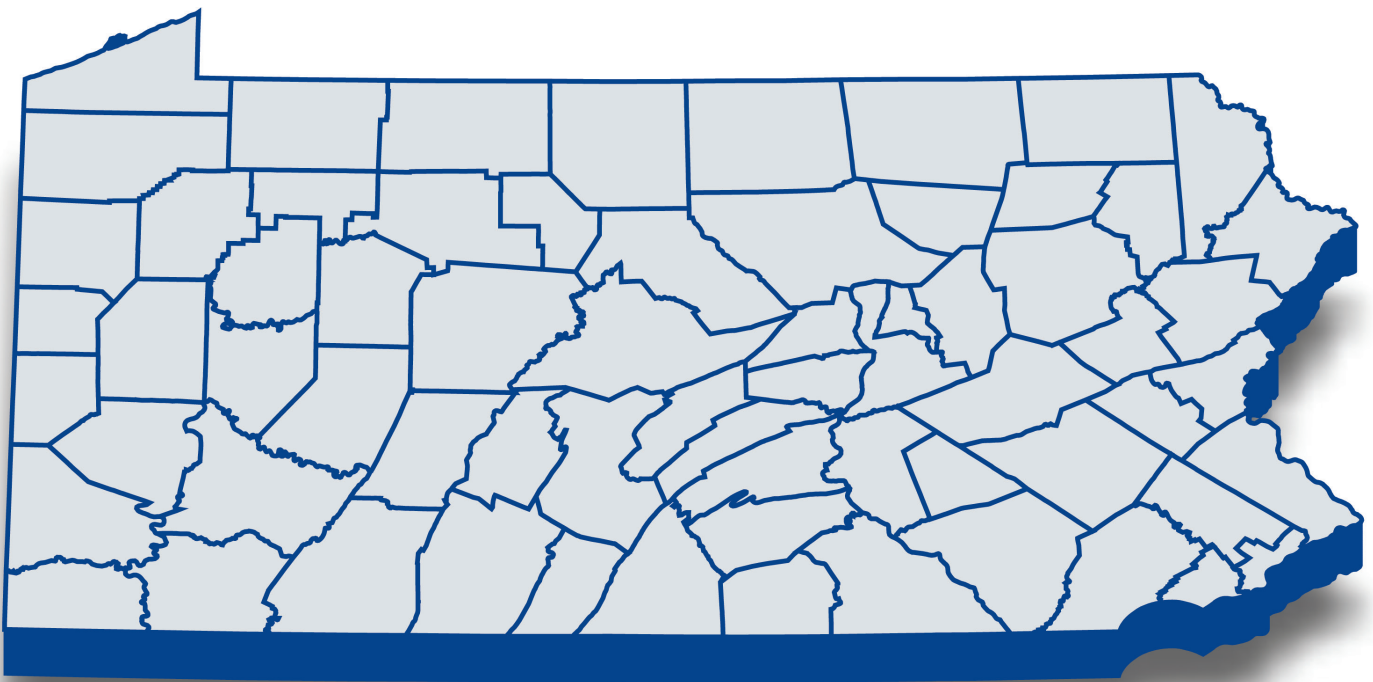


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# *Pennsylvania Teacher Staffing Challenges*

*Fall 2022*

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Ed Fuller, Ph.D.

Department of Education Policy Studies

College of Education

The Pennsylvania State University





**PennState**  
College of Education

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## Executive Summary

- Pennsylvania is facing a severe teacher staffing challenge, although the severity varies by school subject area, region of the state, and school characteristics.
- There are now more Pennsylvania teachers on emergency permits than newly certified teachers from Pennsylvania teacher preparation programs.
- While challenges exist in all subject areas, the need for new and well-prepared teachers is most acute in the following areas: special education, English Language Learner (ELL), foreign language, general elementary, English language arts, mathematics, and science.
- There are teacher preparation program “deserts” in Pennsylvania that exacerbate the challenges faced by rural schools.
- There is a severe shortage of teachers of color with few preparation programs graduating more than a handful of teachers of color each year. This negatively impacts the educational attainment of students of color.
- Teachers of color — especially Black teachers — have greater attrition rates than their white counterparts.
- Attrition and turnover rates in charter schools are extraordinarily high.
- Staffing challenges in Pennsylvania appear to be caused primarily by an inadequate supply of newly certified teachers and, to a lesser extent, a greater than expected number of educators hired over the last four years in response to increased educational and mental health needs of students stemming from the pandemic.
- Teacher staffing challenges are felt most acutely by schools serving high proportions of students living in poverty and students of color.

# Introduction

There is a strong research consensus that teachers are the most important school factor in improving student outcomes (Nguyen, et al., 2019). An ample supply of well-prepared teachers and relatively low teacher turnover are key issues related to the overall quality of a state’s teacher workforce. This study examines the degree to which the supply and retention of teachers is adequate for the Commonwealth to ensure every child has access to well-qualified teachers.

Historically, Pennsylvania has been known as an exporter of teachers and has rarely been mentioned as a state experiencing teacher labor market challenges in areas other than mathematics, selected science courses, ELL instruction, and special education.

Recent news stories and evidence, however, report that many districts are facing challenges in fully staffing schools with any teachers, much less well-qualified teachers. These growing challenges are negatively affecting the educational

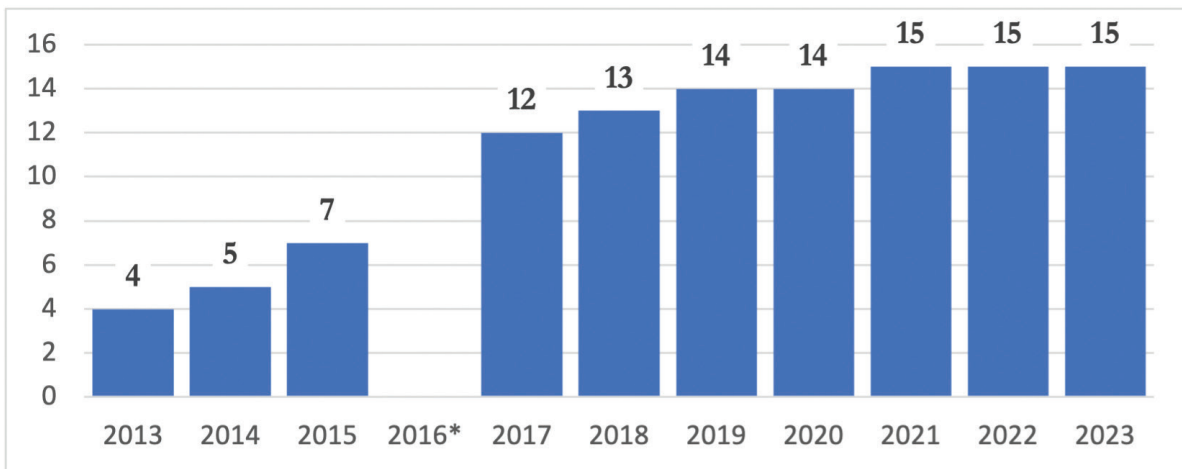
opportunities of a growing number of students, especially students living in poverty, students of color, and students living in rural areas of the Commonwealth.

***Unfortunately, there is no common definition of a “teacher shortage” and there are few, if any, direct measures of a “teacher shortage” that are currently available to understand the specific nature of the challenges.***

In Pennsylvania, there are several indicators of teacher labor market challenges. One indicator is the list of designated shortage areas identified by the Pennsylvania Department of Education (PDE) and provided to the United States Department of Education (USDoE). Over the last decade, the number of subject areas identified as having a shortage has expanded (see Figure 1).

For the last three years, there have been designated shortages for: elementary, middle, and high schools; 15 of the 23 possible areas; and every single subject area other than gifted education.

**Figure 1: Number of Designated Teacher Shortage Areas in Pennsylvania by Year**



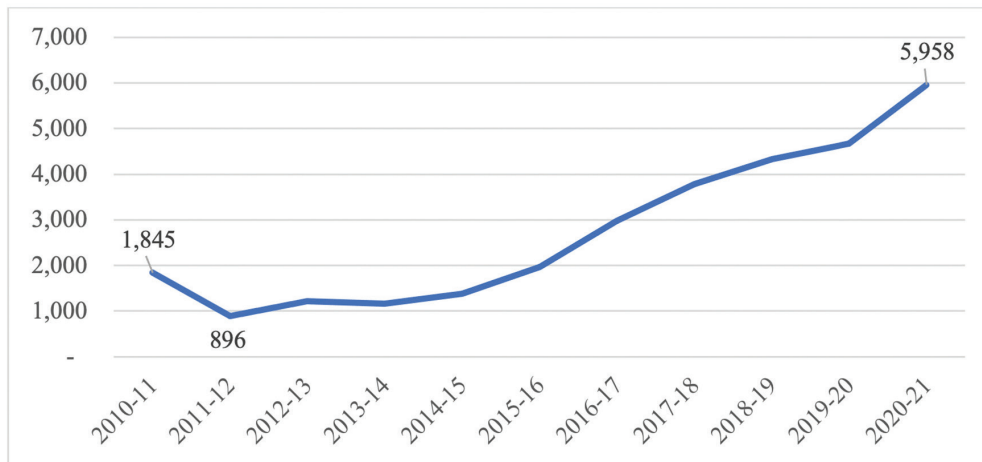
Data source: USDoE teacher shortage reports

Another indicator is the number of teaching positions filled by individuals on an emergency permit — either on an emergency permit because the person does not hold the appropriate teaching certificate for their teaching assignment (Type 01)<sup>1</sup> or because the person is a long-term substitute (Type 04). In either case, research suggests that students suffer academically when taught by

a teacher on an emergency permit (Goldhaber, 2012).

As shown in Figure 2, there has been an increase of more than 5,000 positions that could not be filled by a properly certified teacher from 2011-12 to 2020-21. Thus, the number of students taught by an inadequately prepared teachers has increased dramatically.

**Figure 2: Number of Teaching Positions Filled by Individuals on an Emergency Permit (2011-12 to 2020-21)**



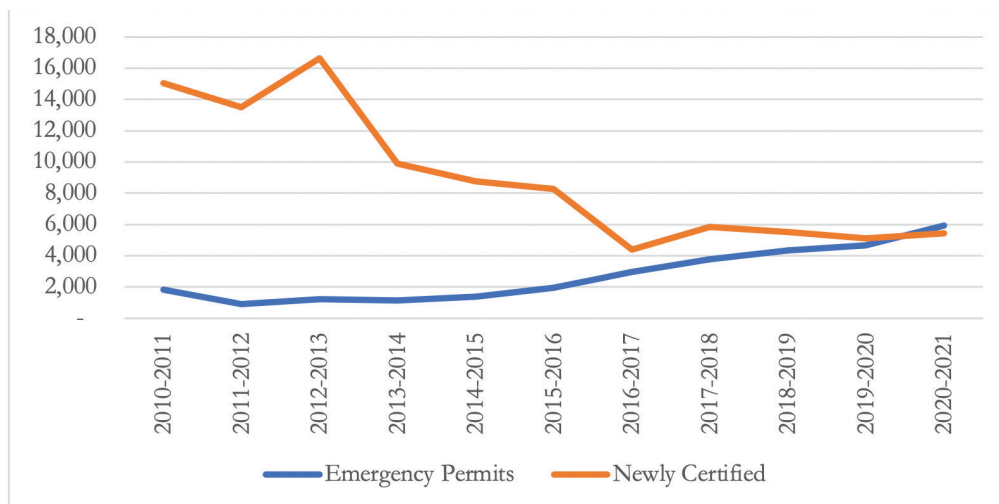
Data source: Act 82 Report from PDE

This number is even more concerning when we compare the number of newly certified teachers from Pennsylvania teacher preparation programs (TPPs) to the number of teaching positions filled by individuals on emergency permits (see Figure

3, below).

**For the first time in the history of the Commonwealth, the number of newly certified teachers was less than the number of teaching positions filled by teachers on emergency permits.**

**Figure 3: Comparison of Number of Newly Certified Teachers to Number of Teaching Positions Filled by Individuals on an Emergency Permit**



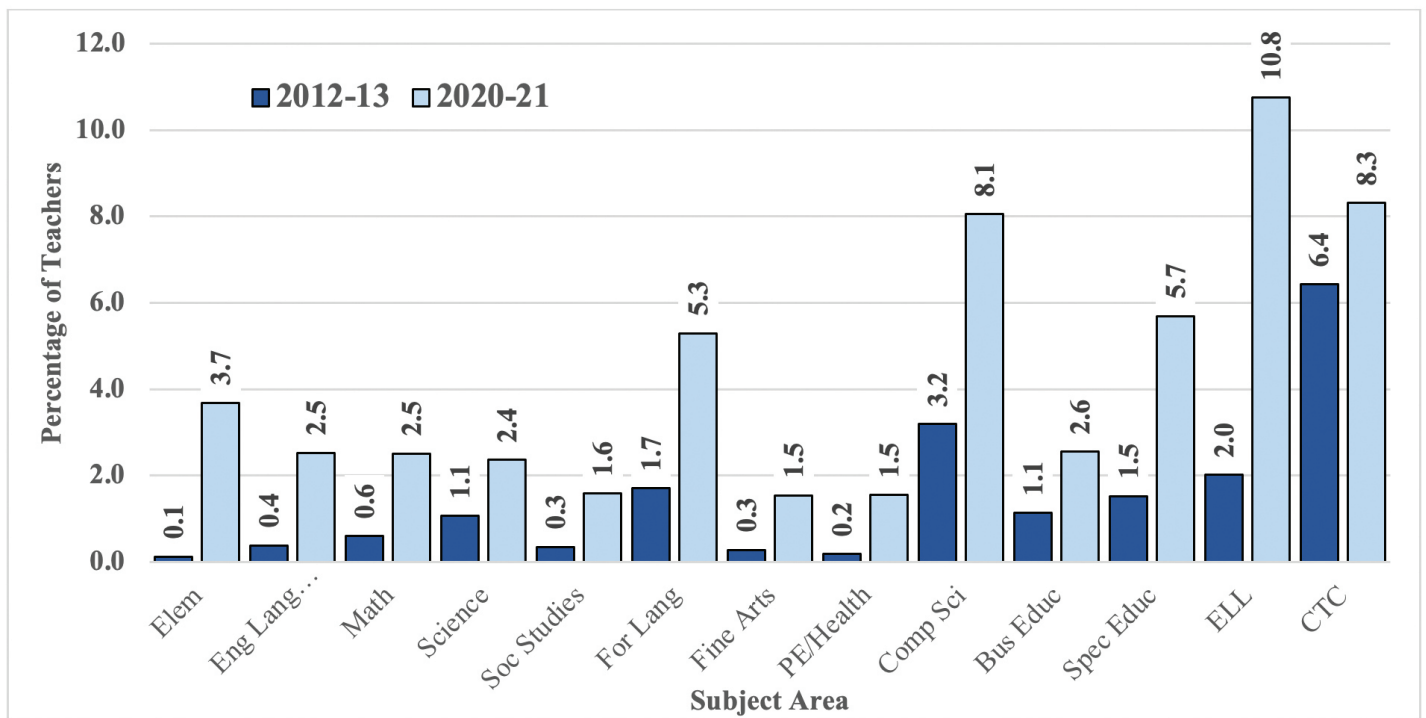
Data source: Act 82 Report from PDE

<sup>1</sup> According to PDE, “a Type 01 permit is requested for a position that will exceed 20 consecutive days in a single assignment when the Local Education Agency (LEA) anticipates future employment for the position.” Following are examples of qualifying vacancies: New Position; Resignation; Termination; Retirement; Death.

Figure 4 documents the increase in the percentage of positions filled by individuals on emergency permits by major subject area from 2012-13 through 2020-21. For all eight major subject areas, the percentages of teachers on an emergency permit in 2020-21 were at least twice the corresponding percentages in 2012-13. For five of the subject areas (elementary, English language arts, fine arts, and physical/health education), the percentages of teachers on emergency permits

in 2020-21 were at least five times greater than in 2012-13. If we assume elementary teachers are assigned to teach 15 students per year and secondary teachers are assigned to teach 100 students per year, the increase in the use of educators on emergency permits affects approximately an additional 200,000 students in 2020-21 than in 2012-13. A disproportionate percentage of these students are likely students of color and students living in poverty.

**Figure 4: Percentage of Teaching Positions Filled by Individuals on an Emergency Permit (2012-13 through 2020-21)**



Data source: Author calculations based on data from PDE's Act 82 Report



Another indicator of teacher staffing challenges is the ratio of the number of initial in-state Instructional I licenses granted by PDE to the number of beginning teachers hired in the same subject area. This ratio captures the comparison of the supply of teachers in a subject area to the demand for newly licensed teachers in the same subject area. A ratio of 1.0 indicates the number of newly certified teachers is equal to the number of beginning teachers hired. The greater the ratio, the greater the supply of teachers and, all other things equal, the larger the potential applicant pool. Conversely, the smaller the ratio, the smaller the supply of teachers and, hence, a smaller potential applicant pool.

This is important because the larger the applicant pool, the more likely a district will be able to hire a well-qualified teacher who fits the vacant position. Research suggest this increases the odds the teacher will be effective and remain in the position.

As shown in Figure 5, *the overall supply-demand ratio*

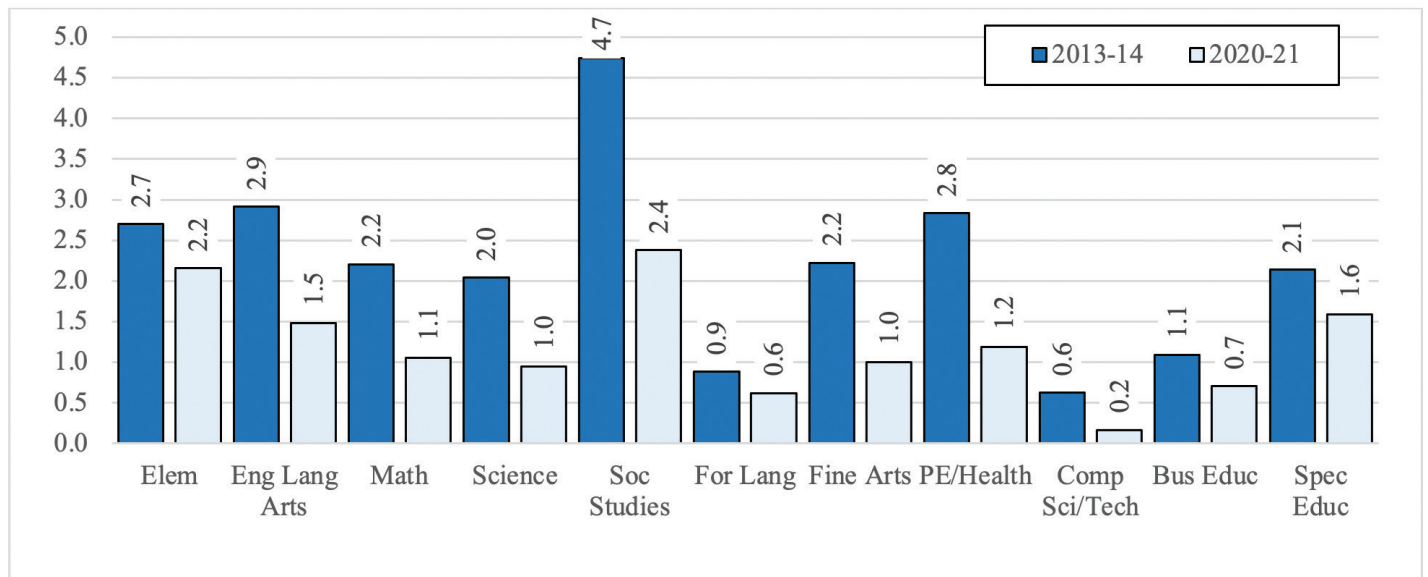
*of the number of new Instructional I licenses to the number of beginning teachers hired in Pennsylvania school districts has declined substantially from 2013-14 to 2020-21 for all major subject areas.*

By 2020-21, only the supply-demand ratios for elementary and social studies positions were greater than two newly certified individuals to one beginning teacher hired. For five of the nine major subject areas (secondary mathematics, secondary science, foreign language, fine arts, and physical/health education), the supply-demand ratio declined to 1.1 licenses per one beginning teacher or lower.

*The declines over time and very low ratios strongly suggest the pool of prospective teachers from which districts hire beginning teachers has become too small to meet the demand for beginning teachers.*

Evidence that this reduced supply is impacting district hiring practices is supported by the greater than 400 percent increase in the number of teachers on emergency permits from the 2011-12 to 2020-21 academic years.

**Figure 5: Ratio of the Number of Newly Licensed Teachers to the Number of Beginning Teachers by Major Subject Area and Year (2013-14 to 2020-21)**



Data source: Act 82 Report from PDE

# Potential Factors Influencing Teacher Staffing Challenges in Pennsylvania

Teacher staffing challenges can arise from multiple causes. Historically, the two primary causes have been an increase in the demand for teachers and a decline in the supply of teachers.

An increase in the demand for teachers can stem from an increase in teacher attrition, an increase in student enrollment, or a reduction in the student-teacher ratio to meet the instructional needs of students.

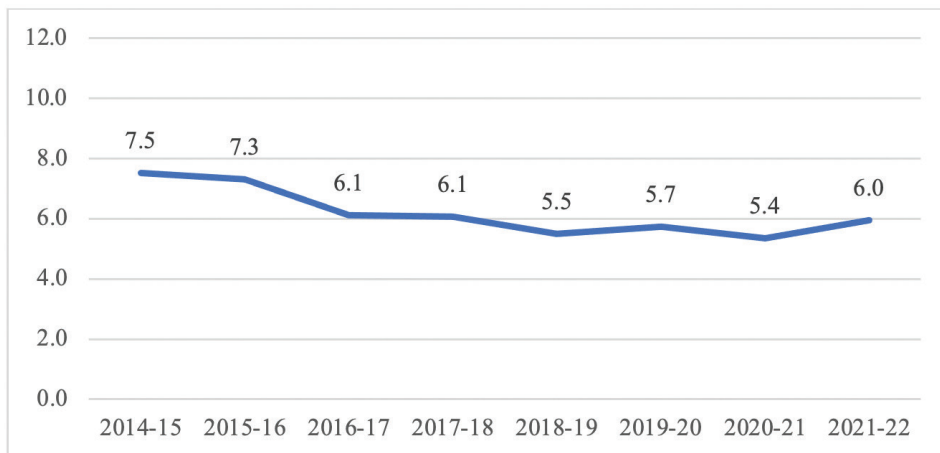
## Demand for Teachers from Attrition

Historically, the primary cause of teacher staffing challenges is the attrition of teachers from the profession. Nationally, about 8% of teachers quit their positions each year. As shown in Figure 6, the annual teacher attrition rate in Pennsylvania has always been lower than the national average and, moreover, has trended downward through

2020-21. In fact, for six consecutive years, the annual teacher attrition rate for Pennsylvania has been less than 6.2%. This is about two percentage points less than the national average for teacher attrition.

***Thus, teacher attrition does not appear to be the primary driver of the shortage of teachers in Pennsylvania.***

**Figure 6: Annual Pennsylvania Teacher Attrition (2014-2015 through 2021-22)**



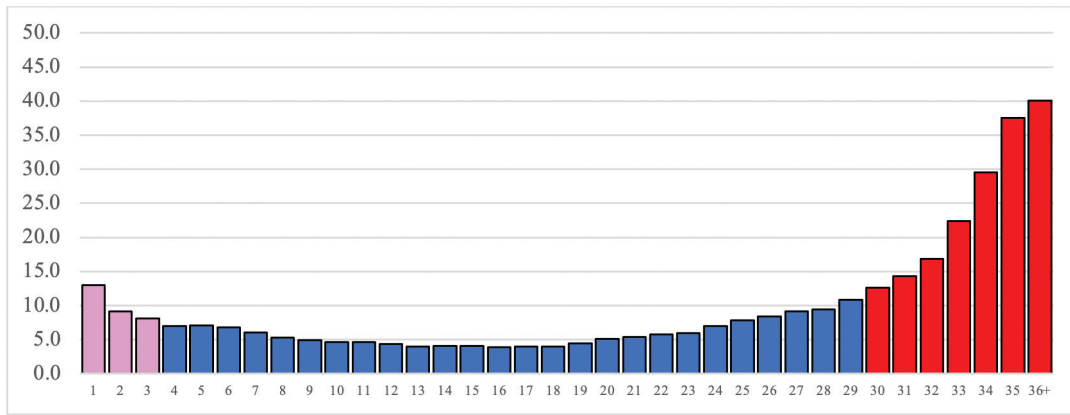
Data source: Author's analysis of PDE educator employment files

Attrition, however, is greater for specific types of teachers and teachers in specific types of districts.

Consistent with all studies of teacher attrition by experience, Figure 7 reveals teacher attrition is a U-shaped curve. Specifically, ***attrition is greatest for the least and most experienced teachers.*** Attrition is high

for the least experienced teachers for a variety of reasons, including inadequate preparation, insufficient support, poor working conditions, and low salary. Attrition is high for the most experienced teachers because they have become eligible to retire.

**Figure 7: Teacher Attrition in Pennsylvania by Years of Experience (2012-2018)**



Data source: PDE educator employment files; Analysis by author

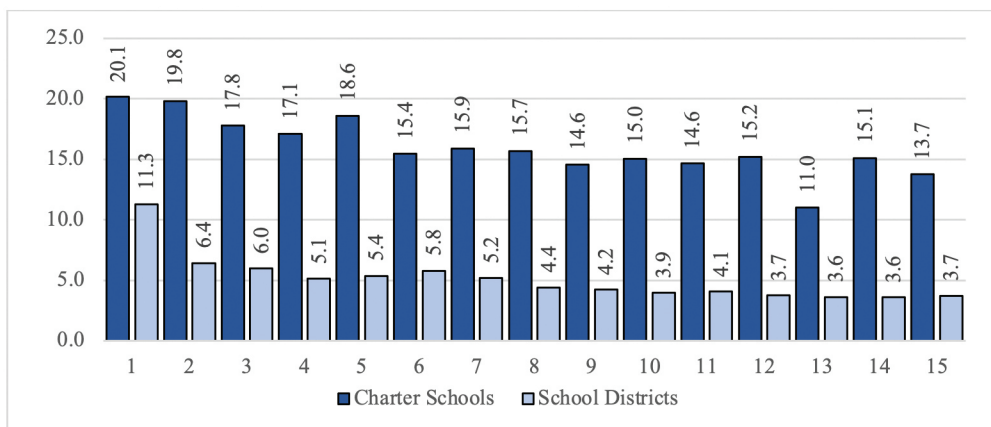
Figure 8 shows annual teacher attrition from 2013-2014 to 2017-18 by years of experience for teachers in school districts and charter schools. For teachers in their first year of teaching, 11.3% of teachers in school districts and 20.1% of teachers in charter districts left teaching.

**Across all 15 years of experience, the attrition rate for teachers in charter schools was substantially greater than for teachers in school districts.**

Indeed, in years 2 through 15, the attrition rate for charter schools was at least double the rate for teachers in school districts. The much greater

attrition rates for teachers in their first three years of experience in charter schools is partially due to the hiring of a substantial number of teachers without certification. Pennsylvania allows charter schools to hire up to 25% of their teachers without a valid teaching certificate. Such teachers have three years to complete the certification process. A substantial percentage of such teachers never complete the certification process. In fact, nearly 38% of beginning teachers in charter schools quit the profession after their third year of employment. Only 16% of beginning teachers in school districts leave teaching after year three.

**Figure 8: Annual Teacher Attrition Rate by District Type and Teacher Years of Experience (2012-2018)**



Data source: PDE educator data files provided to author; Analysis by author

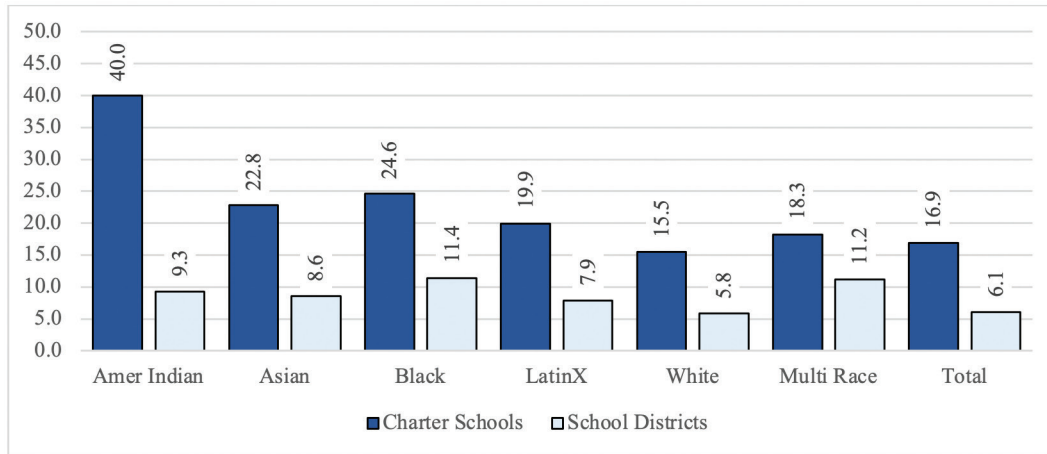
A large body of research has found teacher attrition also varies by race and ethnicity (Nguyen, et al., 2019). This is also true in Pennsylvania as shown in Figure 9. For teachers in school districts and charter schools, the very small population of American Indian/Alaskan Native (AIAN) teachers had the greatest attrition rates with Black teachers having the second highest rates.

**was nearly 25% while the rate for white teachers was 15.5%. In school districts, the annual attrition rate for Black teachers was 11.4% which was more than five percentage points greater than for white teachers.**

The attrition rates for LatinX teachers were also greater than for white teachers although the differences were smaller than between Black and white teachers.

**In charter schools, the annual attrition for Black teachers**

**Figure 9: Annual Teacher Attrition Rate by District Type and Teacher Race/Ethnicity (2012-2018)**



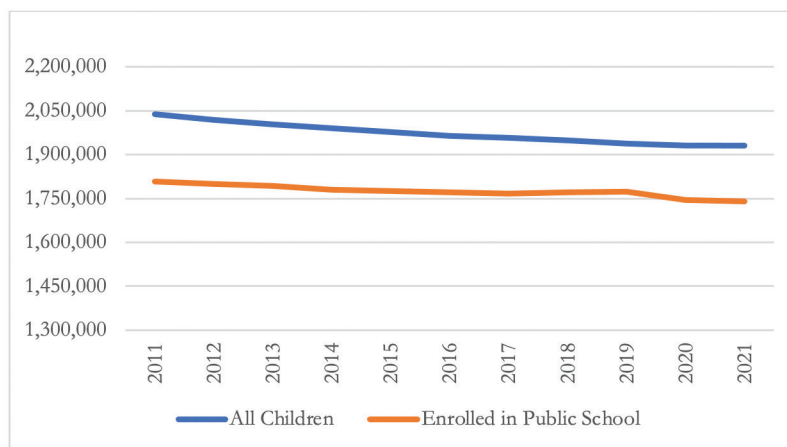
Data source: PDE educator employment files provided to Author; Analysis by author

### Demand for Teachers from Student Enrollment

Changes in student enrollment can also lead to changes in the demand for teachers. In Pennsylvania, as shown in Figure 10, the number of children in the Commonwealth and the number of students enrolled in Pennsylvania

public schools has declined over the past decade. Pennsylvania loses about 10,000 school-aged children a year due to migration out of state and changing age demographics. This decline in population reduces the demand for teachers.

**Figure 10: Number of Children Aged 5 to 17 and Number of Students Enrolled in Public Schools in Pennsylvania (2011- 2021)**



Data source: PDE student enrollment reports and Census Bureau ACS data

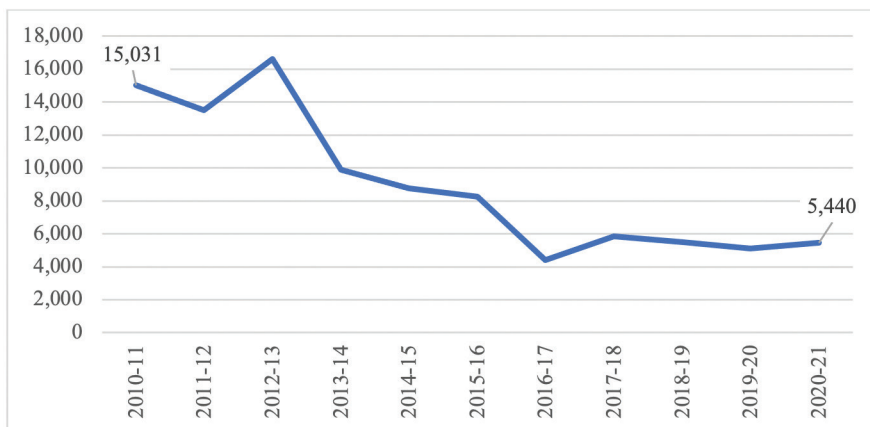
## Supply of Teachers

An inadequate supply of teachers can also contribute to teacher staffing challenges. As shown in Figure 11, there has been a dramatic decline in the number of individuals obtaining

teacher certification in Pennsylvania.

Indeed, *from 2010-11 to 2020-21, the number of initial in-state certificates awarded declined by 67%.*

**Figure 11: Number of Initial Teacher Certificates Issued for Graduates of Pennsylvania TPPs (2011-12 through 2020-21)**



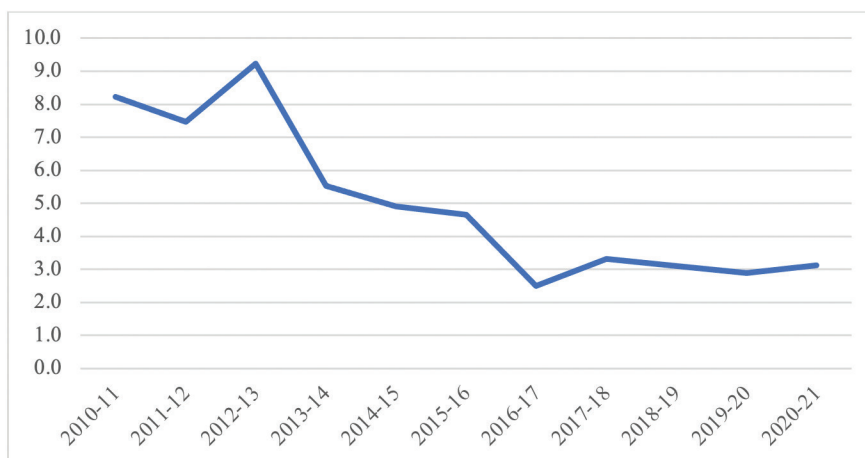
Data source: PDE Act 82 report

As shown above, there has been a decline in student enrollment and a decline in the number of individuals obtaining teacher certification. It is possible that the decline in individuals obtaining certification and the decline in students enrolled in public schools have occurred in a way to maintain an adequate supply of teachers for the

number of enrolled students. However, as shown in Figure 12, the number of individuals obtaining certification per 1,000 students has declined precipitously over the last decade.

*Thus, the number of individuals obtaining certification is declining at a faster rate than the decline in the number of students enrolled in public schools.*

**Figure 12: Number of Initial Teacher Certificates Issued for Graduates of Pennsylvania TPPs per 1,000 Enrolled Pk-12 Students (2011-12 through 2020-21)**



Data source: PDE Act 82 report

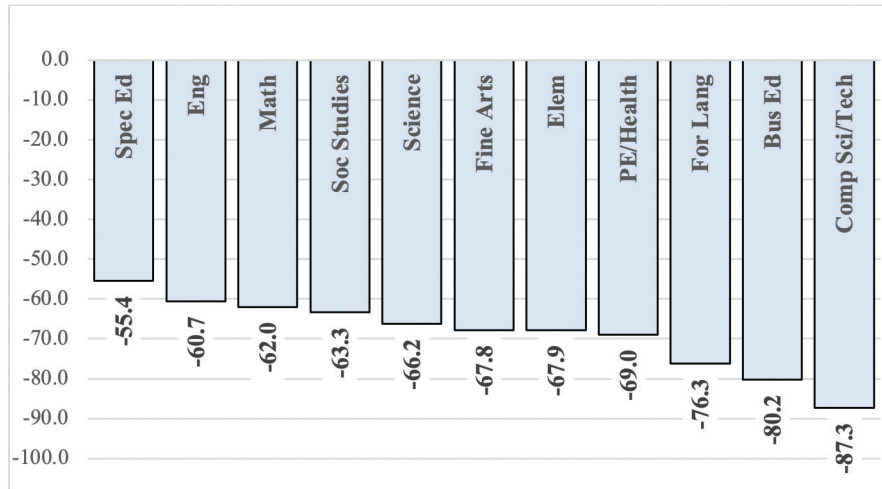
This overall decline, however, masks variation by subject area.

**declines of 67% or lower.**

As shown in Figure 13, **the greatest declines in the supply of teachers has been computer science/technology<sup>2</sup> and business education. All of the other subject areas had**

Interestingly, special education had the smallest decline at 55%, but the demand for special education teachers has far exceeded supply.

**Figure 13: Percent Change in the Number of Initial Teacher Certificates Issued for Graduates of Pennsylvania TPPs by Subject Area (2011-12 through 2020-21)**



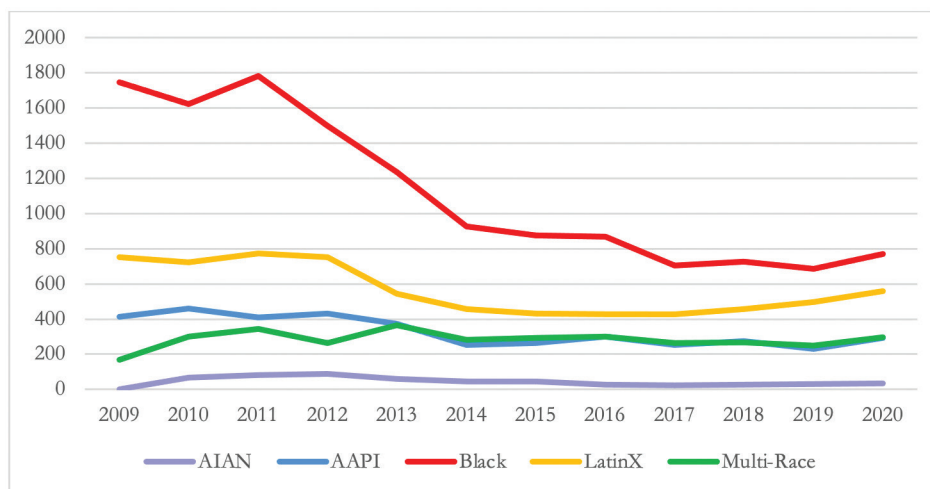
Data source: PDE Act 82 report

There has also been a general decline in students of color enrolled in Pennsylvania TPPs from 2009 to 2021 as shown in Figure 14.

declined the most — a full 60% decline from 2009 to 2020. The only racial/ethnic group with greater decline was white students (not shown) with a 68% decline. The last few years of enrollment data, however, do suggest a positive trend of an increasing number of students of color enrolled in Pennsylvania teacher preparation programs.

There has been, however, a slight increase in the number of students enrolled in Pennsylvania TPPs in recent years. The number of Black students

**Figure 14: Number of TPP Enrollees by Race/Ethnicity for Students of Color (2009-2020)**



Data source: Author's analysis of Title II Data from US Department of Education

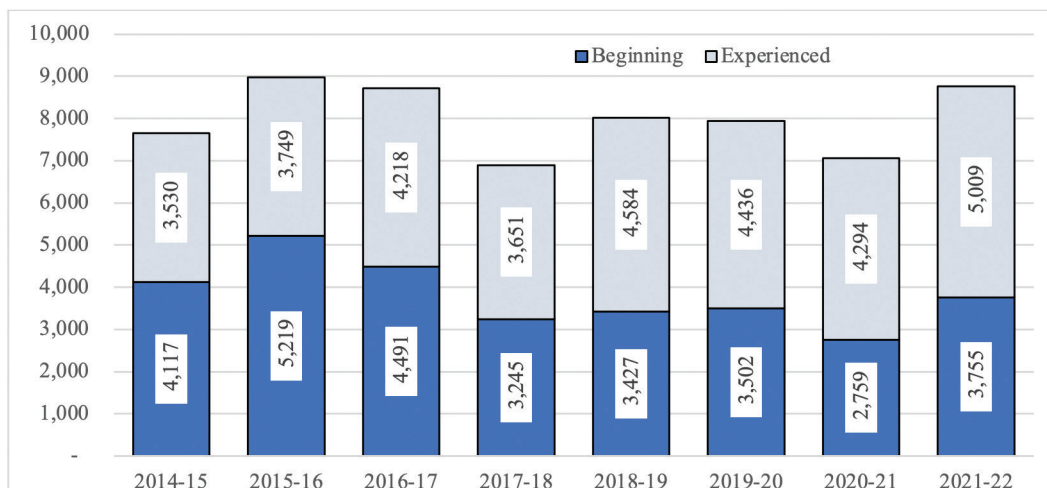
<sup>2</sup> However, teachers with certification in mathematics or science can technically teach computer science and be considered properly certified in Pennsylvania. Whether such teachers are effective in teaching computer science is unknown.

## Employing Newly Certified Teachers

While preparing an adequate number of newly certified teachers to meet the demand for new teachers is obviously important, an additional factor is the percentage of newly certified teachers who seek and obtain employment in Pennsylvania public schools. Unfortunately, current data does not capture job-seeking behaviors and the data from PDE does not currently allow for an accurate calculation of the percentage of newly hired teachers who become employed in a Pennsylvania public school. However, using the available data, I was able to estimate the number of newly hired

teachers who were beginning teachers from 2014-15 to 2021-22. While beginning teachers did not necessarily obtain certification in the prior year, this does serve as a proxy measure for the number of newly certified teachers obtaining employment in Pennsylvania public schools. As shown in Figure 15, the number of newly hired teachers who were identified as beginning teachers was substantially lower than the number of teachers obtaining certification in the prior year (See Figure 12 for a reference on the number of newly certified teachers).

**Figure 15: Number of Newly Hired Teachers in Pennsylvania Identified as Beginning Teachers and Experienced Teachers by Year (2014-15 to 2021-22)**



Data source: PDE employment and certification files; analysis by author

***This suggests a substantial number of newly certified teachers from Pennsylvania teacher preparation programs do not obtain employment as a teacher in Pennsylvania public schools.***

## Hiring Additional Teachers and Support Personnel

As shown above, the number of children of school age and number of children enrolled in Pennsylvania schools has steadily declined over time.

***The number of teachers and support personnel, however, has increased over the past four years. Indeed, from 2018-19 to 2021-22, the number of teacher full-time equivalents has increased 2.6% and the number of non-teaching positions has increased 8.6%.***

At a time of a declining number of people becoming certified, ***the increase in the number of***

***teaching and non-teaching positions has placed further stress on the ability of districts to fill all available positions with well-qualified applicants.***

Even increases in non-teaching positions affects teacher staffing challenges as additional hires of administrators, counselors, and supervisors are typically filled by hiring individuals previously employed as teachers. Table 1 on the next page lists the job positions with the greatest increase in the number of full-time equivalents over this four-year time period.

**Table 1: Increase in Pennsylvania Educator FTEs in All Positions with an Increase Greater than 100 Teacher FTEs (2018 to 2022)**

Educator Position	Change in FTEs: 2019 to 2022	
	#	%
Special Education Teachers (All)	1232.6	5.8
Elementary Education Teachers (All)	953.8	2.0
Secondary Mathematics Teachers	407.9	5.1
Secondary Social Studies Teachers	306.5	4.3
School Counselors	291.4	6.2
Secondary English Teachers	283.9	3.0
Principals/Asst Principals	265.6	5.5
Secondary Science Teachers	210.6	2.8
Supervisors of Teachers	153.4	8.9
ELL Teacher	136.7	7.3
School Social Worker	136.2	39.1

Data source: Author's analysis of PDE educator employment files

Because of this greater stress on the supply of teachers, the number of positions filled with teachers on emergency permits has increased over this time period. For example, there have been increases in the number of emergency permits

for special education teachers (+394), elementary teachers (+403), English Language Learner teachers (+18), computer science teachers (+44), English language arts teachers (+71), and social studies teachers (+19).

## Impact of Teacher Staffing Challenges

The greatest impact of teacher staffing challenges is felt by high-need schools — those serving high proportions of students in poverty and students of color. While these schools always have greater difficulty than other schools in recruiting and retaining well-prepared and effective teachers, in times of constrained supply and high demand, such schools experience greater difficulties in hiring and retaining teachers. The most direct evidence of this effect is the number of vacancies and number of applicants across different types of schools. Because states typically do not collect such information, researchers rely on proxies for these measures — typically the percentage of novice teachers and school-level teacher turnover.

As shown in Figures 16 and 17, Pennsylvania

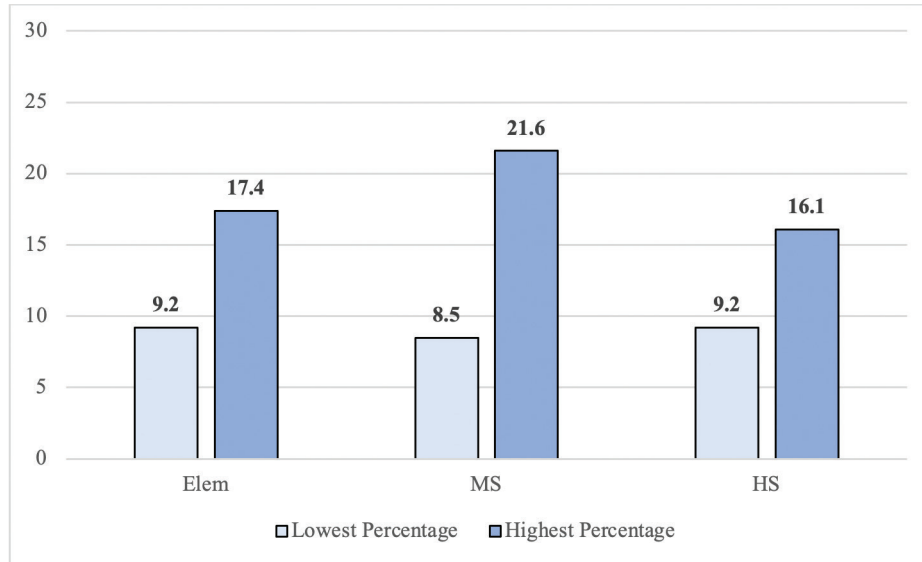
schools with the greatest percentages of students living in poverty and students of color have substantially greater percentages of novice teachers (teachers with three or fewer years of experience). The differences were particularly large at the middle school level. Strikingly, more than one out of every five middle school teachers employed in the quintile of schools with the greatest percentage of students living in poverty had three or fewer years of teaching experience.

***For the middle schools with the greatest percentages of students of color, nearly one in four teachers had less than three years of experience.***

This strongly suggests such schools have much greater difficulty in recruiting and retaining teachers.

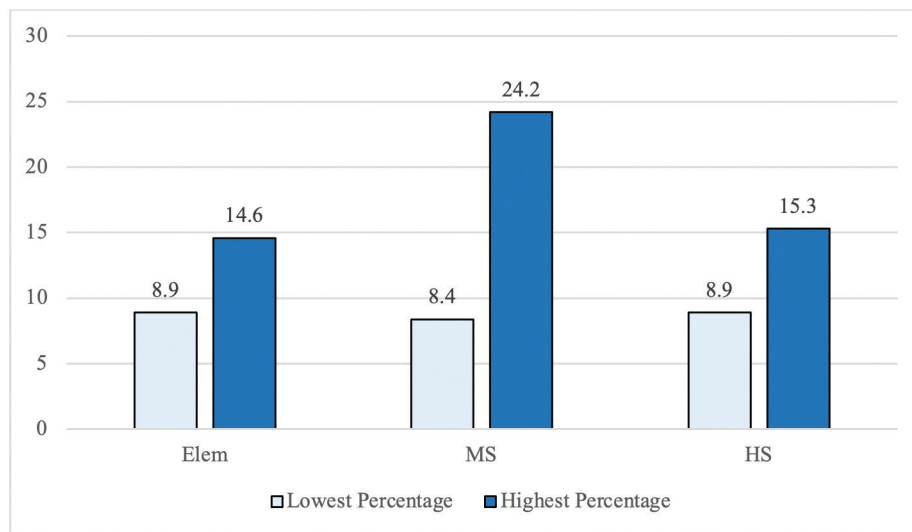


**Figure 16: Percentage of Novice Teachers for the Lowest and Highest Quintiles of Students of Living in Poverty Enrolled in the School and School Level (2014-2022)**



Data source: PDE educator employment files; PDE Future Ready data; analysis by author

**Figure 17: Percentage of Novice Teachers for the Lowest and Highest Quintiles of Students of Color Enrolled in the School and School Level (2014-2022)**



Data source: PDE educator employment files; PDE Future Ready data; analysis by author

Similarly, as shown in Figures 18 and 19, Pennsylvania schools with the greatest percentages of students living in poverty and students of color have substantially greater teacher turnover (percentage of teachers leaving the school).

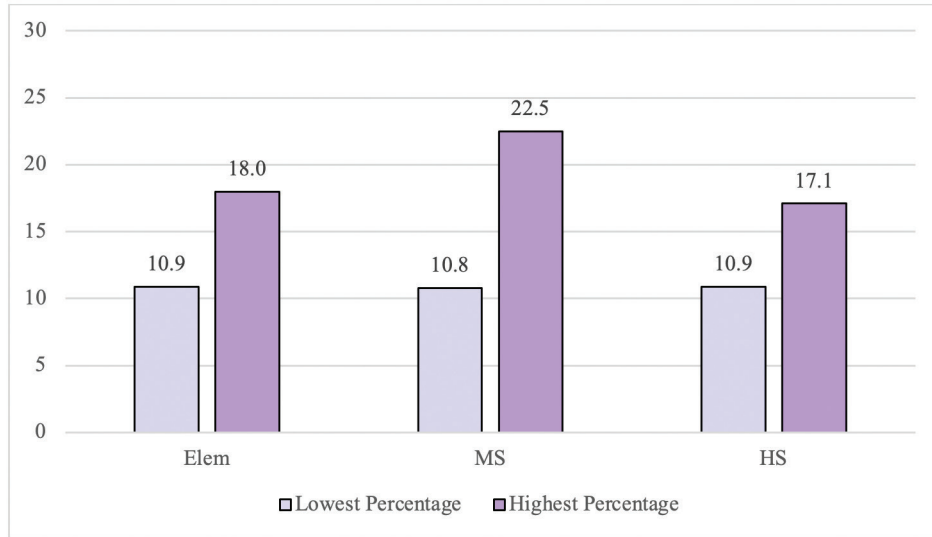
Again, the greatest differences were particularly large at the middle school level. For middle schools enrolling the greatest percentages of

students living in poverty, more than one out of every five teachers leaves the school every year.

***For middle schools enrolling the greatest percentages of students of color, one out of every four teachers leaves the school each year.***

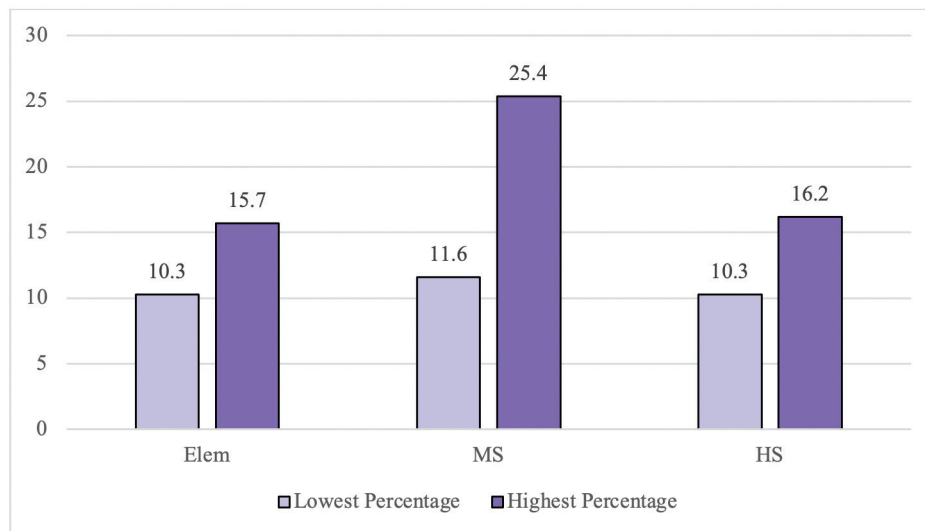
These results also strongly suggest such schools have much greater difficulty in recruiting and retaining teachers.

**Figure 18: Percentage of School Level Teacher Turnover by the Lowest and Highest Quintiles of Students of Living in Poverty Enrolled in the School and School Level (2014-2022)**



Data source: PDE educator employment files; PDE Future Ready data; analysis by author

**Figure 19: Percentage of School Level Teacher Turnover by the Lowest and Highest Quintiles of Students of Color Enrolled in the School and School Level (2014-2022)**



Data source: PDE educator employment files; PDE Future Ready data; analysis by author

These differences are important because inexperienced teachers (Fuller & Pendola, 2020; Podolsky, Kini, & Darling-Hammond, L. 2019) and teacher turnover (Fuller & Pendola, 2020; Nguyen, et al., 2019) both have negative effects on student outcomes.

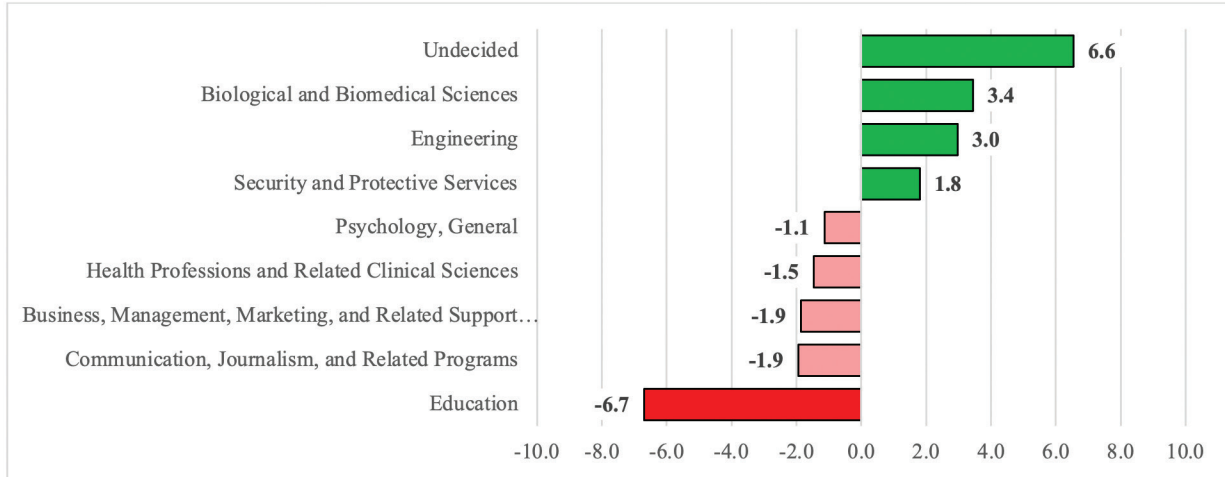
# Potential Causes

Unfortunately, we do not have a firm grasp of the causes of the decline in enrollment and graduation from teacher preparation programs.

As shown in Figure 20, potential teachers appear to be making decisions about entering the profession prior to college. Indeed, the percentage

of Pennsylvania high school students taking the SAT and indicating an intent to major in education declined from 11.2% in 2009 to just 4.5% in 2019. The decline of 6.7 percentage points was by far the greatest decline of all majors included on the survey.

**Figure 20: Change in the Percentage of Student Reported Intended Majors on SAT (2009 to 2019)**



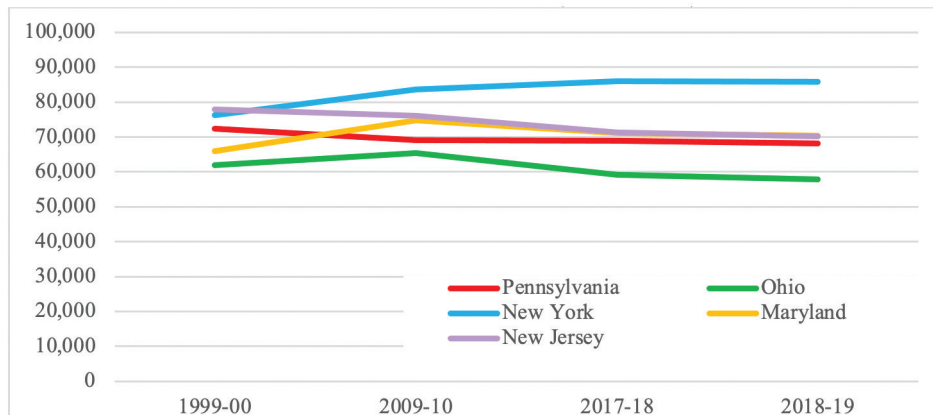
Data source: SAT College Bound Seniors Report for Pennsylvania (2009 and 2019); calculations and graphs by author

One possible explanation is stagnant teacher salaries that have declined relative to inflation and salaries for other occupations requiring a college degree.

For example, according to the National Center for Education Statistics, the average annual wage for

public school teachers in Pennsylvania in constant 2019 dollars declined by almost 6% from 2000 to 2019 (See Figure 21 below). This occurred during a 20-year period in which the buying power of \$100 declined by nearly 50%. Thus, teacher salaries buy significantly less than they did 20 years ago.

**Figure 21: Average Annual Teacher Wages for Pennsylvania and Surrounding States in Constant 2019 Dollars (2000-2019)**

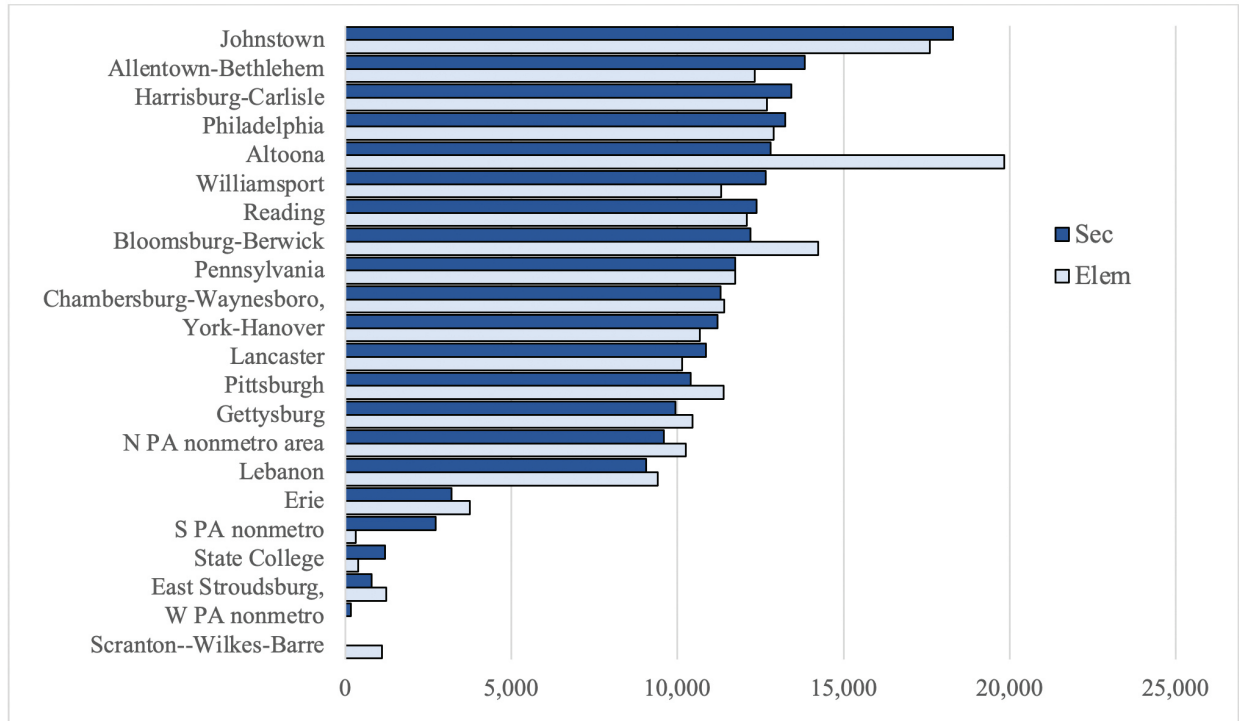


Data source: National Center for Education Statistics (2019) Estimated average annual salary of teachers in public elementary and secondary schools, by state: Selected years, 1969-70 - 2018-19

In addition, for employees earning wages at the 10<sup>th</sup> percentile in their occupation, teachers make substantially less than registered nurses in most areas of Pennsylvania (See Figure 22 below).

If the 10<sup>th</sup> percentile serves as a proxy for entry-level wages, there is little economic incentive for an individual to enter the teaching profession.

**Figure 22: Difference in Salaries of Teachers and Registered Nurses at the 10th Percentile or Pennsylvania Regions (2021)<sup>i</sup>**



Data source: Bureau of Labor Statistics Occupational Employment and Wage Statistics, 2021; analysis by author

Another possible explanation is a growing negative perception about the working conditions of teachers. With the growth of social media, high school students are likely to have far more access to negative claims about teaching and even attacks on teachers from parents and politicians. In comparison to other states, Pennsylvania teachers report their working conditions are very slightly below average (Learning Policy Institute, 2018). Choosing a profession with stagnant pay and the possibility of being denigrated for your work certainly influences individuals' decisions to enter the teaching profession.

Another factor in Pennsylvania is that it has historically been difficult to find a teaching job in

the state. When 15,000 individuals were obtaining certification, there were not a sufficient number of jobs for everyone in Pennsylvania schools. Many graduates had to choose another profession or move out of state.

We have a much better understanding of the causes of attrition. While attrition is not the primary cause of the shortage, attrition does play a significant role. After personal factors such as moving or pregnancy, researchers have consistently concluded that salary and working conditions are the two factors most strongly associated with teacher's decisions to quit the profession (Nguyen, et al., 2019).

<sup>i</sup> The data were drawn from the U.S. Bureau of Labor Statistics Occupational Employment and Wage Statistics. The data includes wages for all teachers, regardless of employment in a public or private school. Data for special education teachers and Career and Technical Education (CTE) teachers were not included as many of the labor markets did not have wages reported for these teachers due to smaller sample sizes. Special education wages do not vary significantly from regular education teacher wages. CTE teacher wages are generally greater than regular teacher wages. However, small sample sizes makes comparisons difficult and potentially misleading using this data.

## Potential Solutions

Adopting solutions without fully understanding the underlying root causes of teacher staffing challenges can be dangerous. Policies that are adopted but that do not actually target the root causes will be unsuccessful. Given this

caution, research strongly suggests that the recommendations below would lessen the teacher staffing challenges currently faced by school districts in Pennsylvania.

### **Adopt teacher pay raises**

Teacher salaries certainly impact teacher supply and demand and an increase in salaries is likely to have some impact on teacher staffing challenges. Increases in early career wages would have the greatest impact on recruitment of individuals into the profession. Targeted raises for teachers to work and remain in hard-to-staff schools and subject areas tends to be the most effective strategies. There are, however, political barriers to adopting differentiated pay strategies.

### **Create teacher scholarship and loan forgiveness programs**

A number of states have created teacher scholarship and loan forgiveness programs that make obtaining teacher certification much more affordable — especially for lower income students and students of color. PDE should conduct a through review of such programs or contract for a review and report on such programs to ensure the Commonwealth adopts the most appropriate strategies. This would potentially increase the number of individuals entering teaching as it would have a positive impact on the cost-benefit calculation regarding entering the teaching profession.

### **Implement a statewide teacher working conditions survey**

Researchers have consistently found teacher working conditions greatly influence teacher attrition and turnover (Nguyen, et al., 2019). Administrators, however, often do not fully grasp teacher perceptions of working conditions and often over-estimate the degree to which teachers hold positive perceptions of their working conditions and, especially, the behaviors of school leaders. Implementing a statewide teacher working conditions survey will provide administrators with vital information that will help them address teachers' concerns and hopefully reduce teacher attrition. There are a number of excellent examples of such surveys. Ideally, the surveys of teachers would be coupled with student surveys like the surveys administered in Alabama around 2010.

### **Fund a statewide advertising campaign to elevate perceptions of the teaching profession**

To counteract the impact of negative information about the teaching profession, the state and organizations supportive of public education should fund a coordinated media campaign that communicates the positive aspects of being a teacher.

### **Support the expansion of Future Teachers of America programs**

The Pennsylvania Department of Education should support and facilitate the expansion of the Future Teachers of American program in middle schools and high schools across the state.

### **Support the expansion of the Black Teacher Project across the state**

The Black Teacher Project has already had a positive impact on the Black teacher pipeline. Their expansion of work across the Commonwealth should be supported.

## **Conduct a Comprehensive Review of Teacher Preparation Policies**

PDE should review or contract with organization(s) to review the policy environment around teacher preparation in the Commonwealth. The review should consider how policies facilitate or impede the quality preparation of individuals for teaching positions in the Commonwealth. The review should also examine Grow Your Own Programs and other quality alternative pathways.

## **Adopt a Teacher Preparation Program Quality Review Effort**

PDE should create a teacher preparation program quality review effort that includes analysis of state administrative data, surveys of teacher preparation program graduates, surveys of employers of graduates of teacher preparation programs, and periodic in-person program reviews.

## **Create a New Data Collection and Analysis Plan**

PDE should collaborate with organizations and individuals to conduct a comprehensive review of current educator workforce data collection and analysis efforts and propose a new system that would provide detailed and actionable data. This is necessary to better understand the issues underlying various issues regarding teacher supply, demand, and staffing challenges.

## **Support Differentiated Career Advancement**

To obtain a substantial increase in salary, teachers must either transfer to a higher paying district or enter into another job role such as counselor or administrator. However, many teachers prefer not to leave the classroom. Supporting pay increases for teachers to advance into formal Teacher Leader positions associated with greater pay for greater responsibilities would help create pathways to greater salaries as well as reduce the substantial time burden on school leaders which is a primary cause of the 20% annual turnover rate for principals.

# **Summary**

Given the available evidence, the primary cause of teacher staffing challenges in Pennsylvania is an inadequate supply of newly certified teachers. Indeed, the number of individuals graduating from Pennsylvania teacher preparation programs and obtaining teacher certification has declined more than 60%. While student enrollment has declined, the decline in newly certified teachers far surpasses the decline in student enrollment.

A secondary cause is the hiring of more than 3,000 additional educators since the 2017-18 school year. Much of this hiring is in response to the needs of students after the first two years of the COVID-19 pandemic. While helping students recover from the pandemic, the increase in hiring despite a decline in student enrollment has

further stressed the already fragile teacher supply and demand balance. Teacher attrition has only a minimal effect on teacher staffing challenges. While charter schools have an extraordinarily high attrition rate, most schools in Pennsylvania have attrition rates substantially lower than the national teacher attrition rate of 8%.

Given the available evidence, state and local policymakers must understand the causes of the decline in the number of individuals obtaining teacher certification and craft policies and strategies that increase the number of individuals entering teacher preparation programs. Policymakers should be careful in adopting strategies without fully understanding the root causes of the problem.

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