of this report, we consider “preparation” to include the coursework and clinical experiences of pre-service teachers prior to certification, whether in undergraduate, graduate, or alternative certification programs. “Induction” refers to supports such as mentoring and coaching for early career teachers in their first one to three years in the classroom for the purpose of increasing their effectiveness and persistence. Unfortunately, in Pennsylvania, preparation and induction experiences can be of varying quality and consistency, sometimes lacking in exposure to rigorous subject area content, sufficient pre-service clinical experience, effective support from highly skilled and experienced mentor teachers, and alignment between educator preparation programs and districts.

In the highest-performing education systems around the world, there are fewer than ten teacher preparation programs preparing all of the nation’s teachers, making it possible to ensure rigor and consistent high quality across programs.³⁷ Finland, for example, accredits only eight teacher preparation programs, all housed in top research universities.³⁸ In contrast, there are 126 approved teacher preparation providers in Pennsylvania, including 91 traditional higher education providers, 32 alternative program providers housed in institutions of higher education, and three independent alternative program providers.³⁹ In total, these 126 providers offer 1,419 different approved programs (each certification area offered at each provider is considered a separate program), although the number of students enrolled varies widely, with many approved programs producing zero or very few candidates,⁴⁰ and 12 providers (mainly PA State System of Higher Education (PASSHE) and state-related schools) producing over half of the total program completers statewide.⁴¹ PA does not collect longitudinal data that would allow us to measure the success of these programs based on persistence of their graduates in the classroom, and the Pennsylvania Department of Education no longer conducts on-site program reviews, instead relying on provider self-reporting to ensure program quality and adherence to state requirements. However, program completion rates and certification exam pass rates vary widely from program to program and provider to provider,⁴² suggesting inconsistent quality among these providers.

The highest-performing systems internationally place a strong emphasis on building subject-matter expertise during the teacher preparation experience, with an emphasis on developing in-depth and accurate content knowledge as well as pedagogical content knowledge (an understanding of the most effective, evidence-based ways to teach a specific subject).⁴³ To develop this knowledge, programs design teacher prep curriculum to be rigorous, coherent, and closely aligned with K-12 school curriculum.⁴⁴ In contrast, in Pennsylvania, where curriculum varies from district to district and there is less coordination between teacher preparation programs and K-12 schools, there is sometimes a disconnect between the content teacher candidates learn in their preparation programs and the content they are expected to teach once hired by districts. In many teacher preparation programs, teacher candidates can choose piecemeal from a large menu of courses, which are often taught in isolation, rather than progressing through a systematic and interconnected pathway of courses designed to intentionally build content knowledge and pedagogy. Program faculty also express concerns that as they are expected to incorporate more competencies into the teacher preparation curriculum, there is less time to build in-depth content knowledge.⁴⁵

Because teacher preparation program instructors in Pennsylvania have not necessarily been selected from among the ranks of the highest-performing teachers in the K-12 system—unlike in the top-performing nations—they are not always equipped to build the content knowledge their students will need once they graduate and enter the workforce. A 2020 review of teacher preparation programs found that only 39 traditional teacher preparation programs in Pennsylvania prepared their aspiring elementary teachers in the science of reading,⁴⁶ while another review found that Pennsylvania had taken minimal steps to ensure sufficient mathematics knowledge in the elementary grades.⁴⁷

In high-performing systems internationally, teacher candidates complete at least a year of clinical experience under the supervision of a highly effective mentor teacher, often at lab schools that collaborate closely with the preparation programs.⁴⁸ In the United States, teacher residency programs, which also feature longer (often paid) clinical experiences, intentional mentorship, and close coordination between teacher preparation programs and districts, have been linked to higher retention rates.⁴⁹

However, in Pennsylvania, there is considerable disparity in the quantity and quality of clinical experiences. While the Pennsylvania Department of Education calls for 190 hours (about 5-6 weeks) of observation and field experience prior to student teaching, the department only requires 12 weeks of full-time student teaching (out of a typical 40-week school year).⁵⁰ Of those 12 weeks, the teacher candidate may assume full responsibility for planning and instruction for as few as six weeks, and many student teachers miss key parts of the school year such as the early days of school when classroom routines and relationships are developed. Furthermore, as discussed previously, the unpaid nature of most student teaching and clinical experiences represents a significant financial barrier to many prospective teachers, particularly those from low-income backgrounds and those already previously employed.

Effective clinical experiences require strong relationships between teacher preparation programs and partnering school districts to ensure alignment and strong mentorship of student teachers. However, many university-based supervisors of teacher candidates have such large caseloads that they struggle to find time to collaborate with district-based cooperating teachers and align their support of student teachers. Additionally, many teacher preparation programs report difficulty identifying strong cooperating teachers to mentor student teachers,⁵¹ and these cooperating teachers rarely receive substantial training or compensation for their efforts, leading to highly variable student teaching experiences. In contrast, in high-performing systems, the mentor teacher role is often part of a well-defined career ladder, and in Finland, student teachers are often assigned in pairs to work with a single, highly competent classroom teacher.⁵²

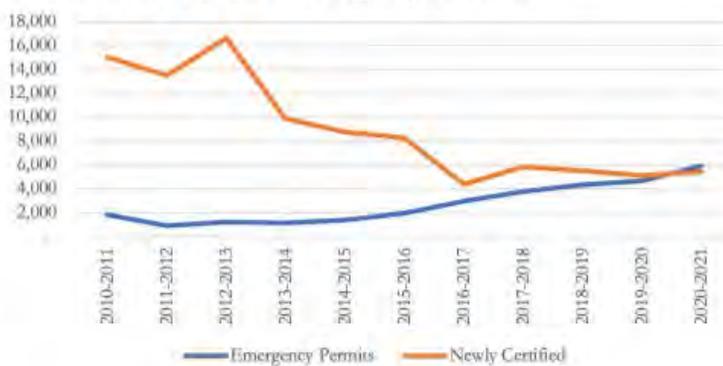
As a result of the inconsistencies in the teacher preparation experience across coursework and clinical experience, many rookie teachers in Pennsylvania, even those who have completed a traditional certification program, report feeling unprepared for the challenges of leading their own classroom.⁵³

*“In my freshman class for music education, we had 47 of us. By the time we got to student teaching, there were 23 of us left...Only six of us have jobs right now, and one of those people is my best friend, who is putting in her two weeks’ [notice] tomorrow. She is incredibly overwhelmed; a lot of us are really overwhelmed already. We don’t know what to expect, and in student teaching, we aren’t really taught what to expect in real classrooms. **We’re taught the basics and what to expect in an ideal classroom, not the real challenges.** So we get thrown into this environment that we weren’t taught about...and we find out it’s not what we thought it was going to be.”*

– Josamarie Stalcar, First-Year Teacher, Susquehanna Township School District

Even more troubling, a growing number of classroom teachers—those entering the classroom with emergency certificates—have little or no coursework or clinical experience in the subject they are assigned to teach prior to entering the classroom. Research tells us that teachers who are unprepared leave the field at two to three times the rate of those who are comprehensively prepared.⁵⁴ Unfortunately, in Pennsylvania, due to the plummeting number of teachers completing teacher preparation programs, the number of teachers teaching on emergency permits has skyrocketed, surpassing the number of newly certified teachers for the first time in 2020-21.⁵⁵

Comparison of Number of Newly Certified Teachers to Number of Teaching Positions Filled by Individuals on an Emergency Permit



Source: Act 82 Report from PDE; calculations and graph by Ed Fuller

Finally, induction experiences for new teachers in their first one to three years of teaching are also inconsistent and of varying quality across Pennsylvania. Since 1987, schools have been required to have a state-approved teacher induction program for first-year teachers, and in 2022, the induction requirement was extended to two years, with completion of an approved induction plan a requirement to qualify for an Instructional II certificate.⁵⁶ However, while high-quality mentoring and induction are associated with stronger retention, in

Pennsylvania, induction is often compliance-driven. As with cooperating teachers for student teacher mentoring, the state does not have universal requirements for recruiting, selecting and preparing mentors, and mentor teachers are rarely afforded release time to work with their inductee or more than a nominal stipend for serving in this critical role. Additionally, although teacher preparation programs are required by regulation to coordinate with local education agencies (LEAs) to support inductees in their early years, there is little evidence that teacher preparation program faculty or leaders are engaged with their graduates and their graduates’ employers beyond graduation. Consequently, new teachers do not perceive a consistent throughline in their preservice and inservice experiences, and another opportunity for mutual learning between the preparing and employing institutions is missed. Finally, the measures of success or other metrics to consider the effectiveness of induction are limited, and teachers simply move on from induction once they have completed the requirement.

“There is something to be said about having strong mentorship and just someone supporting you throughout the entire process, because as educators, we never stop learning.”

– Robert Powell, Principal, Propel Charter Schools

Spotlight on Promising Practices

There are many examples of strong partnerships between local education agencies and educator preparation programs to ensure high levels of alignment for teacher candidates in order to build content knowledge and competence in the classroom. For example, for the past five years, Kutztown University has partnered with several Berks County school districts to develop four years of aligned supports and intentional field experiences for Kutztown teacher candidates.⁵⁷ Grove City Area School District has partnered with Grove City College and Slippery Rock University to regularly expose their teacher candidates to high-quality teaching by the district's strongest teachers, blurring the lines between K-12 and higher education.⁵⁸ In Philadelphia, Mastery Charter Schools has partnered with St. Joseph's University and AIM Institute to develop a classroom field placement initiative to ensure that teacher candidates are placed in student teaching settings that support the knowledge and practice around the science of reading that they have learned in their coursework at St. Joe's.⁵⁹ Many other examples of strong partnerships are present in the teacher residency models discussed previously, where partnership and tight alignment between future employers and preparation programs are features of the program design.

Several districts in Pennsylvania have also recognized that they can both strengthen mentoring—both for teacher candidates during student teaching as well as for new teachers during induction—while simultaneously introducing meaningful career ladders for their existing teachers. These districts, recognizing that meaningful opportunities for career progression based on demonstrated competency are hallmarks of many professions and the highest-performing education systems, have worked with NCEE to establish performance-based criteria for selection of mentor teachers as well as systems for supporting and compensating these teacher leaders.⁶⁰



Taken together, the limitations and inconsistencies within the teacher preparation and induction experiences produce new teachers who enter their schools with dramatically different levels of knowledge and skills to succeed in the classroom. As a result, half of new teachers in Pennsylvania leave their first school placement within five years.⁶¹



Unattractive Working Conditions

Finally, the conditions influencing retention of teachers once they enter the workplace warrant careful analysis. In the highest-performing systems around the world, teacher attrition rates are below 2-3%,⁶² but in Pennsylvania, attrition rates are 6%, with higher attrition rates in charter schools and among teachers of color.⁶³ Research has found that outside of personal life circumstances such as relocation and maternity/paternity leave that cause teachers to leave the classroom, the primary drivers of teacher attrition are salaries and working conditions.⁶⁴ The competitiveness of teacher salaries was discussed previously in the section on financial considerations, so this discussion of retention will focus primarily on working conditions, while recognizing that working conditions also affect perceptions of and recruitment into the profession. In order to retain excellent and diverse teachers, Pennsylvania schools must feature conditions that lead to the continued development, satisfaction, and persistence of effective teachers, but instead, many teachers report working conditions that are stressful, isolating, and lacking opportunities for career progression.

In the highest-performing systems, teachers work together for substantial amounts of time every school day, refining common lesson plans, engaging in cycles of action research, and observing and supporting one another.⁶⁵ Across all Organization for Economic Co-operation and Development (OECD) countries, the average teacher spends only 19 hours per week teaching, with the remaining time spent planning and collaborating with colleagues.⁶⁶ In contrast, American teachers spend an average of 27 hours per week teaching in relative isolation,⁶⁷ leaving limited (paid) time to work collaboratively with colleagues or plan meaningfully for effective instruction. This occurs despite research that demonstrates that collaboration opportunities like co-teaching, observing other teachers' classes and providing feedback, engaging in joint activities across different classrooms, and taking part in collaborative professional learning are associated with higher teacher efficacy and satisfaction.⁶⁸

High-performing systems also provide opportunities for teachers who have demonstrated expertise and effectiveness to progress in their careers without leaving the classroom by taking on different and increasingly demanding roles that involve both greater responsibility and broader opportunity for impact. Specialized roles such as lead teacher and master teacher, which involve coaching and mentoring other teachers and leading professional learning communities, are awarded based on demonstrated competence—especially in the most challenging classroom settings—as well as demonstrated ability to support and develop one's colleagues. Importantly, these roles are also associated with significantly higher compensation.⁶⁹ In Pennsylvania, salary schedules are determined by local collective bargaining agreements that generally reward teachers for years of service and accumulation of graduate credits rather than effectiveness. Teacher leader roles are often assigned based on seniority and rarely come with significant additional support or compensation, and leaving the classroom to become an administrator is often seen as the only pathway to higher pay and status within the profession.

“When we think about the role of the teacher, my mother, with 35 years of experience in teaching, has the same notion of what it means to be a teacher as I do, and as my grandmother, who was a teacher. So this is a position that for the larger part of the last 100 years has not evolved, at least conceptually, in most of our minds. That makes it difficult to actually begin to really create the space to reimagine what this role can be. Agency matters, respect matters, a chance to succeed matters, and a chance to have your voice be heard matters.”

– Kira Orange Jones, CEO, Teach Plus

In many countries, teachers are considered respected professionals, and they have significant input into how their schools are organized and run.⁷⁰ In contrast, in the United States, less than 20% of public school teachers report having a great deal of influence on school decisions such as budget, teacher hiring and evaluation, school discipline, and professional development.⁷¹ Uncoincidentally, 52% of teachers who left their schools due to dissatisfaction cited “lack of influence and autonomy” as a primary reason for leaving;⁷² conversely, research has found that involving teachers in school decision-making through shared leadership structures improves teacher retention.⁷³

Another key factor in retention is the role of the principal: 58% of teachers who left their schools due to dissatisfaction cited dissatisfaction with administration as a factor, and other researchers have found a “perceived lack of administrative support” to be the workplace condition most predictive of teacher turnover.⁷⁴ A School District of Philadelphia analysis of teacher exit survey data found that 48% of teachers who resigned for reasons within the district’s control cited their supervisor’s leadership or management style as the primary reason for leaving.⁷⁵

Finally, teachers of color face unique challenges in the workplace that contribute to their higher attrition rates. Research by Teach Plus and The Education Trust found that teachers of color face five common conditions that affect their satisfaction and retention: “(1) experiencing an antagonistic school culture; (2) feeling undervalued; (3) being deprived of agency and autonomy; (4) navigating unfavorable working conditions; and (5) bearing the high cost of being a teacher of color.”⁷⁶

“Well-paid, well-respected occupations and professions where the practitioners have good working conditions and good training: those lines of work do not suffer from recruitment and retention problems. Believe me, there’s no shortage of lawyers. There’s no shortage of accountants. There’s no shortage of professors. In fact, people are dying to get into these lines of work, even though there’s all kinds of barriers out there...This is a hallmark of the professions: professionals are experts that have a lot of say and authority in the decisions that affect their workplaces and their jobs. But teachers often don’t.”

– Dr. Richard Ingersoll,
Professor of Education and Sociology,
University of Pennsylvania

“As an educator in the classroom, teacher voices need to be heard. When decisions are made about students, teachers aren’t consulted, even though no one knows better what students need than the teachers. As a teacher of color, that makes me feel undervalued...I’m at a crossroads right now, where I want to leave the classroom, not because of my students, but because I feel my voice is being silenced. And if I feel like I can’t make change, then I don’t really want to be there.”

– Lisa Richardson, Teacher and Teach Plus Policy Fellow, Upper Darby School District

Spotlight on Promising Practices

As noted in the previous section, several districts in Pennsylvania, with support from NCEE, have begun to develop career ladders centered around identifying and developing teacher leaders to mentor pre-service and early career teachers throughout student teaching and induction. Teach Plus has also supported several districts in Philadelphia and Pittsburgh to develop models for shared leadership, along with coaching and support for teacher leaders, to allow teacher leaders to take ownership over the professional learning of their peers and contribute to school-wide and district-wide decision-making. Participants in these programs reported higher levels of efficacy, increased likelihood to stay in the profession, and higher levels of student achievement.

Organizations like [Opportunity Culture](#) and the [Next Education Workforce](#) initiative at Arizona State University work with schools and districts to redesign their staffing models and schedules in ways that extend the reach of outstanding teachers and embed career advancement opportunities into existing staffing models and budgets, with benefits for student achievement and teacher retention.⁷⁷

Other states and districts across the country have also taken steps to reimagine the teaching profession to improve teachers' working conditions and create pathways for career progression. Texas established a Teacher Incentive Allotment to provide funding for districts to reward and retain their most effective teachers through the use of locally developed teacher designation systems.⁷⁸ Indiana established a teacher career ladders and mentoring grant program to help districts develop teacher performance models that include career progressions based on "demonstrated skill development, escalating levels of responsibilities and duties, and demonstrated academic leadership."⁷⁹ Iowa developed a teacher leadership and compensation system that provided funding to districts to develop career progression systems that increased support for new teachers while creating differentiated, multiple teacher leadership roles with selective criteria and embedded professional development.⁸⁰ And North Carolina created a competitive grant program to provide districts with technical assistance to support them in developing innovative staffing models and meaningful career pathways, often through partnerships with organizations like Opportunity Culture.⁸¹

"One of the things we're looking at in Phoenixville is how do we make that career progression really meaningful? So you're not going to be coming in as a first-year teacher and, 'Here's your 150 kids, good luck,' but really bringing them on and having a career progression that's supportive of new teachers, and leader teachers who really have the ability and capacity to bring everyone else along."

– Sylvia Rockwood, Phoenixville Area School District

It is worth noting that much of the data cited on teachers' job satisfaction, perceptions of working conditions, and reasons for leaving the profession is from national sources rather than specific to Pennsylvania. This is due to a lack of data collection at the state level, through a statewide working conditions survey and/or exit survey, that would provide valuable and actionable insights into the specific experiences of teachers across Pennsylvania.

Other Systemic Factors

Pennsylvania does not currently collect comprehensive data on teacher supply and demand or make projections about future shortage areas. While nearly all teacher preparation programs self-certify to the federal government that they “respond to the individual needs of the local education agencies or states where program completers are likely to teach” and that “preparation is closely linked with the needs of schools,”⁸² in reality, there is little coordination to ensure that teacher candidates are steered toward high-need subject areas or encouraged to pursue additional certifications and credentials, such as special education or English as a second language, that would make them more employable. Incentives for pursuing high-need certification areas are also virtually non-existent at the state level, although the state department of education has begun to direct some grant funds toward preparation in high-need subject areas such as computer science.

The lack of supply and demand data is indicative of a larger systemic factor with broad implications: a dearth of actionable data to drive resources and decision-making to address teacher shortages. As discussed previously, Pennsylvania does not collect data on the experience of current and outgoing teachers through a statewide working conditions survey and/or exit survey. Pennsylvania law also does not generally allow for longitudinal tracking of students beyond 12th grade into college and the workforce,⁸³ which makes it difficult to track prospective teachers throughout the pipeline and especially to measure the effectiveness of different educator preparation programs based on how their candidates fare after graduation in the classroom. If we don't have data to pinpoint exactly where teacher shortages are, to track outcomes of educator preparation programs, or to understand why teachers are leaving the profession, policy solutions will necessarily be less targeted than they could be.

One other challenge facing Pennsylvania is the sheer number of individual local education agencies (LEAs)—500 school districts plus charter schools and intermediate units—that all function as separate employers with their own hiring processes and timelines. Due to collective bargaining agreements, many districts—particularly smaller ones—are unable to identify vacancies and thereby make concrete offers to new hires before spring. In contrast, states with larger county-based districts are able to make employment offers as early as February to prospective teachers by virtue of their size and confidence that they will have positions open. This places Pennsylvania districts at a disadvantage when competing for teacher candidates, particularly recent graduates, in a competitive interstate market.

Systemic Solutions to the Teacher Shortage Crisis

The root causes of Pennsylvania's teacher shortage crisis are long-term and systemic. Therefore, any policy solutions must be systemic as well, thoughtfully addressing root causes rather than aiming for quick fixes that might exacerbate existing problems over time. Based on the themes discussed at the summit, the ideas suggested by participants in small group discussions and in the post-summit survey, and our analysis of the root causes discussed previously, NCEE and Teach Plus have developed a set of policy design principles as well as a set of policy strategies to recruit and retain an excellent and diverse teacher workforce in Pennsylvania and make the commonwealth a national and international leader in teacher recruitment and retention.

Policy Design Principles

Because there are so many interconnected factors that contribute to teacher shortages, it is beyond the scope of this report to suggest every possible solution to address Pennsylvania's teacher shortages. However, we believe that any potential policy solutions, whether suggested here or not, should adhere to the following set of policy design principles:⁸⁴

- 1. In order to make teaching more attractive as a career, the job of the teacher must fundamentally change.** To make teaching more attractive, schools must be organized in a manner more consistent with the characteristics of professional work environments, such as law firms and hospitals, which foster high levels of collaboration, value professionals' expertise, provide competitive compensation, and offer opportunities for advancement based on competence.
- 2. Teacher shortages cannot be solved in the long term by lowering the bar to become a teacher.** Although eliminating requirements to become a teacher may seem like an attractive and low-cost short-term solution to addressing shortages, in the long term this will make the profession less attractive to high-performing students and perpetuate the undesirable pay and working conditions that currently plague the profession. While unnecessary barriers to entry that are not predictive of teacher quality or success—particularly those that lead to racial disparities—should be eliminated, rigor and quality must remain goals for Pennsylvania's educator preparation programs and schools.
- 3. Any policy solutions that involve investment of additional public funds should improve both the quality and quantity of the educator workforce.** Public funds should be used not only to subsidize the costs of recruiting and retaining more educators, but also to incentivize needed structural changes that will address systemic root causes to teacher shortages, resulting in more qualified, better prepared, and more diverse teachers entering and staying in the system.
- 4. Policy solutions should function primarily as incentives rather than requirements in order to reduce compliance mentality.** Institutions such as educator preparation programs and local education agencies (LEAs) should be encouraged to make needed structural changes through the use of incentives, such as competitive grant funds, rather than forced to make changes through across-the-board mandates. This will reduce compliance mentality in favor of an opportunity mentality, encourage innovation among the willing, and allow for proof points that build buy-in across the system.
- 5. Policy solutions should be systemic and address root causes.** Policy solutions should address root causes of teacher shortages rather than the symptoms. Ideally, policy solutions should be designed to simultaneously impact multiple root cause problems given the interconnectedness of our educational system. However, policy recommendations may be introduced separately, provided they contribute to and do not diminish a larger, long-term systemic solution.⁸⁵
- 6. Policy solutions should drive both excellence and equity.** While all communities in Pennsylvania are impacted by teacher shortages, certain communities—particularly urban and rural communities, low-wealth and low-income communities, and communities of color—suffer disproportionately. Ideal policy solutions will not only increase the supply of high-quality and diverse teachers across the board but also identify ways to accelerate the supply of such teachers to high-need districts and schools.

Policy Strategies

The following strategies for state-level policy action, informed by existing research, national and international comparisons, and recommendations from participants in the summit, have been identified by NCEE and Teach Plus⁸⁶ as priorities moving into 2023 and beyond:

1. Incentivize high-quality teacher preparation, characterized by rigorous coursework and intentionally designed clinical experiences developed in partnership with local education agencies.

Pennsylvania should invest funds to incentivize close collaboration between educator preparation programs and local education agencies to redesign pre-service teachers' preparation experiences in a way that ensures teachers are prepared to meet LEAs' staffing needs and succeed in the classroom from day one. Specifically, to qualify for funding, these partnerships must demonstrate intentional shifts that will ensure teacher candidates:

- Are diverse and reflective of the communities they serve;
- Are prepared to teach high-need subjects and/or in high-need schools;
- Are able to obtain their degrees free of cost in exchange for a commitment to teaching in the partner LEA for at least four years;
- Develop deep subject-area and pedagogical content knowledge through rigorous, cohesive coursework that aligns with the LEA's curricular approach;
- Participate in a year-long clinical residency under the mentorship of an effective, trained mentor teacher, with additional aligned mentoring during induction;⁸⁷

Preference could be given to high-need districts, educator preparation programs with a track record of success, partnerships with strong working agreements and plans for collaboration, and programs that commit to pursue registering their program as an apprenticeship to unlock other sustainable funding sources.

2. Invest in teacher retention through well-defined career ladders.

Pennsylvania should incentivize LEAs to develop innovative staffing models that incorporate teacher leadership development, career ladders, and a more flexible approach to scheduling and staffing to allow for increased collaboration and professionalization. To qualify for additional funding, which could be used for teacher leader compensation and training as well as technical assistance and capacity building, LEAs would have to create teacher leadership roles such as lead teacher and mentor teacher, clearly defined within a career ladder or leadership capacity development system, that allow teacher leaders to take on progressively more responsibility for impacting student achievement and leading the learning of their colleagues based on demonstrated competence. These adjustments would likely involve changes to salary schedules, master schedules, staffing structures, collective bargaining agreements, and other district policies and practices. Priority would be given to high-poverty LEAs facing the greatest staffing challenges, and this strategy should be connected to the previously discussed strategy to target the same LEAs building new pipelines of highly qualified teachers.⁸⁸



3. Expand pathways into teaching for youth and paraprofessionals.

Pennsylvania should continue to expand youth pathways into teaching—both through the new high school career-and-technical education (CTE) teaching pathway as well as through dual enrollment opportunities. In addition to providing funding to further expand these pathways, the state should provide support and incentives to LEAs and educator preparation programs to ensure program quality, public awareness of these pathways, clear articulation agreements to allow for transfer of credits, and expansion of these opportunities to students in every district in Pennsylvania.⁸⁹ Pennsylvania should also invest in the development, expansion, and funding of programs and apprenticeships that provide pathways for paraprofessionals into teaching.

4. Improve the financial value proposition for becoming a teacher.

Pennsylvania should explore multiple avenues and funding sources, including the teacher apprenticeship model and service scholarship programs, to move toward the goal of making it free to become a teacher in Pennsylvania. Efforts should also be made to eliminate other financial barriers by encouraging or funding stipends for teacher candidates during clinical experiences, subsidizing the costs of certification exams, and investing in loan forgiveness for teachers, especially in high-need subjects and schools. Finally, teacher pay must become more competitive with other fields that require a bachelor's degree, both through increased and equitable state funding of education to support local pay increases as well as through targeted financial incentives for teachers in high-need subjects and schools.

5. Improve data collection to allow for targeted investments in the teacher pipeline.

There are many gaps in Pennsylvania's current data collection efforts that make it difficult to identify and anticipate teacher shortages, measure the effectiveness of different programs and initiatives, and understand root causes of teacher dissatisfaction. With improved data collection and visualization systems, we can better understand and address root causes of teacher shortages, identify and address pain points, identify and learn from bright spots, target resources where they're most needed and to programs best equipped to prepare high-quality teachers, and incentivize behaviors that will support recruitment and retention. Specifically, Pennsylvania should begin collecting data on demand for teachers (as measured by vacancy numbers and rates), begin tracking teacher candidates longitudinally from their educator preparation programs into the workforce, establish a statewide teacher working conditions survey and teacher exit survey, and create publicly accessible dashboards for many other existing measures of teacher supply, demand, retention, and satisfaction, as well as educator preparation program success.



Conclusion

Addressing Pennsylvania's teacher shortage crisis will not be easy. It will require broad public support, political will, investment of public resources, and a willingness to disrupt "the way things have always been done." But the stakes couldn't be higher: our children's futures, our commonwealth's economy, and our shared prosperity and security are on the line. With vision, leadership, and courage, Pennsylvania can not only respond proactively to this growing crisis but seize an opportunity to become an innovative leader by reimagining the teaching profession to recruit and retain the highest-performing teacher workforce in the world. NCEE and Teach Plus stand ready to partner with policymakers, K-12 leaders, educator preparation program leaders, statewide associations, and non-profit and advocacy organizations to advance this vision and take bold action. Our children can't wait: together, we can address the root causes of teacher shortages in our commonwealth and build the excellent and diverse teacher workforce that every Pennsylvania student deserves.

About PA Needs Teachers

PA Needs Teachers is a statewide coalition of organizations and individuals united behind the need to support our hardworking teachers and school staff, to provide Pennsylvania's children with an education that ensures their future success and the success of our commonwealth. PA Needs Teachers is led by Teach Plus Pennsylvania and The National Center on Education and the Economy.

Teach Plus

The mission of Teach Plus is to empower excellent, experienced, and diverse teachers to take leadership over key policy and practice issues that advance equity, opportunity, and student success. In pursuing their mission, Teach Plus is guided by their Student Opportunity Mandate: All students should have the opportunity to achieve their potential in an education system defined by its commitment to equity, its responsiveness to individual needs, and its ability to prepare students for postsecondary success. www.teachplus.org/pa

NCEE

The National Center on Education and the Economy is dedicated to building broadly shared prosperity in the United States. We do this by supporting education leaders and practitioners, policymakers, researchers and community stakeholders to study, design and build equitable, high-performing, and cost-effective education and workforce development systems. The students these systems educate will be prepared to contribute to our democratic society and compete in the global economy. www.ncee.org

To learn more about PA Needs Teachers and to get involved in our efforts, visit www.PANeedsTeachers.com.

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57 For information on how the Kutztown consortium was developed, contact Dr. Julia Vicente, Superintendent, jvicente@elcosd.org.

58 For additional information on Grove City Area School District partnerships, contact Dr. Jeff Finch, Superintendent, jeff.finch@gcasdk12.org.

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83 While student-level tracking at the postsecondary level is generally prohibited by Act 24 of 2011, new provisions in Act 55 of 2022 appear to allow for such tracking of candidates within Pennsylvania's educator preparation programs. This should give the Pennsylvania Department of Education the ability to track teacher candidates into the workforce; however, this tracking has not yet begun, with the Department reporting plans to implement in 2023.

84 These policy design principles are designed to be mutually reinforcing and, therefore, should be considered holistically. Although each principle is strong on its own, they should not be analyzed individually. Each of the principles relies on the others to form a solid foundation upon which to build a potential set of specific policy recommendations.

85 Reducing the standards to become a teacher is a prime example of a policy that addresses a symptom rather than the cause of the problem. While this might lead to a very short-term increase in teacher applicants, it fails to address what drove the supply down in the first place and will, ultimately, lead to even fewer qualified teacher applicants in the future.

86 While the strategies laid out above are reflective of ideas that were shared by presenters and participants throughout the PA Needs Teachers Summit, they have been developed by Teach Plus and NCEE and do not necessarily reflect the views of all summit participants and organizations.

87 For our working definition of residency, see Pathways Alliance. (2022). [Towards a National Definition of Teacher Residencies](#).

88 Strategies 1 & 2 are inextricably linked and designed to work in tandem, recognizing that better-prepared teacher candidates will nonetheless be dissatisfied and unlikely to remain in schools that do not treat them like professionals. Therefore, incentives such as loan forgiveness, scholarships, teacher-focused allotment funding, or other forms of funding should be used to simultaneously incentivize the structural changes described in strategies 1 and 2.

89 Because working with younger students can often spark interest in teaching, these youth pathway programs should be designed to encourage formal and informal opportunities for these kinds of interactions, in addition to coursework.



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