UNIVERSITY of HOUSTON

COLLEGE of EDUCATION

# Texas Teacher Workforce Report

## Prepared for Raise Your Hand Texas (RYHT)

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# Table of Contents

# List of Figures

# List of Tables

# List of Acronyms Used in This Report

Advanced Placement (AP)

Alternative Certification Program (ACP)

Career and Technical Education (CTE)

Center for Research, Evaluation & Advancement of Teacher Education (CREATE)

Education Service Center (ESC)

Educator Preparation Program (EPP)

English Language Arts and Reading (ELAR)

Every Student Succeeds Act (ESSA)

Full Time Equivalent (FTE)

Higher Education Opportunity Act (HEOA)

Independent School District (ISD)

International Baccalaureate (IB)

National Center for Education Statistics (NCES)

Organization for Economic Cooperation and Development (OECD)

Public Education Information Management System (PEIMS)

Raise Your Hand Texas (RYHT)

State Board for Educator Certification (SBEC)

Texas Academic Performance Reports (TAPR)

Texas Education Agency (TEA)

Texas Public Education Information Resource (TPEIR)

U.S. Department of Education (ED)

# Executive Summary

The Texas public education system is widely regarded as a foundational component of the state's efforts to advance economic well-being. Texas public school educators play an especially significant role in the system, as strong teachers are central to student learning, emotional and physical well-being, and social development. For these reasons and many others, a strong teaching workforce is essential to a thriving state.

## Highlights of the Study Findings

**The results of this investigation reveal several key findings related to educator preparation, teacher certification, and the teaching workforce, including:**

- **For-profit alternative certification programs are certifying increasing numbers of teachers.** Unfortunately, these teachers have lower retention rates than those who received their certification from university-based programs.
- **The average base pay for teachers has fallen, in 2019 dollars, over the past decade.** The purchasing power of a teacher's average base pay in the 2018-2019 school year was $1,241 less than it was in 2010-2011. In certain regions of the state, including Wichita Falls, Mount Pleasant, and Kilgore, a teacher's average base pay has fallen by as much as $2,500.
- **The wage premium for experience has fallen.** From 2010-2011 to 2018-2019, the wage premium declined by nearly $190 for each additional year of experience (in 2019 dollars). On average, the base pay (in 2019 dollars) for a teacher with 10 years of experience in 2010-2011 was $54,285 compared with $53,719 for someone who had 10 years of teaching experience in 2018-2019.
- **Teachers at low economic need schools were paid more, on average.** In 2018-2019, a teacher at a low economic need school was paid $2,550 more than a teacher at a high economic need school.
- **Teacher shortage areas and a lack of racial diversity are remarkably consistent, and policy interventions have not seemed to address these needs.** For example, bilingual/ESL and special education have been identified as shortage areas every academic year since 1990-1991.
- **Relative to their non-charter campus peers, charter schools have higher teacher turnover rates, lower average base pay, and lower average experience among their teachers.** Between 2018-2019 and 2019-2020, 78.5% of teachers at non-charter schools remained in the campus compared with just 60% of charter teachers. In 2018-2019, the average base pay of charter teachers was $4,648 less than the base pay of non-charter teachers. In that same academic year, the average experience for charter school teachers was 5.3 years compared with 11.3 years for non-charter school teachers.
- **Texas teachers are more likely to stay at campuses with low economic needs than campuses categorized as middle and high economic need.** Between 2017-2018 and 2018-2019, the retention rates were 82.5%, 77.9%, and 75%, respectively.
- **Campuses with a high proportion of students at risk of dropping out experienced lower teacher retention rates compared with middle and low at-risk schools.** High at-risk campuses had 75.4% of their teachers stay between 2017-2018 and 2018-2019. The rate for middle at-risk was 77.2%, and for low at-risk schools, the rate was 81.5%.

Furthermore, as national discourse remains focused on increasing the population of effective teachers, state governments are tasked with the responsibility of advancing educational policy. As Texas—like many other states—moves forward with efforts to strengthen its educational system, elevating the status of the teaching profession must remain a top priority.

This report provides a longitudinal analysis of Texas teacher workforce trends across the state, including the demographics of the teacher population as well as data on teacher preparation and certification, retention, and mobility. It also provides statewide data on teacher positions and salaries. By providing a comprehensive view of the full arc of an educator's career, this study endeavors to support policy and advocacy development that is aimed at strengthening the state's public education system by growing, diversifying, and retaining the pool of qualified educators needed to serve local communities.

## Recommendations

**Expand investment** in strategies that cultivate a diverse teacher workforce.

**Increase capacity** to understand the role of workplace environment on teacher retention.

**Expand investment** in research-based educator preparation programs that well-prepare teachers to enter and stay in the profession.

**Build** on the existing strengths of the state's Hispanic teacher workforce.

**Expand investment** in closing the gap in high-need teaching areas.

## Data and Methods

The descriptive study combines multiple sources of data, including that from the Center for Research, Evaluation & Advancement of Teacher Education (CREATE), Texas Academic Performance Reports (TAPR), the Texas Public Education Information Resource (TPEIR), the National Center for Education Statistics (NCES), and the Texas Demographic Center. In general, the study focuses on trends between 2010-2011 and 2019-2020.

## Study Limitations

As with any research study, the findings of this report should be considered and contextualized within the scope of certain limitations. All data were not available on a consistent schedule. Therefore, while we tried to provide information from a complete decade, in some cases we could not. Further, while we made every attempt to ensure data quality and accuracy, ultimately, we were limited by the integrity of our data sources.

# Introduction: The Texas Teacher Workforce

Texas public schools—and the teachers who shape them—serve as major contributing factors to the state's strategic efforts to advance a strong economy. Because the educational attainment of Texans is key to the expansion of the state's economic system, the teaching profession functions as a fundamental contributor to social and economic growth and advancement (Hanushek, 2010; 2011). Over the past 10 years, the state has experienced vast transformations, including turns in demographic composition (Texas Demographic Center, 2019), developments in state and federal education policies (Templeton, Horn, & Lowrey, 2020; U.S. Department of Education, 2016), and shifts in both educator and student outcomes (Smith, 2020; Texas Education Agency, 2019). For Texas to achieve its goal of providing education for all—including students from marginalized racial and ethnic groups and students living with economic disadvantage—the state must place increasing effort into recruiting, developing, and retaining a diverse group of professional teachers (Texas Education Agency, 2020).

**For Texas to achieve its goal of providing education for all, the state must place increasing effort into recruiting, developing, and retaining a diverse group of teachers.**

Educator preparation and certification are essential elements of a strong teacher workforce and effective educational system (Darling-Hammond, 2010; Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005). Federal education law reflects this premise as both the Every Student Succeeds Act (ESSA) and the Higher Education Opportunity Act (HEOA) include provisions for improving educator preparation (ESSA, 2015; U.S. Department of Education, 2016). In light of federal and state objectives, Texas continues to strengthen the management and regulation of educator preparation programs (EPPs). The state's efforts to develop and refine structures for compliance, oversight, and accountability signal the critical nature of investments in teacher development.

In addition to educator preparation and placement, retention is imperative to addressing the teacher shortage and maintaining a strong teacher workforce (Ingersoll & May, 2011).[1] High attrition rates affect the teaching profession broadly and are also tied to teacher diversity (Ingersoll & May, 2011). Historically, the policy response to the teacher shortage has been to focus on teacher supply (Liu, Rosenstein, Swan, & Khalil, 2008; Rice, Roellke, Sparks, & Kolbe, 2008). However, knowledge of the field to date suggests the need for a multifaceted approach that supports the recruitment of new teachers and the retention of well-qualified ones currently serving in classrooms (Ingersoll & May, 2011; Rice et al., 2008; TEA, 2020). Teachers cite a variety of reasons for leaving schools, including salary competitiveness and high workloads (Hughes, 2012), dissatisfaction with administrative leadership (Boyd et al., 2011), and inadequate school conditions (Geiger & Pivovarova, 2018). To grow the population of teachers from diverse backgrounds and improve retention among currently employed educators, Texas must address declines in the area of teacher certification, improve teacher turnover rates, and address disparities in racial representation.

The Texas public school system began the 2020-2021 academic year anchored by the progress made during the 86th legislative session in reforming public school finance. Funding for public education has far-reaching effects, and the advent of House Bill 3 demonstrates Texas' commitment to a long-term strategy that includes investments in public education and significant efforts to improve educator and student outcomes. Tasked with continued implementation of the major changes from this legislative session, educators and leaders now face that effort within the context of an ongoing public health crisis resulting from the COVID-19 pandemic.

This descriptive longitudinal study combines multiple sources of data, including that from the Center for Research, Evaluation & Advancement of Teacher Education (CREATE)[2], Texas Academic Performance Reports (TAPR), the Texas Public Education Information Resource (TPEIR), the National Center for Education Statistics (NCES), and the Texas Demographic Center. In general, the study focuses on trends between

1 See Appendix A for fuller review of the literature related to teacher production and retention.

2 CREATE data comprise teacher assignment and teacher certification data collected by the Texas Education Agency. See Appendix B for more details.

2010-2011 and 2019-2020.[3] The results present statewide trends in educator preparation, teacher certification, retention, and other characteristics (e.g., positions and salaries) influenced by the past 10 years of policy development and practice. This landscape analysis is designed to aid educator-focused policymakers and advocates in shaping actions that propel the professional teacher workforce toward more equitable systems that ensure long-term prosperity and better meet the needs of all Texans.

This report begins with a brief summary of the state's student and teacher demographics. It next presents findings related to teacher preparation and certification followed by teacher workforce characteristics. It concludes with a set of policy recommendations for consideration.

## Key Terms

### *Age*

Teachers' ages were approximated using the difference between the academic year and the individual's birth year. Teachers with an age less than 20 were excluded.

### *Alternative Certification Program (ACP)*

This refers to "an approved educator preparation program, delivered by entities specifically designed as an alternative to a traditional undergraduate certification program, for individuals already holding at least a bachelor's degree from an accredited institution of higher education" (TAC §228.2). For purposes of this report, data from alternative programs provided by university-based preparation programs are included or grouped with university results.

### *Campus At-Risk*

The campus at-risk level is based on the percentage of students who are at risk of dropping out of school as defined by the Texas Education Code (TEC §29.081). We group the campuses into three groups: low at-risk campuses have less than or equal to 25% of students at risk of dropping out, middle at-risk campuses have more than 25% but less than or equal to 75% of students at risk of dropping out, and high at-risk campuses have more than 75% of students at risk of dropping out.

### *Campus Economic Need*

The campus economic need level is based on the percentage of students in a campus who are experiencing economic disadvantage. We define three groups: Low economic need campuses have less than or equal to 25% of students experiencing economic disadvantage, middle economic need campuses have more than 25% but less than or equal to 75% of students experiencing economic disadvantage, and high economic need campuses have more than 75% of students experiencing economic disadvantage.

### *Certificates*

Teacher certificates are presented in totality across all levels. For example, we do not subdivide generalist certificates between Early Childhood–Grade 6 and Grade 4–8. Instead, we focus more generally on the overall trends within a certification area. Multiple certificates may be relevant for different subject areas.

### *District Classification*

There are nine district classification categories defined by the Texas Education Agency (TEA): major urban, major suburban, other central city, other central city suburban, independent town, non-metropolitan fast growing, non-metropolitan stable, rural, and charter school districts.

### *Educator Preparation Program (EPP)*

This refers to "an entity that must be approved by the State Board for Educator Certification (SBEC) to recommend candidates in one or more educator certification classes" (TEA/SBEC rules, chapter 28). There is substantial variability among the university-based and non-university-based programs. To provide clarity and

3 See Appendix B for detailed methods description.

transparency, we have further divided those EPPs into for-profit EPPs and those considered nonprofit (e.g., Education Service Centers, or ESCs, and Independent School District alternative certification programs, or ACPs). Because they are bound by a similar governance context, all university programs (e.g., standard, post-baccalaureate, and alternative) group together by the university-based program. The full list can be found in Appendix C.

**TABLE 0.1**

## Educator Preparation Program (EPP) Groups

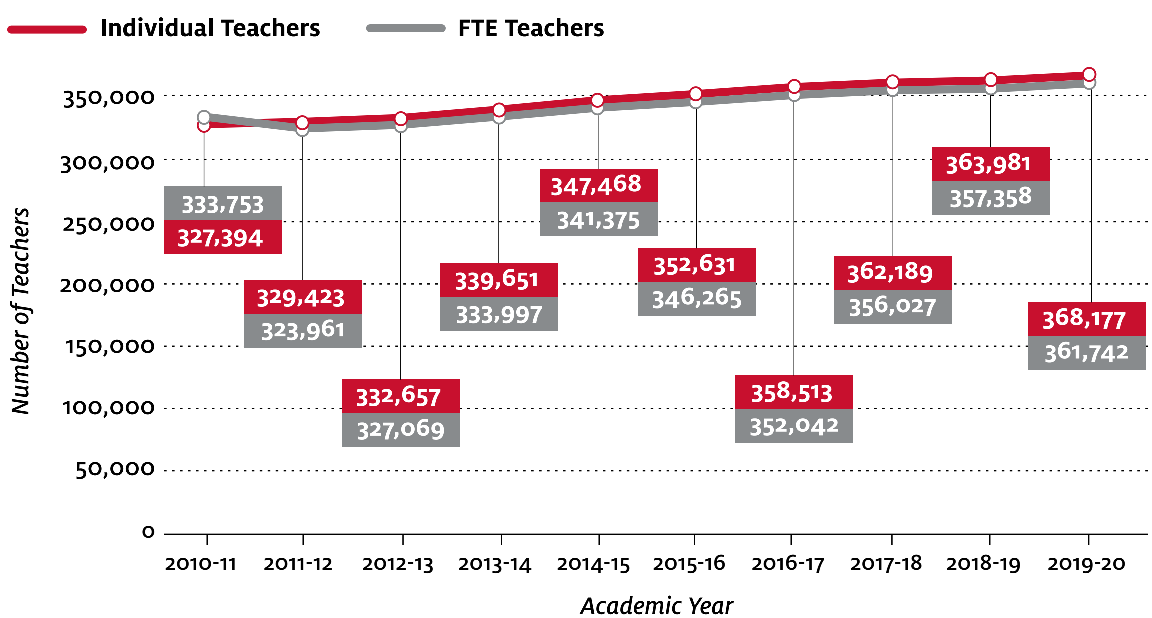
| Non-University Based EPPs | Independent University EPPs | Public University EPPs |
|---|---|---|
| Community College (CC) | Independent University Post-Baccalaureate (PB) | Public University Post-Baccalaureate (PB) |
| Education Service Center (ESC) | Independent University Alternative Certification Program (ACP) | Public University Alternative Certification Program (ACP) |
| For-Profit Alternative Certification Program (ACP) | Independent University Standard Certification Program | Public University Standard Certification Program |
| Independent School District (ISD) Alternative Certification Program (ACP) | | |

***Full Time Equivalent (FTE)***

When describing teacher positions, we sometimes use the individual teachers as the unit of analysis. In other cases, we use full time equivalent (FTE) teachers as defined and used by the TEA. Although there are subtle differences between these measures, there is substantial overlap. As shown in Figure 0.1, the numbers are very similar. For example, in academic year 2019–2020, there were 361,742 FTE teachers and 368,177 individual teachers. We use individual teachers when possible, but when describing course assignments, for example, we use FTE teachers.

**FIGURE 0.1**

## Comparison Between Individual and FTE Teachers




*Source*. Center for Research, Evaluation & Advancement of Teacher Education

### *Placement*

Refers to a teacher's first position or role after initial certification. This includes their subject area (e.g., science) and the student population with whom they work (e.g., bilingual/ESL).

### *Race and Ethnicity*

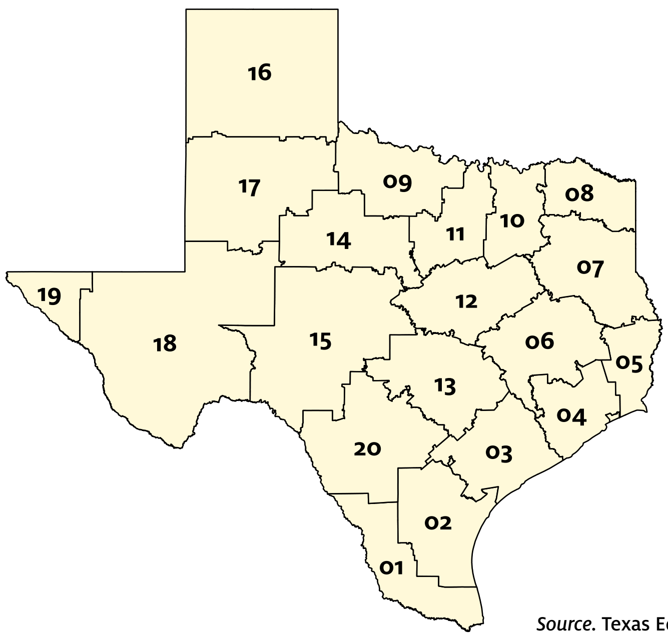
For most of the report we consider the three most prevalent racial or ethnic groups and then combine the others into one category. Therefore, the four categories are: Hispanic, Black, white, and other (including, unless otherwise noted, Asian, Alaska Native, American Indian, Native Hawaiian, Pacific Islander, and two or more races).

### *Regions*

These are the 20 ESCs throughout Texas:

**FIGURE 0.2**

## Map of the Education Service Center Regions




**Key**

1 –Edinburg
2 – Corpus Christi
3 – Victoria
4 – Houston
5 – Beaumont
6 – Huntsville
7 – Kilgore
8 – Mount Pleasant
9 – Wichita Falls
10 – Richardson
11 – Fort Worth
12 – Waco
13 – Austin
14 – Abilene
15 – San Angelo
16 – Amarillo
17 – Lubbock
18 – Midland
19 – El Paso
20 – San Antonio

*Source.* Texas Education Agency

### *Retention*

Teachers are considered retained if they are in the employment dataset in each consecutive year as the teacher of record.

### *Student Population Served*

This is derived from the population served code. The student groups on which we focus in this report are bilingual/ESL, special education, and career and technical education.

### *Subject Area*

This is the aggregated subject area for a teacher's assignment (e.g., mathematics, science, English language arts and reading).

### *Teacher*

Unless otherwise noted, we only include staff assignments with the role of teacher. Substitute teachers, teacher appraisers, teacher facilitators, or teacher supervisors are not included in the analysis, as they represent a substantively different population. Additionally, when addressing teacher salary and mobility, we exclude any teachers who had responsibilities at the district level.

### *Teacher Movement: Stayers, Movers, and Leavers*

This study considers teacher movement primarily through the lens of staying patterns. Teachers are considered stayers if they continue teaching in the same campus in the immediately subsequent year. Similarly, at the district level, teachers are considered stayers if they remain teaching in the same district in the immediately subsequent year. Movement is also represented through patterns of shift in location (across school, district, and region) while still remaining in the field. Several figures throughout the paper also represent those who leave the teaching profession completely.

### *Transition*

We identify five possible transitions: staying in the same campus; staying within the same district but moving campuses; staying within the same region but moving districts; moving to a district in a different region; or leaving the Texas teaching pool. Those who left might have retired, changed careers, moved into non-teaching positions, or moved to a different state.

### *Urbanicity*

We use the four basic types of locale (city, suburban, town, and rural) from the National Center for Education Statistics (NCES) to identify the urbanicity of schools. For more information, see information on the NCES website.

### *Year*

In figures, unless otherwise noted, the year refers to an academic year, such that the 2010–2011 school year is referred to as 2011. We note when we base our analysis on the calendar or fiscal year. For example, certification data are based on a fiscal year.

## Limitations

There are several limitations to the data and our analysis. First, different datasets had different years of available data. Therefore, while we generally provided data from 2010-2011 to 2019-2020, some data were not yet available. For example, TAPRs are only available through 2018-2019. Therefore, analyses that included campus-level data are limited to 2010-2011 to 2018-2019.

Another important limitation is that CREATE data are ultimately derived from the Public Education Information Management System (PEIMS). Therefore, any data integrity issues (e.g., keystroke error on entry) would be included in this report unless otherwise corrected. Similarly, other data cannot be independently verified. Given the large amount of data—and that these are the most comprehensive data available—we do not expect this to substantively bias our findings.

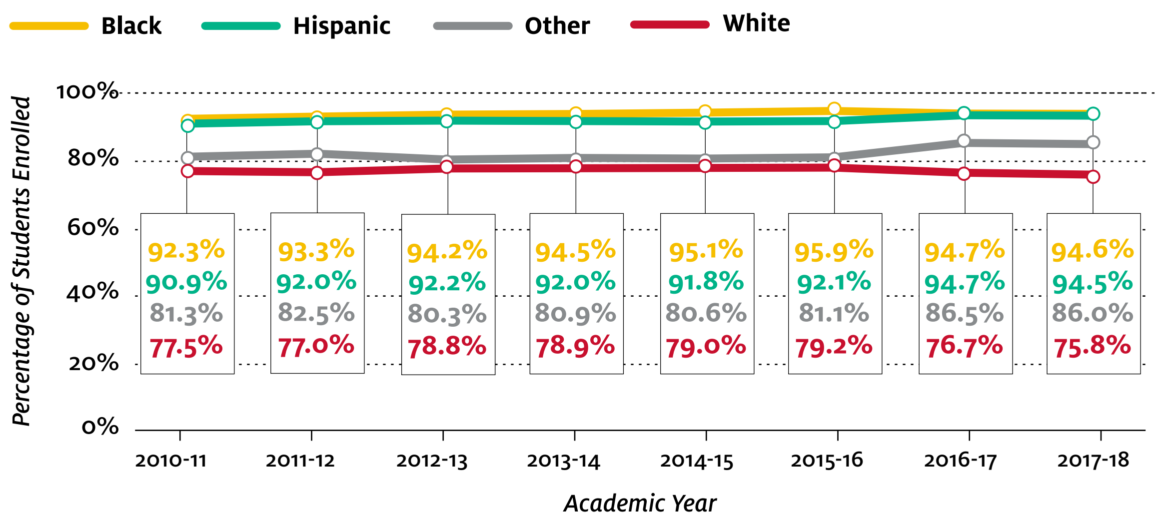
Given the nature of public education, we also recognize that the trends reflected in this report are influenced by numerous policies at both the state and local levels. While we address some of the large policy shifts, there are countless other contextual features that relate to the data. This does not undermine the integrity of the findings but should be considered when interpreting the report.

# Section I: Student and Teacher Demographics

In this section, we describe the current demographic context of Texas education. There are more than 6.1 million school-age children in the state, and more than 5.4 million students are enrolled in public schools. When broken down by race and ethnicity, there is a clear discrepancy among the proportion of the student-age population who enroll in public schools. As shown in Figure 1.1, a larger proportion of Black and Hispanic school-age children are enrolled in public schools than white children or those of other racial and ethnic groups.

**FIGURE 1.1**

## Student-Age Population Enrolled in Public Schools by Race/Ethnicity



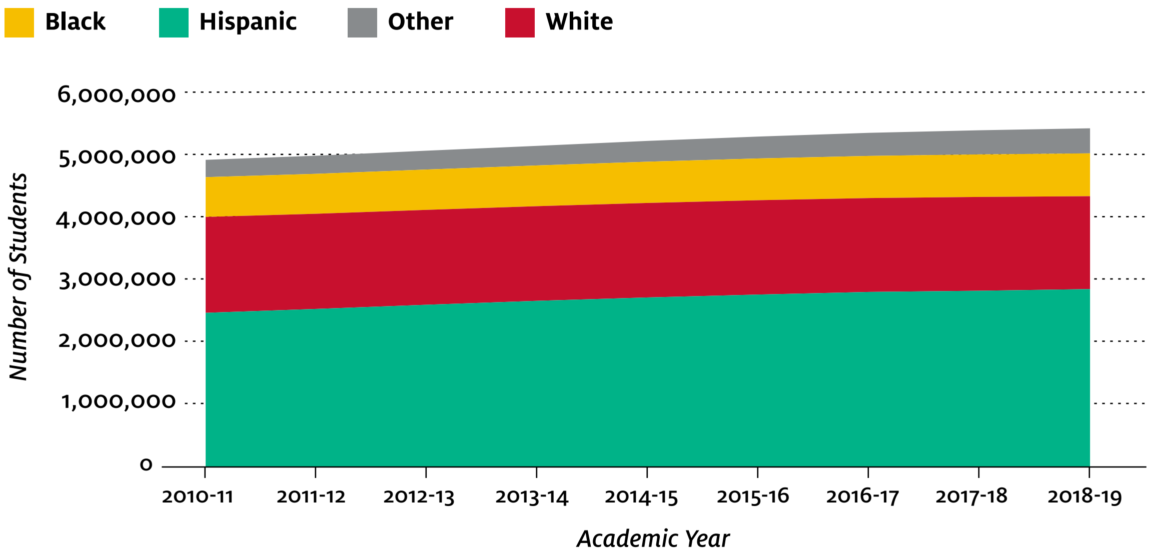

*Notes.* We define "student-age" as between 4 and 18 years old, inclusively, to encompass students who could be eligible for prekindergarten.

*Sources.* Texas Demographic Center and Texas Academic Performance Reports student information

As of 2018-2019, public enrollment (N=5,416,400) was trending upward for Black, Hispanic, and Asian students. Hispanic students remained the largest proportion of students enrolled (52.6%), with white students maintaining the second-largest group (27.4%). Black students were the third-largest group, comprising 12.6% of students. Other students constituted the remaining 7.4%, with Asian students representing the majority in this group. Hispanic students have been the fastest-growing racial/ethnic group, comprising 75.2% of all new students (N=504,015) since 2011. Asian students are the second-fastest growing group at 14.5%. White students have declined to 96.9% of what they were in 2011. Figure 1.2 represents these trends, with Asian students and other race/ethnicities combined for clarity and consistency.

**FIGURE 1.2**

## Enrolled Students by Race/Ethnicity

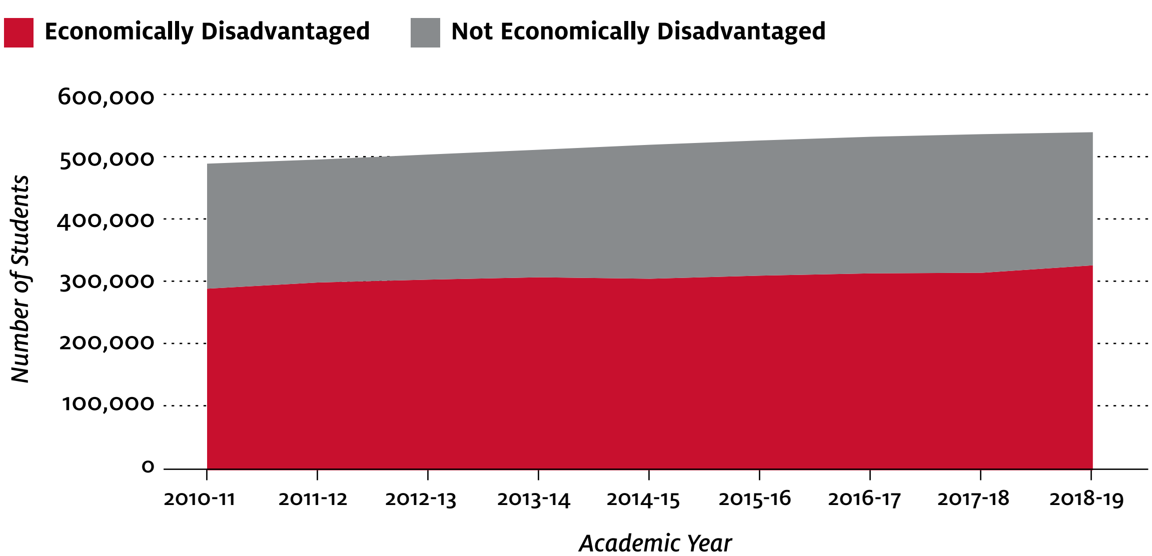



*Sources.* Academic Excellence Indicator System and Texas Academic Performance Reports

In 2018-2019, the majority of students enrolled in the Texas public education system were from low-income or economically disadvantaged backgrounds (60.6%; N=3,283,812). This has increased by 1.4 percentage points since 2010-2011 (Figure 1.3).

**FIGURE 1.3**

## Enrolled Students by Economic Disadvantage



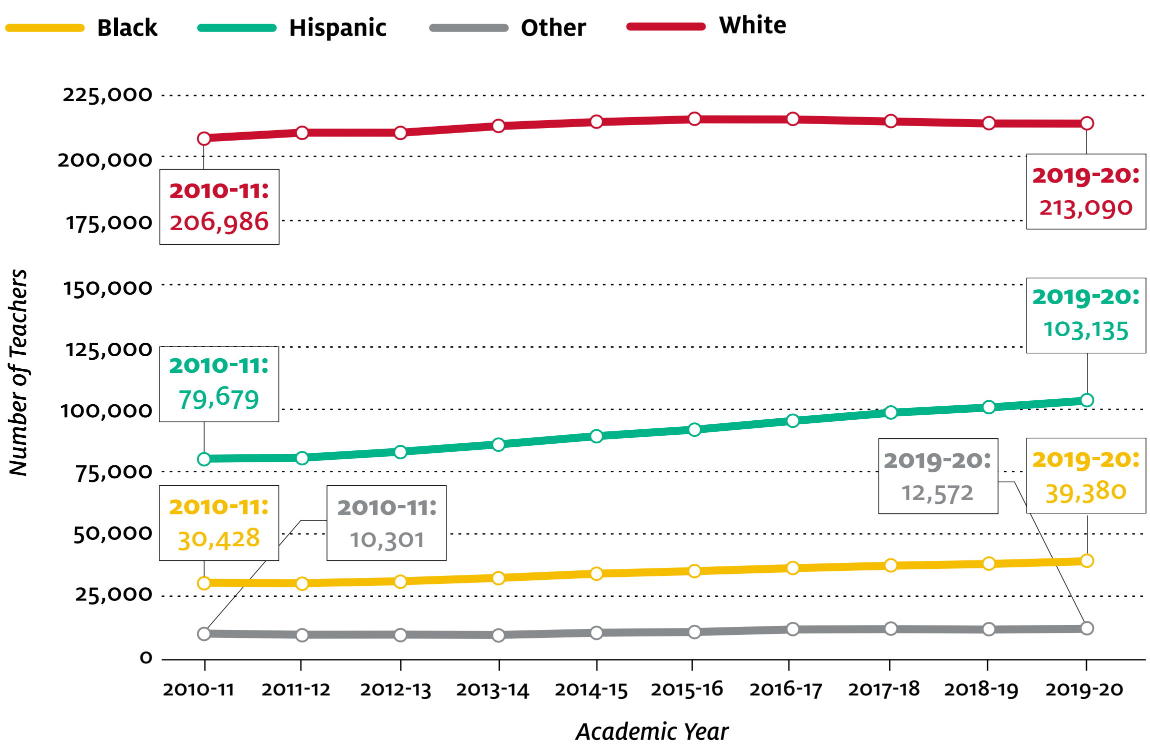

*Sources.* Academic Excellence Indicator System and Texas Academic Performance Reports

Throughout the changing state landscape, economic and social inequities persist among racial and ethnic groups and socioeconomic categories. Such factors impact the state's teaching workforce and directly influence outcomes for Texas students. As the population of the state's public school student body grows in diversity, so too does the need for diversity in the teacher workforce. However, like many states, Texas' teaching population remained overwhelmingly female (76.2%) and white (57.9%) in 2019-2020.

Though the number of teachers in the Texas teacher workforce increased by 12.5% from 2010-2011 to 2019-2020, to 368,177, we see in Figure 1.4 that the racial and ethnic demographics of the teacher population changed more slowly during the same time. In 2010-2011, 63.2% of the teachers were white, 24.3% were Hispanic, 9.3% were Black, and 3.1% were from other groups. In 2019-2020, 57.9% of teachers were white, 28% were Hispanic, 10.7% were Black, and 3.4% were from other groups. Hispanic teachers—who show the most increase among teachers of color—are the second-highest represented population of teachers, rising by 29.4%. Of the 40,783 additional teachers in the workforce, 23,456 (57.5%) were Hispanic. Black teachers also show a 29.4% increase and constituted 22% of the additional teachers. The number of other race teachers increased by 22% across this period but made up just 5.6% of the additional teachers.

**FIGURE 1.4**

## Teachers by Race/Ethnicity

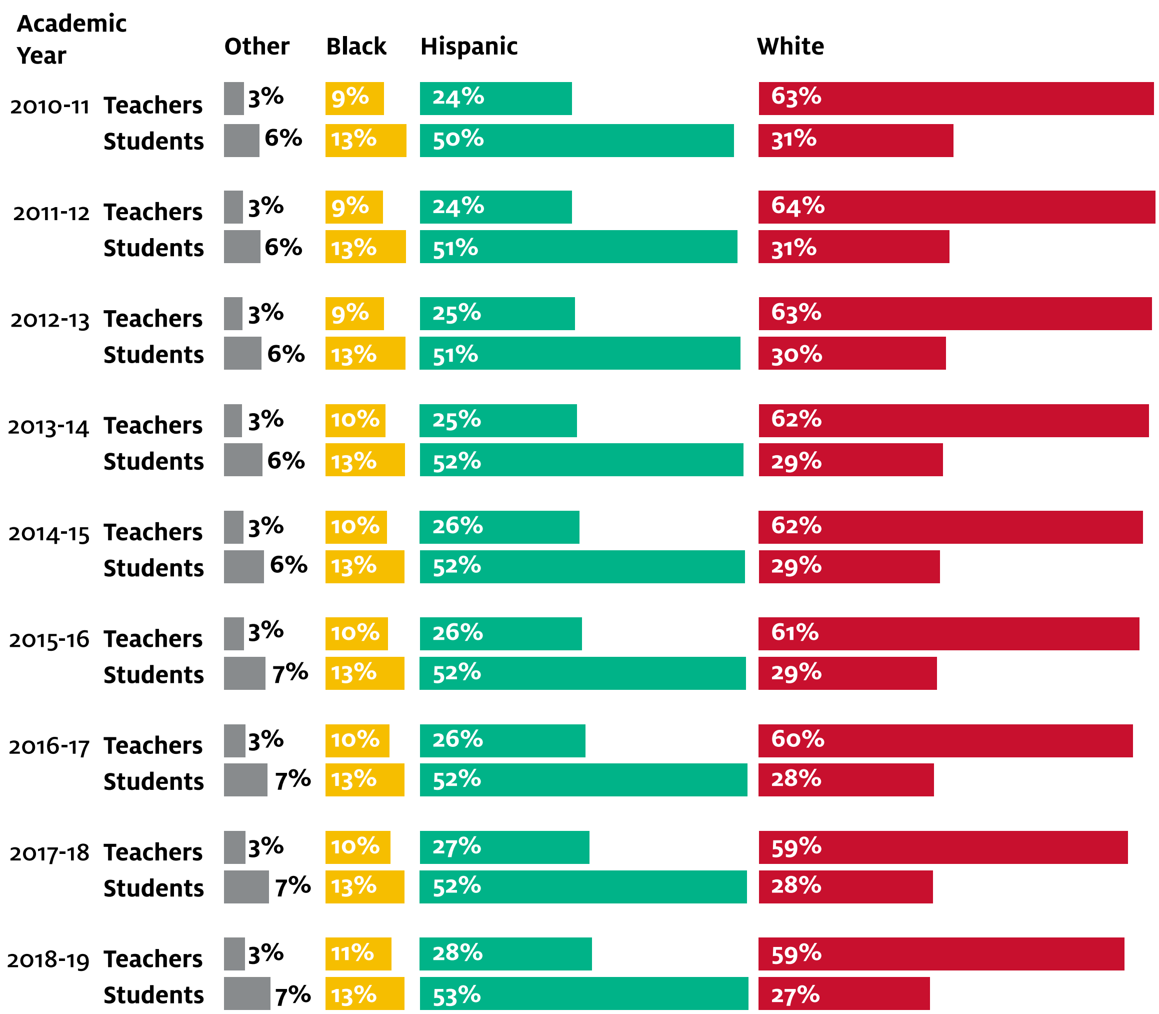



*Source.* Center for Research, Evaluation & Advancement of Teacher Education

Figure 1.5 displays concurrently the racial and ethnic composition of the teacher workforce and the enrolled student population from 2010-2011 to 2018-2019. Though the percentage of white teachers decreased from 63.2% to 58.6% during this period, the state's teacher workforce remains majority white while students remain majority non-white. The figure also shows a 1.2 percentage point increase in the percentage of teachers who identify as Black and a 3.3 percentage point increase in those who identify as Hispanic.

**FIGURE 1.5**

## Race/Ethnicity of Teachers and Students



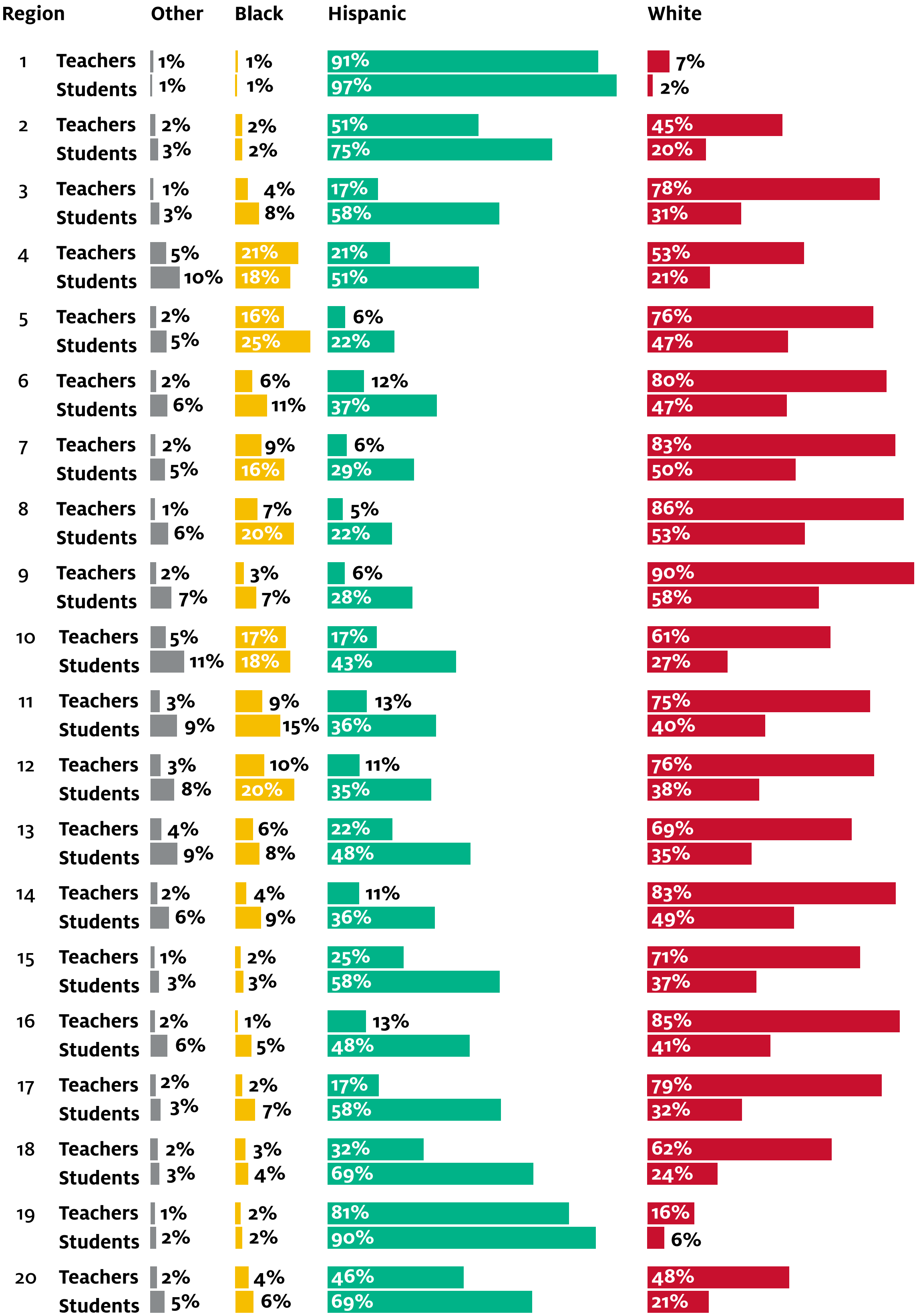

*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

Wide gaps remain between the race and ethnicity of teachers and the students they serve. For example, in 2018-2019, Black teachers made up 10.5% of the workforce while Black students made up 12.6% of public schools. The analysis reveals even wider gaps for the state's Hispanic population, as the percentage of Hispanic teachers (27.6%) was much lower than that of Hispanic students (52.6%). At the other extreme, white teachers made up 58.6% of the workforce, while just 27.4% of students were white.

The gap remains when viewed at the regional or district levels. Figure 1.5a shows the race and ethnicity for students and teachers aggregated by region in 2018-2019. As shown, white teachers are overrepresented and Hispanic teachers are underrepresented for all regions relative to the student population they serve. Black teachers are underrepresented for some regions, roughly at parity for others, and only overrepresented in one (Region 4, Houston).

**FIGURE 1.5a**

## Race/Ethnicity of Teachers and Students by Region in 2018-2019

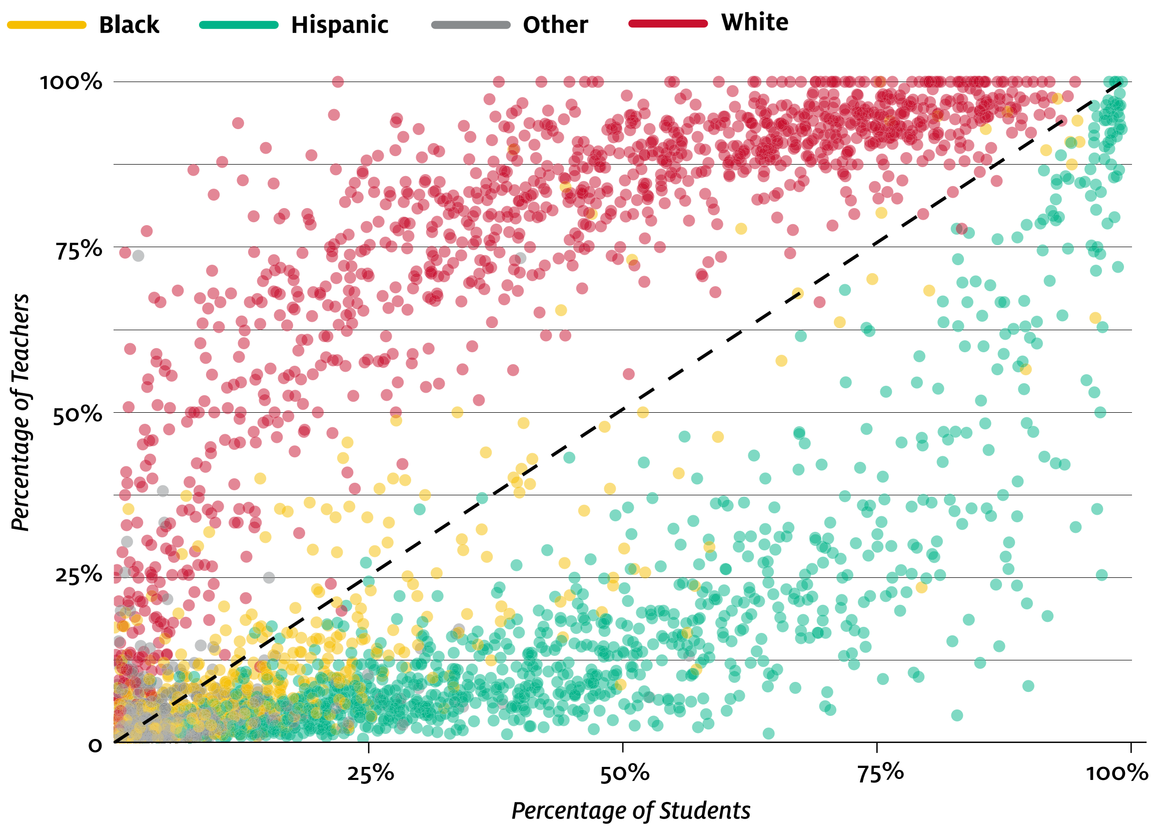



*Sources.* Center for Research, Evaluation & Advancement of Teacher Education and Texas Academic Performance Reports

Similarly, Figure 1.5b shows this discrepancy at the district level. Each point represents the percentage of students (on the x axis) and the percentage of teachers (on the y axis) within each group for all districts in 2018-2019. Those points above the dotted line indicate that the group is overrepresented among teachers and those below indicate underrepresentation. As shown, districts generally have white teachers over-represented and Hispanic teachers underrepresented relative to the students they serve. Additionally, the Black race and other racial and ethnic groups also tend to be underrepresented among teachers relative to students.

**FIGURE 1.5b**

## Race/Ethnicity of Teachers and Students by District in 2018-2019

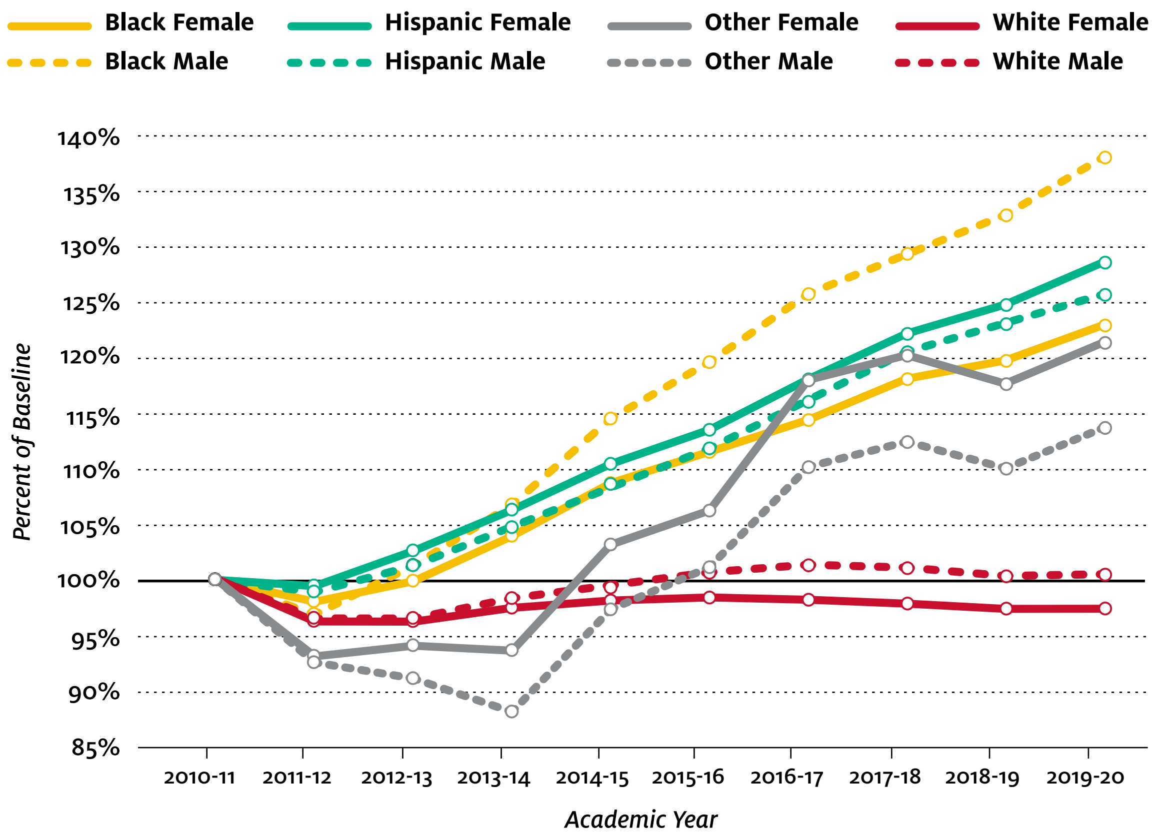



*Sources.* Center for Research, Evaluation & Advancement of Teacher Education and Texas Academic Performance Reports

Though the population of white female teachers is fairly steady with a slight overall decline (in absolute FTEs), the state's white male teacher FTE population remains steady. The FTE population of Hispanic and other race female teachers is growing at a faster rate than the FTE population of their male counterparts. However, the difference between male and female teachers is more notable for other race teachers; Hispanic teachers show similar growth rates across these two groups. Figure 1.6 highlights a notable exception among racial and gender growth patterns exhibited by teachers of color, demonstrating significant growth among the FTE population of Black male teachers over the past decade. It is important to keep in mind the relative sizes of each group. Specifically, the net change in Black male teachers was 2,925 FTE teachers, while the change for Hispanic males was 5,181.

**FIGURE 1.6**

## Growth in FTE Teachers by Gender and Race/Ethnicity as Change from Baseline (2010-2011)

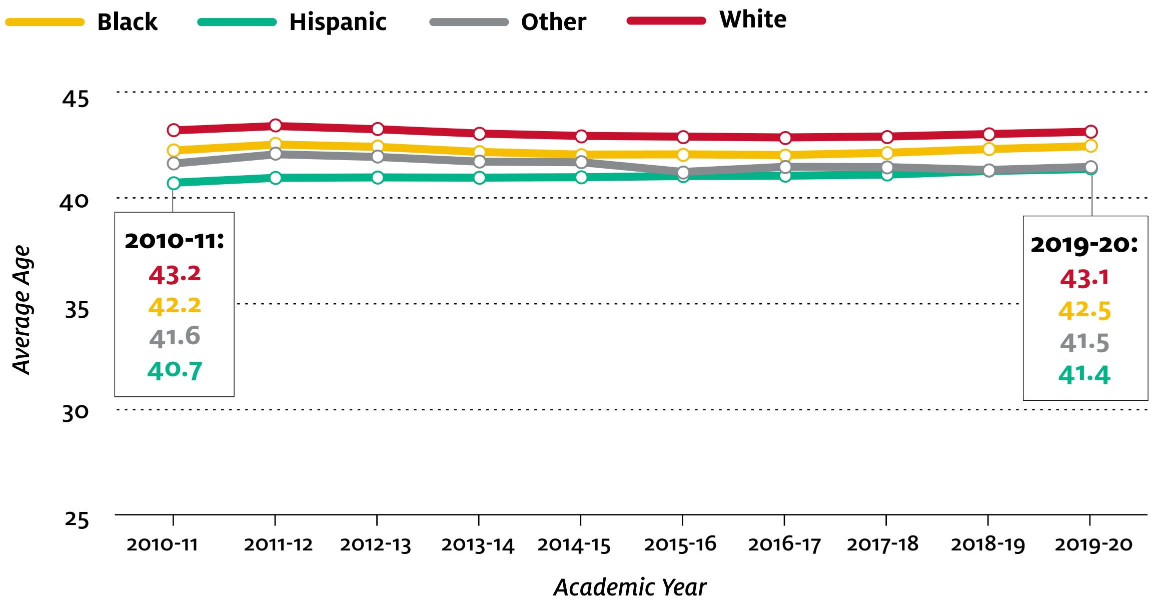



*Source.* Center for Research, Evaluation & Advancement of Teacher Education

Prior research indicates that teacher attrition patterns vary based on teacher age, with younger educators—who are often less experienced—being more likely to leave the classroom than older or more experienced educators (Borman & Dowling, 2008; Guarino, Santibañez, & Daley, 2006). Examining the intersection of teacher race and ethnicity and age provides important evidence considering the teacher shortage and the lingering issues with racial and ethnic diversity within the teacher workforce. Figure 1.7 presents statewide data on teacher age, demonstrating how the state's population of white teachers generally trends older, while Hispanic teachers and, as of 2015-2016, other race teachers trend younger. This is important as teachers who fall in the youngest and oldest age range tend to exit the teaching profession at higher rates (Boyd et al., 2011; Carver-Thomas & Darling-Hammond, 2017). (As presented in subsequent figures, however, in general, Hispanic teachers are retained at greater rates.) Overall, the trend of teacher age remains relatively steady with the median age remaining either 41 or 42 from 2010-2011 to 2019-2020.

**FIGURE 1.7**

## Age of Teachers




*Notes.* Excludes teachers younger than 20.

*Source.* Center for Research, Evaluation & Advancement of Teacher Education

# Section II: Teacher Preparation and Certification

In this section, we address teacher preparation and certification. First we describe the changing landscape of educator preparation programs (EPPs) within Texas. Then we discuss teacher certifications including trends in EPP pathway and certification type. For some tables and figures, we used a cohort of teachers from 2011 to describe differences. More information on the cohort can be found on page 66.

## Texas Educator Preparation

Texas is currently home to 129 EPPs that vary by preparation route (TEA, 2020). Such pathways include alternative, post-baccalaureate, and traditional programs. EPP type remains an important consideration given that a majority of Texas teachers earn their credential through alternative certification programs (ACPs) (Overschelde, 2020). Because of the substantial differences among the non-university-based programs, we have further divided those EPPs in Table 2.2. Table 2.1 shows the certification available by the type of EPP.

**TABLE 2.1**

### Certifications Available by EPP Type

| | Public University EPPs | Independent University EPPs | For-Profit EPPs | Nonprofit EPPs* |
|---|---|---|---|---|
| **Alternative Certification** | • | • | • | • |
| **Standard Certification** | • | • | | |
| **Post-Baccalaureate Certification** | • | • | | |

*Community colleges, Education Service Centers, Independent School Districts

## In-Service School Type and Educator Preparation Program Type

The route by which teachers prepare for certification differs by the type of campus at which they work. As shown in Table 2.2 and Figure 2.1, more teachers at non-charter campuses are prepared through universities than any other single route. Conversely, more teachers at charter campuses are prepared by for-profit ACPs than by the other routes combined. As discussed in a later section, retention rates vary by preparation route and charter status.

**TABLE 2.2**

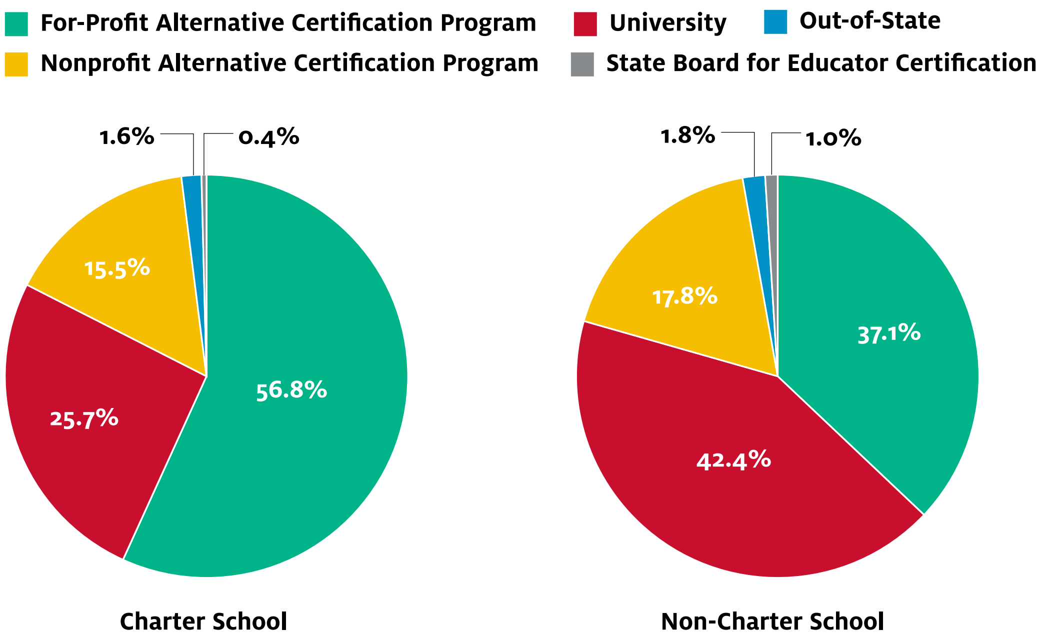
### Educator Preparation Route by Charter School Campus Status (2011 Cohort)

| Educator Preparation Program Type | Charter | | Non-Charter | |
|---|---|---|---|---|
| | n | % | n | % |
| **University** | 237 | 25.7% | 5,250 | 42.4% |
| **Nonprofit Alternative Certification Program** | 143 | 15.5% | 2,206 | 17.80% |
| **For-Profit Alternative Certification Program** | 524 | 56.8% | 4,599 | 37.1% |
| **Out-of-State** | 15 | 1.6% | 220 | 1.8% |
| **State Board for Educator Certification** | 4 | 0.4% | 119 | 1.0% |
| **Total** | 923 | 100% | 12,394 | 100% |

*Source.* Center for Research, Evaluation & Advancement of Teacher Education

**FIGURE 2.1**

## Educator Preparation Route by Charter School Campus Status (2011 Cohort)




*Notes*. "University" includes both public and independent universities.
*Source*. Center for Research, Evaluation & Advancement of Teacher Education

### Statewide Trends in Teacher Certification

The remainder of this section looks at trends in teacher certification. First we look at the number of initial certifications awarded to Texas teachers, both comprehensively and by certification pathway and program type. Then we present data on teacher certifications by subject area, including: bilingual/ESL; computer science; career and technical education; English language arts and reading; fine arts; generalist; health and physical education; social studies; languages other than English; and special education.

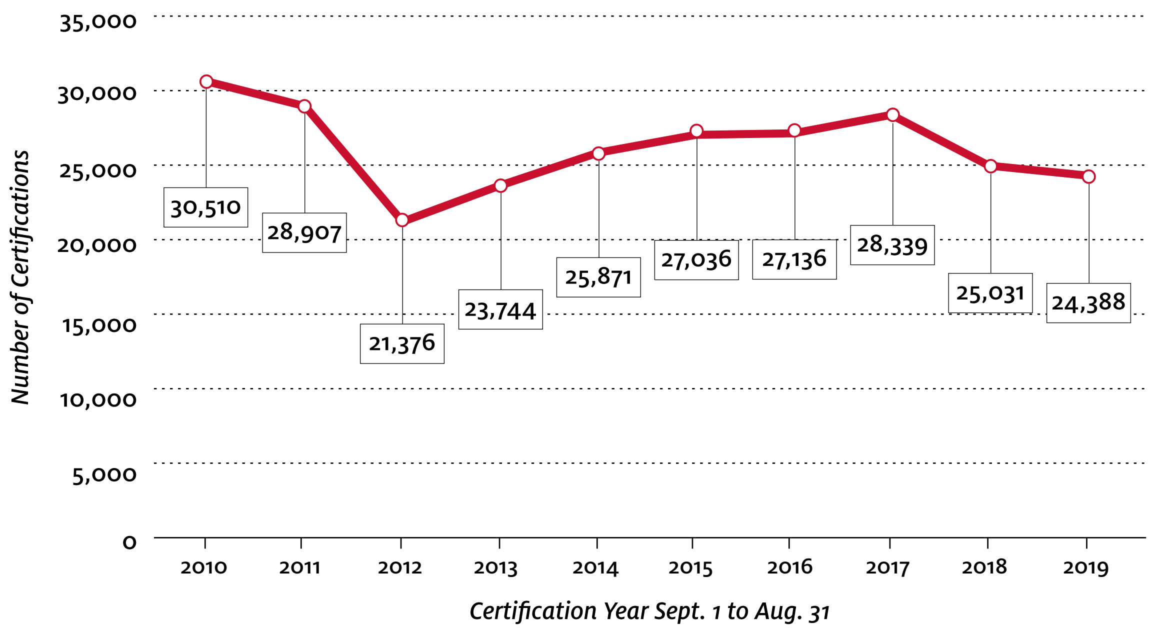
Findings from this section show that the number of yearly certifications earned in Texas in 2019 was down about 20% from 2010 (Figure 2.2). Since 2015, more Texas teachers have earned certification through for-profit ACPs than any other program type (Figure 2.3). Regarding teacher shortage areas (discussed in a later section), the number of special education teachers certified through for-profit ACPs has increased by 21.8% since 2010. Certifications among mathematics and science teachers also show the dominance of for-profit ACPs. In 2019, about 46% of mathematics teachers and around 60% of science teachers were certified through these programs. A similar trend for career and technical education teachers shows for-profit ACPs producing 66.2% of certificates, with the rest mostly through ESCs (17.3%).

As seen in Figure 2.2, the number of initial standard certificates issued to new teachers in 2019 (24,388) was about 6,100 lower than 10 years ago in 2010 (30,510). During any certification year, the number of certificates issued is greater than the number of teachers produced, as many teachers earn more than one certificate (see Templeton et al., 2020 for discussion of related policy development). However, limiting the certificates to initial excludes supplemental certificates and provides a closer approximation for new teachers.

Figure 2.3 presents data on Texas teacher certifications by pathway. There are two main sources of teacher preparation: public universities and for-profit alternative programs. Although in steady decline across the decade, from 2010 to 2014, public universities awarded the highest number of teaching certificates of all

**FIGURE 2.2**

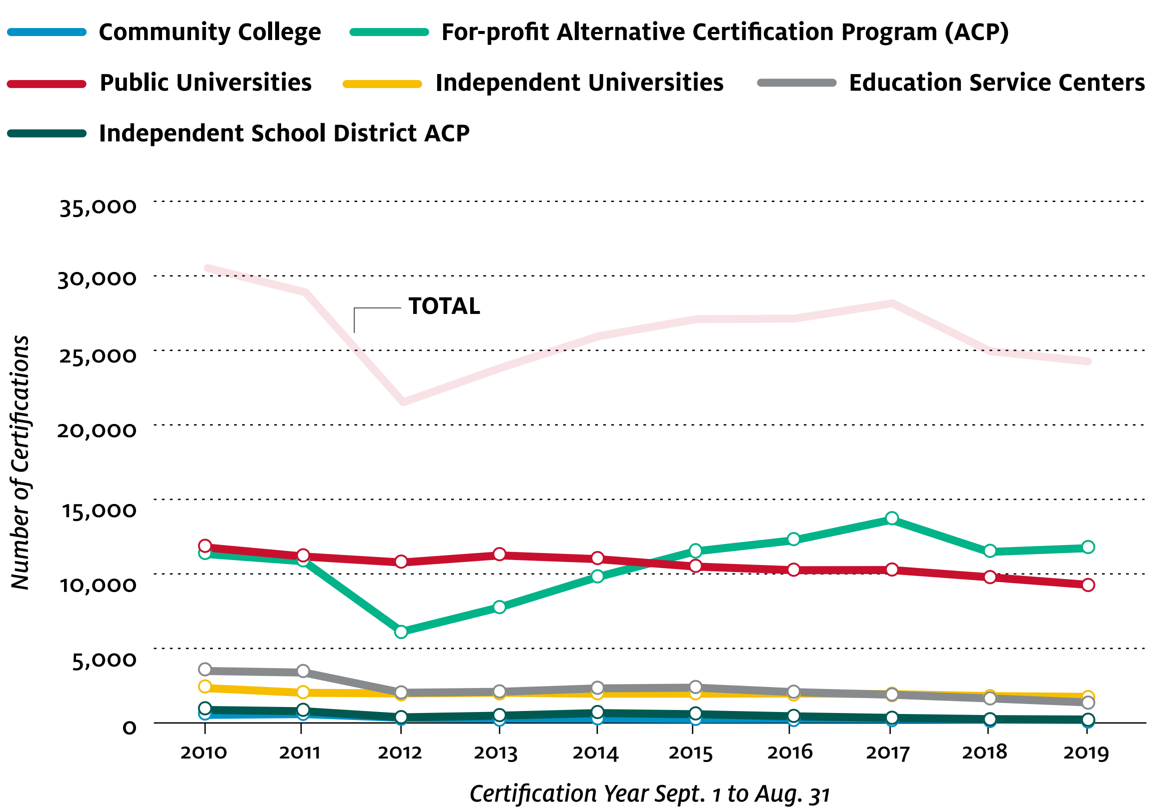
## Total Initial Certifications in Texas, 2010 to 2019




*Source*. Texas Public Education Information Resource

**FIGURE 2.3**

## Teacher Certificates by Preparation Pathway, 2010 to 2019




*Source*. Texas Public Education Information Resource

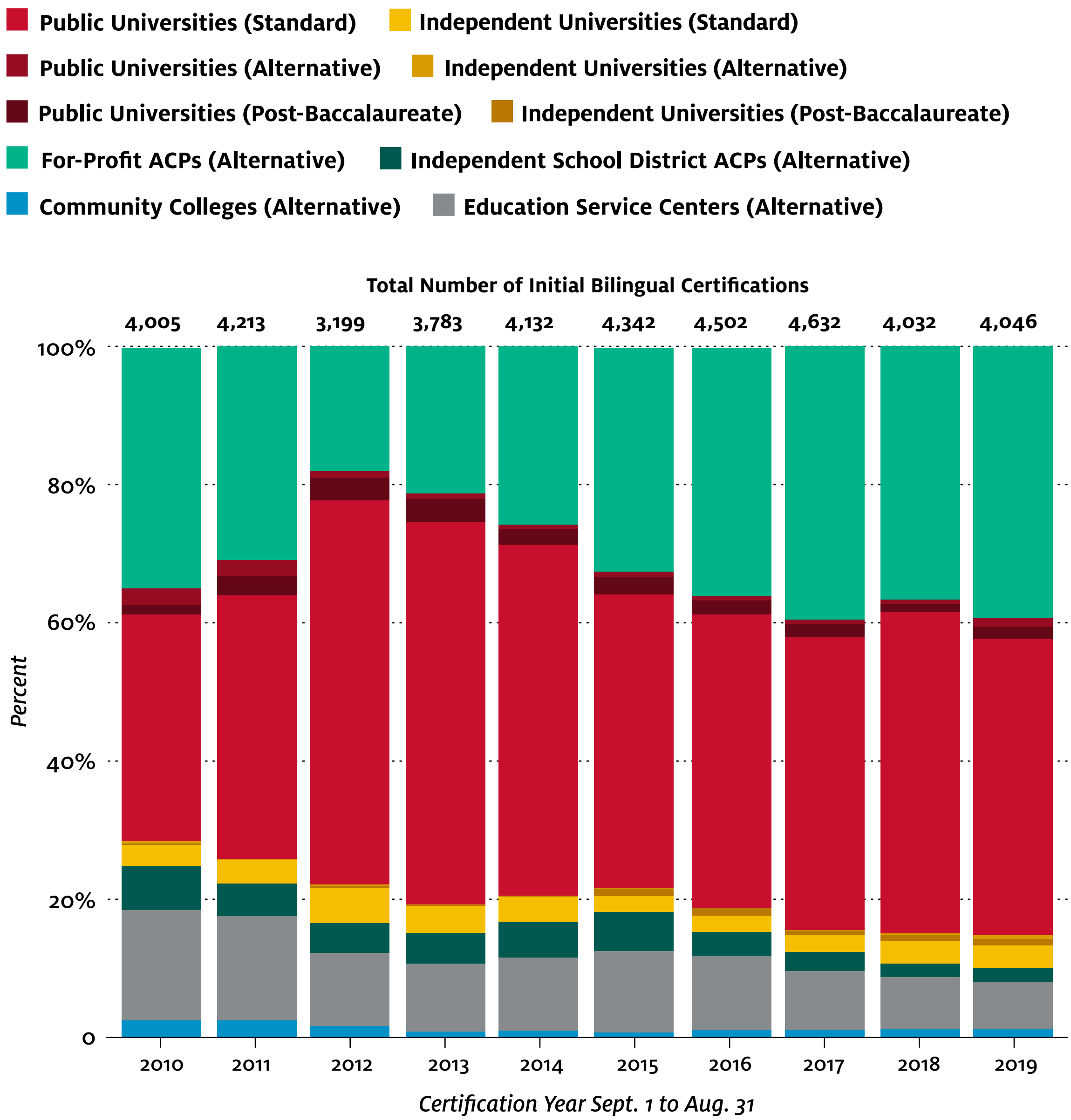
preparation program providers. After a steep decline during the Great Recession, however, 2015 marked an important point of inflection where for-profit ACPs surpassed public universities, awarding about 1,100 more certificates that year. For-profit ACPs peaked in 2017, awarding 13,778 certificates before declining from this high in both 2018 and 2019. Other program providers show the production trend is decreasing over time.

### *Certification Trends by Subject Area*

As shown in Figure 2.4, public university programs award the highest percentage of certifications to bilingual teachers. They are followed by for-profit ACPs, which, since 2015, award an increasing share of certification in this subject area to 39.3% of the total. Also, the percentage of bilingual certifications awarded through ESCs is lower in 2019 (6.8%) than in 2010 (16%).

**FIGURE 2.4**

## Bilingual Teacher Certification by Educator Preparation Type

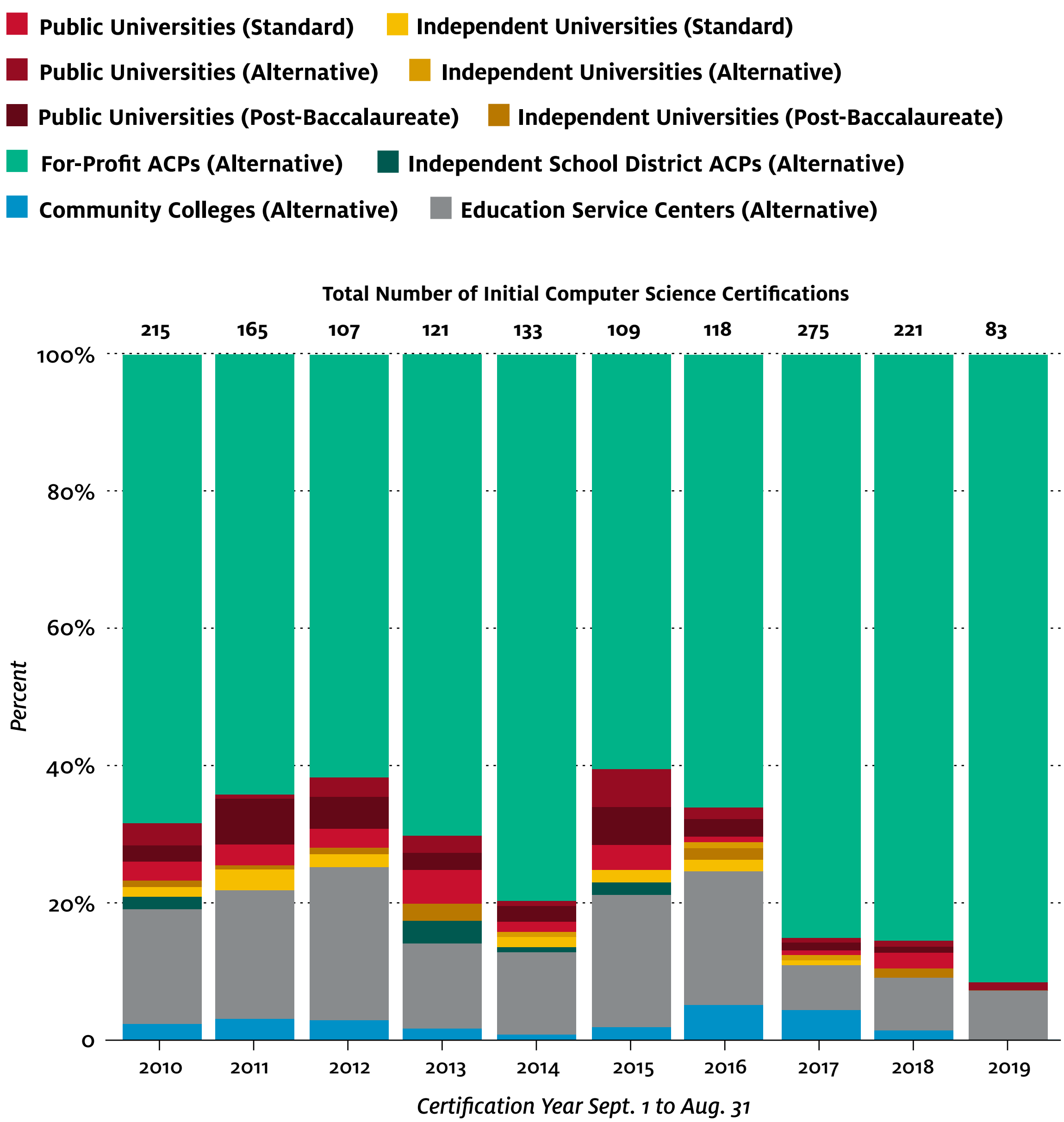



*Notes*. Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source*. Texas Public Education Information Resource

Figure 2.5 shows for-profit ACPs have consistently been the main provider for computer science teacher certificates across this 10-year span. In 2019, for-profit ACPs awarded 91.6% of the certificates earned by computer science teachers. However, the number of computer science certificates has declined significantly from 2010 to 2019. In 2010, 215 initial computer science certificates were issued compared with 83 in 2019.

**FIGURE 2.5**

## Computer Science Teacher Certification by Educator Preparation Type

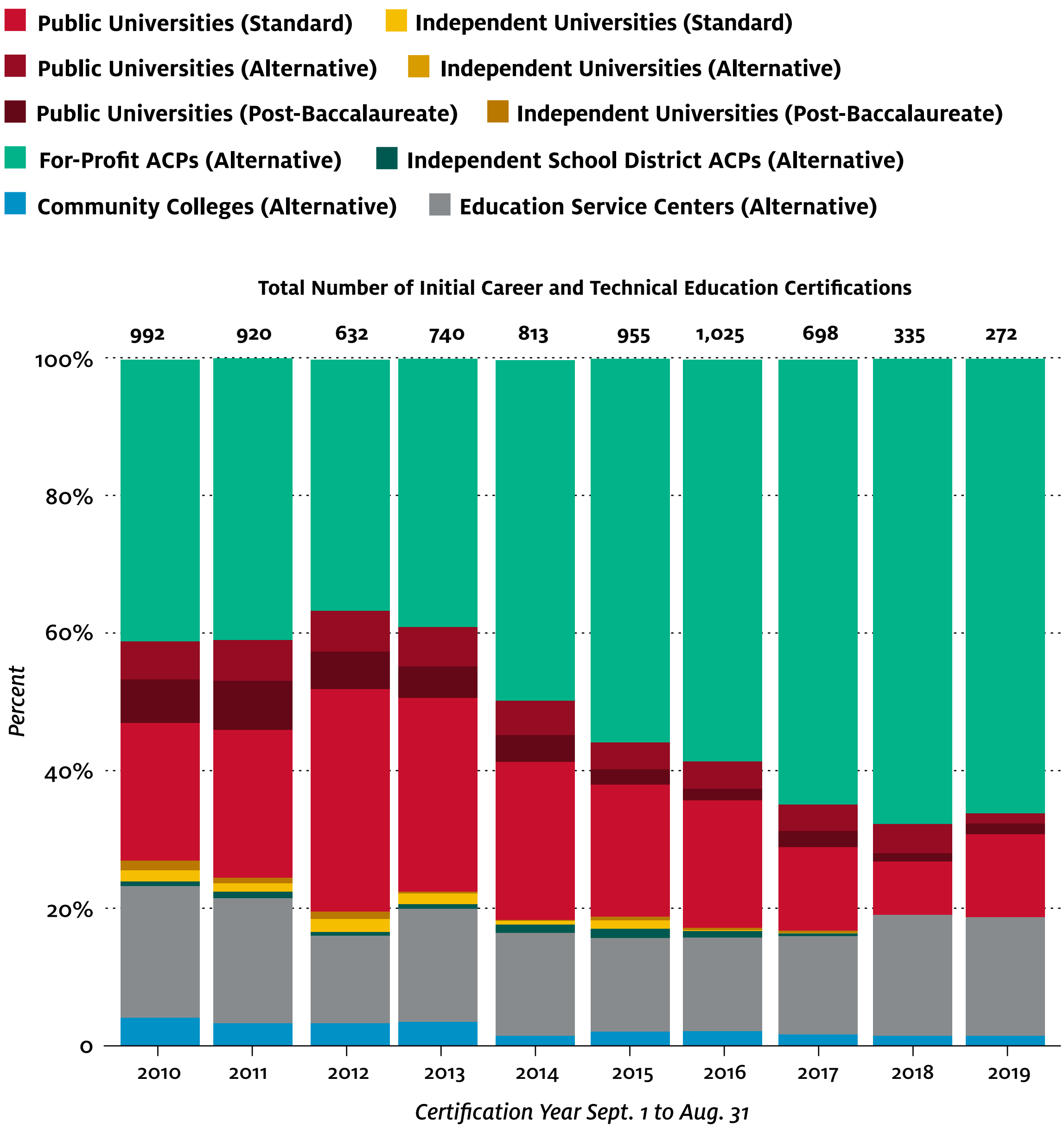



*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source.* Texas Public Education Information Resource

In the career and technical education (CTE) subject area (Figure 2.6), the number of certificates issued has declined by more than 70% since 2010. For-profits have increased production of CTE certificates from 41% in 2010 to 66.2% in 2019 with a corresponding decline in the percentage of CTE certificates earned through public universities (15.1% in 2019) and ESCs (17.3% in 2019).

**FIGURE 2.6**

## Career and Technical Education Teacher Certification by Educator Preparation Type



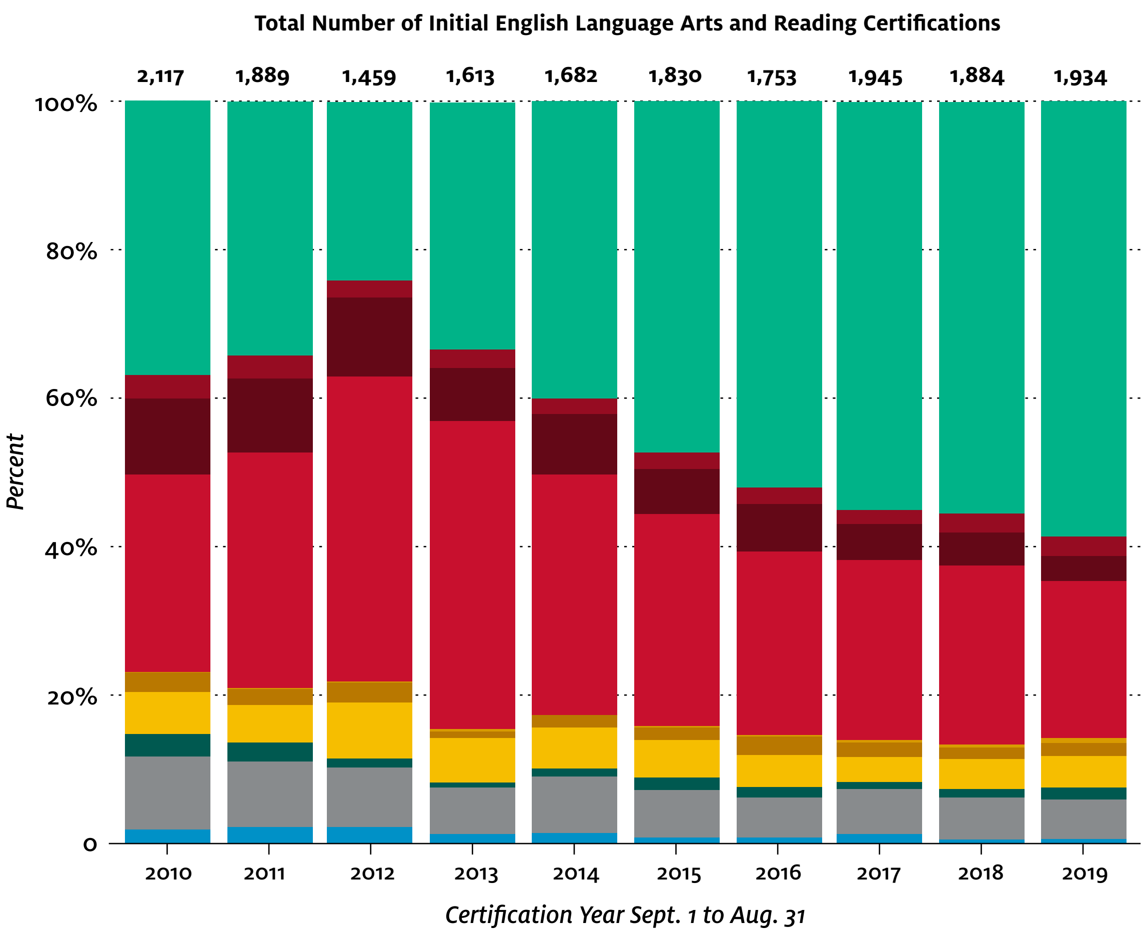

*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source.* Texas Public Education Information Resource

The pattern of increased production among for-profit ACPs is also visible in English language arts and reading (ELAR) initial certifications (Figure 2.7). At the start of the decade, for-profit ACPs provided more than a third of all ELAR certificates, and all university program types combined provided about half of ELAR certificates. Over the decade, for-profit ACPs have grown to a 58.6% share with a corresponding decrease for all university program types.

**FIGURE 2.7**

## English Language Arts and Reading Teacher Certification by Educator Preparation Type

- Public Universities (Standard)
- Independent Universities (Standard)
- Public Universities (Alternative)
- Independent Universities (Alternative)
- Public Universities (Post-Baccalaureate)
- Independent Universities (Post-Baccalaureate)
- For-Profit ACPs (Alternative)
- Independent School District ACPs (Alternative)
- Community Colleges (Alternative)
- Education Service Centers (Alternative)

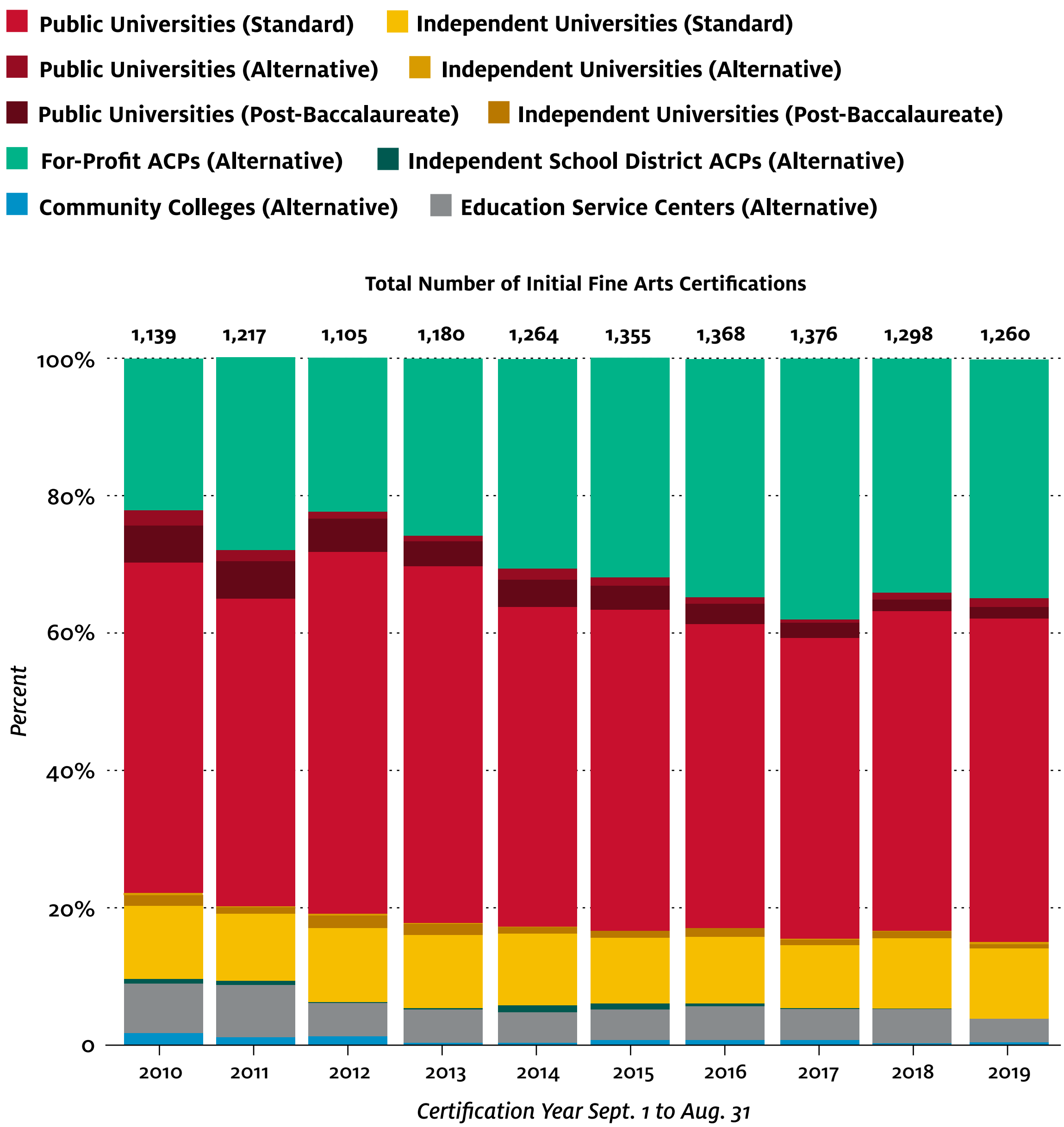



*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source.* Texas Public Education Information Resource

Fine arts initial certificates (Figure 2.8) continue to be produced in the largest numbers by university standard programs, with total university production across all program types around 60% over the 10-year period.

**FIGURE 2.8**

## Fine Arts Teacher Certification by Educator Preparation Type

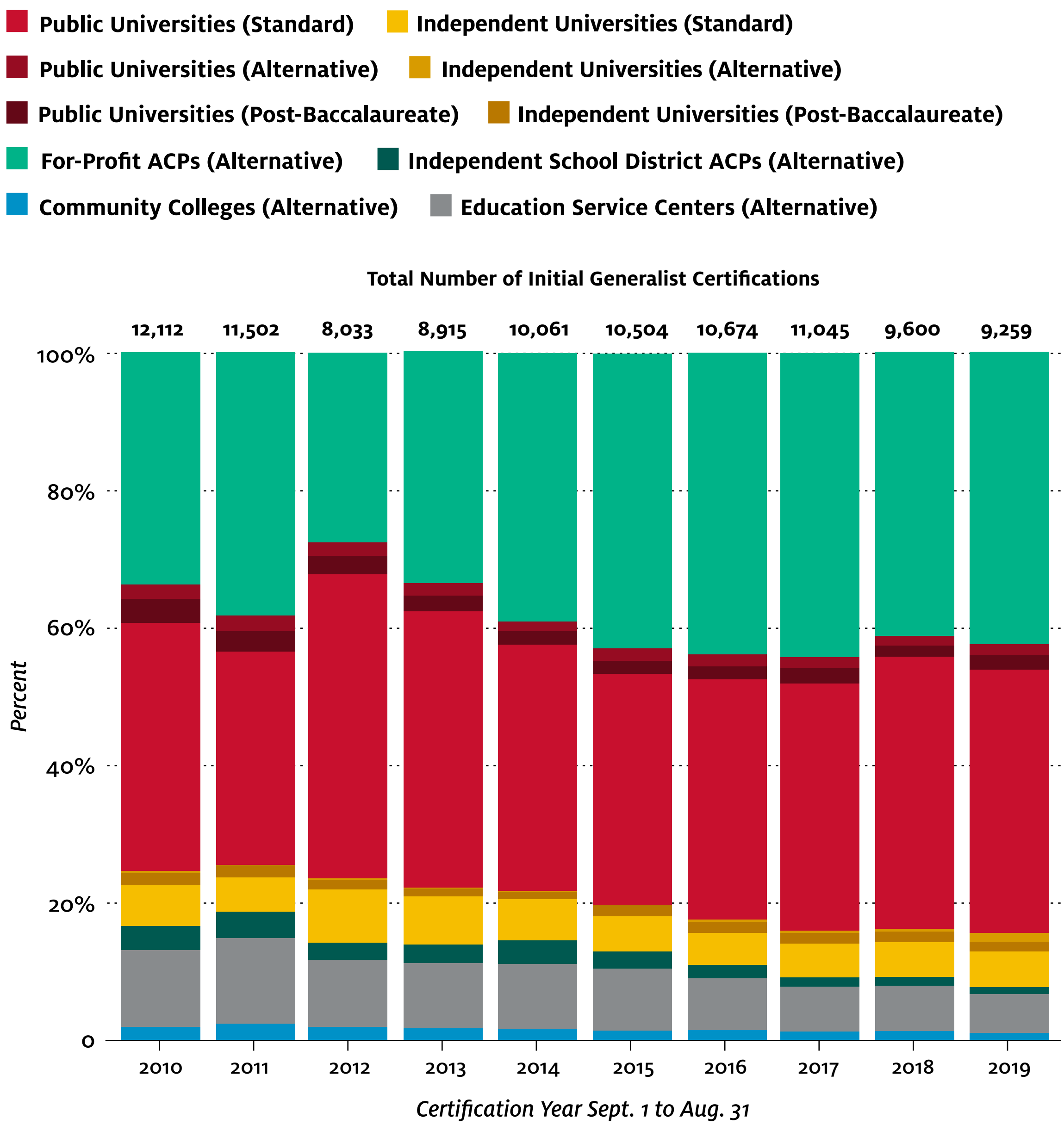



*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source.* Texas Public Education Information Resource

The total number of generalist certificates has been declining since 2010. Total university production has hovered around 45% except during 2012 and 2013, when the percentage increased to 58.2% and 52.4% respectively. For-profit ACPs have increased their percentage share of the total from 33.8% in 2010 to 42.5% in 2019. All other provider output declined.

**FIGURE 2.9**

## Generalist Teacher Certification by Educator Preparation Type

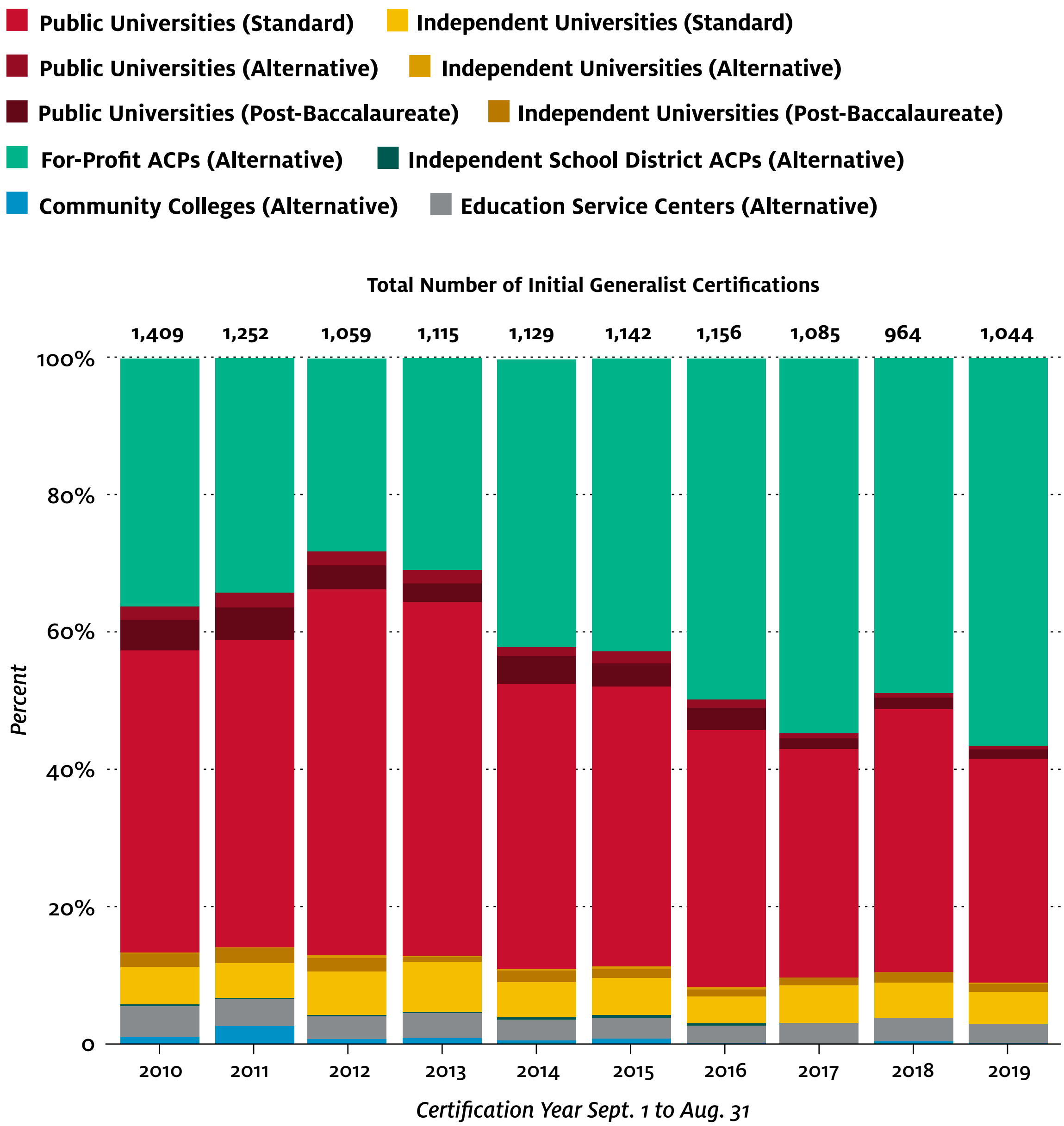



*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program. This includes generalist certifications at all levels.
*Source.* Texas Public Education Information Resource

In 2019, for-profit ACPs provided 56.5% and all universities provided 40.5% of initial health and physical education certifications (Figure 2.10). But there has been a 17 percentage point decline in university output since 2010 as well as a decrease in the certification numbers of all other program providers.

**FIGURE 2.10**

## Health and Physical Education Teacher Certification by Educator Preparation Type

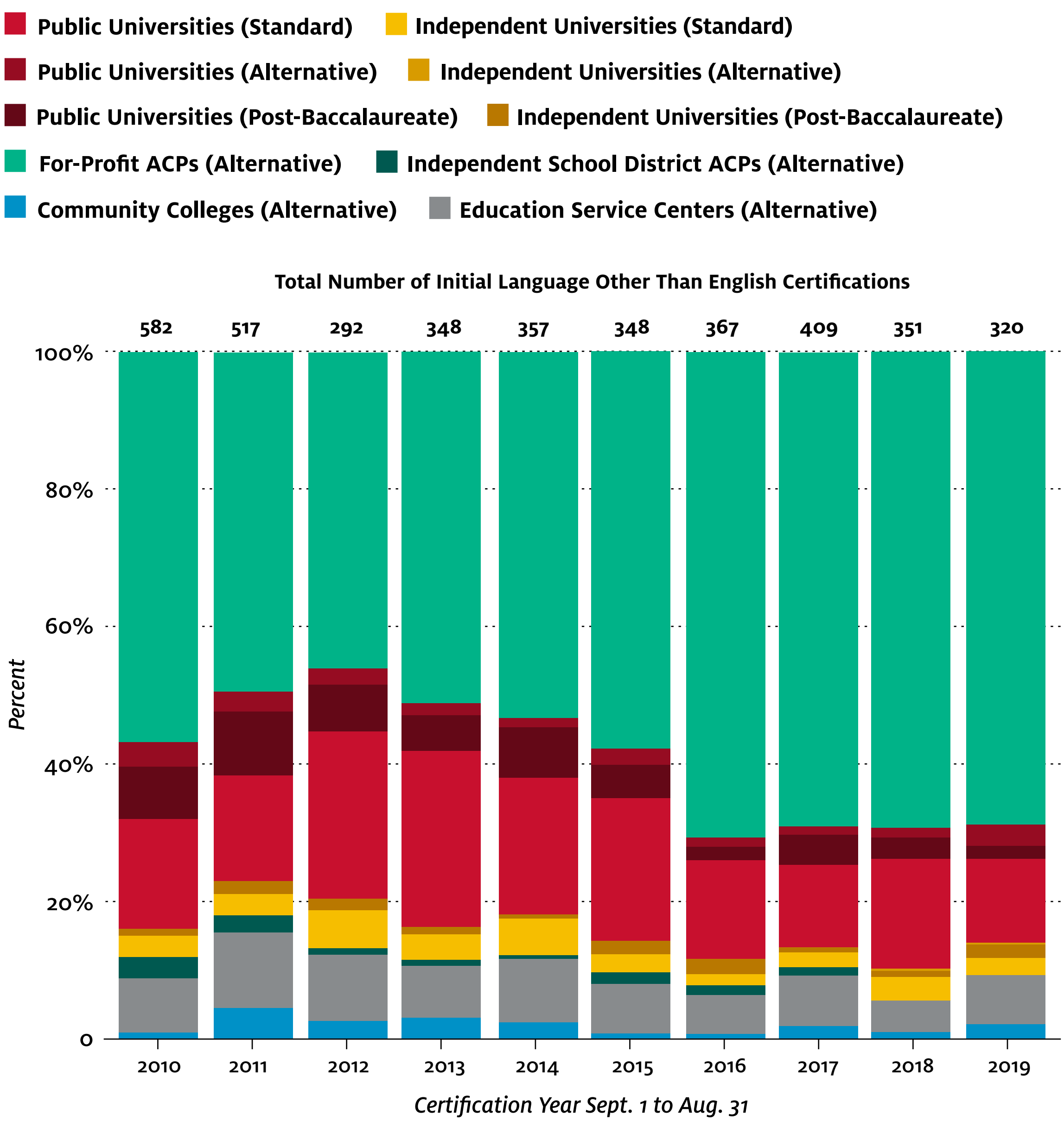



*Notes*. Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source*. Texas Public Education Information Resource

From 2010 to 2019, a robust majority of languages other than English initial certifications (Figure 2.11) were earned through for-profit ACPs, producing 68.8% of the certifications in this subject area in 2019.

**FIGURE 2.11**

## Languages Other Than English Teacher Certification by Educator Preparation Type

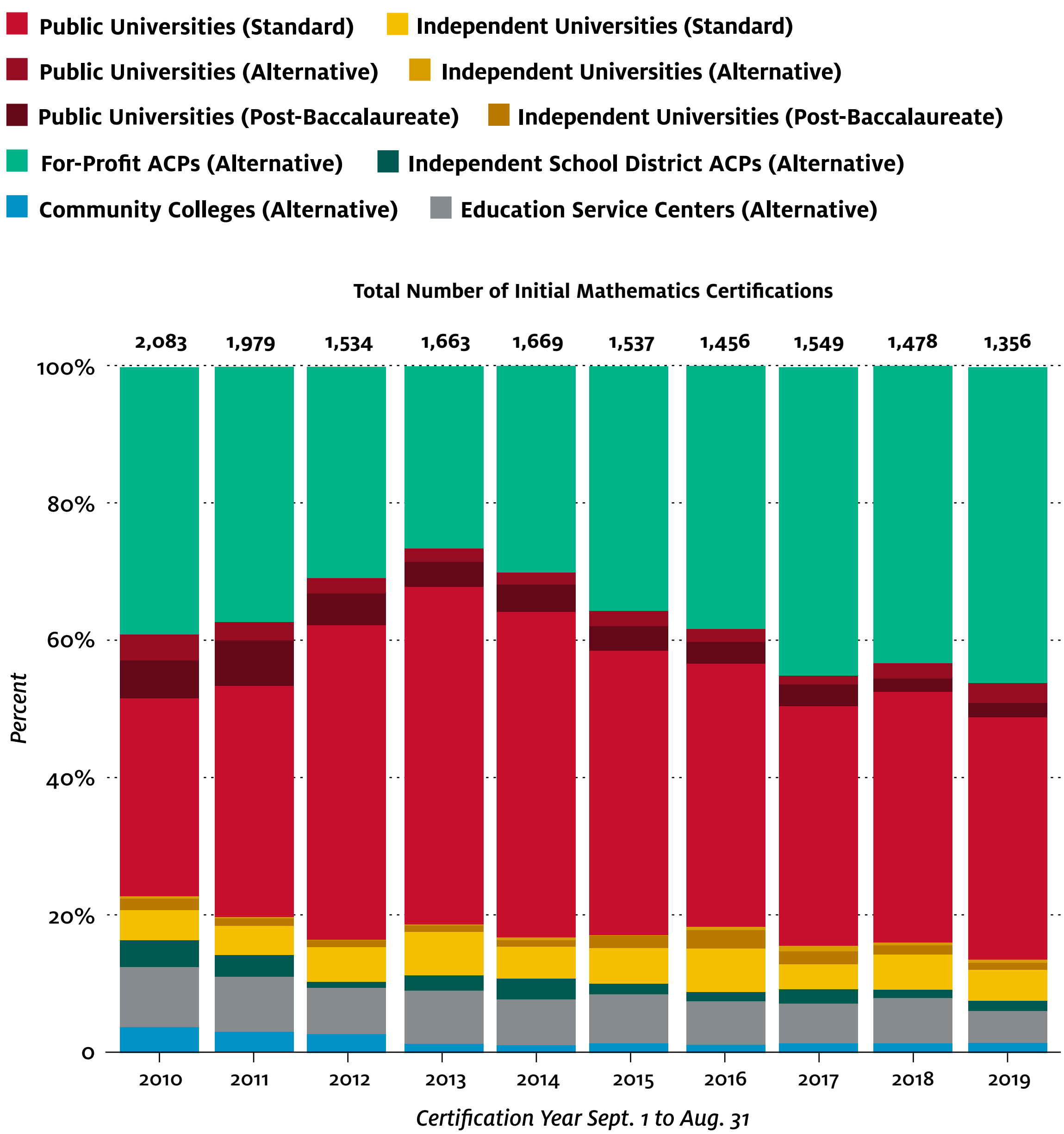



*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source.* Texas Public Education Information Resource

Figure 2.12 shows initial mathematics certification production is in decline. Throughout the decade, the two top producers were for-profit ACPs and public university standard programs, with an average percentage of 37.2% and 39.2%, respectively. Data show as the number of certificates provided by for-profit programs has risen, certificate production of all other program providers except public and private universities has declined. Total university production of mathematics certifications has averaged 52% over the past 10 years.

**FIGURE 2.12**

## Mathematics Teacher Certification by Educator Preparation Type

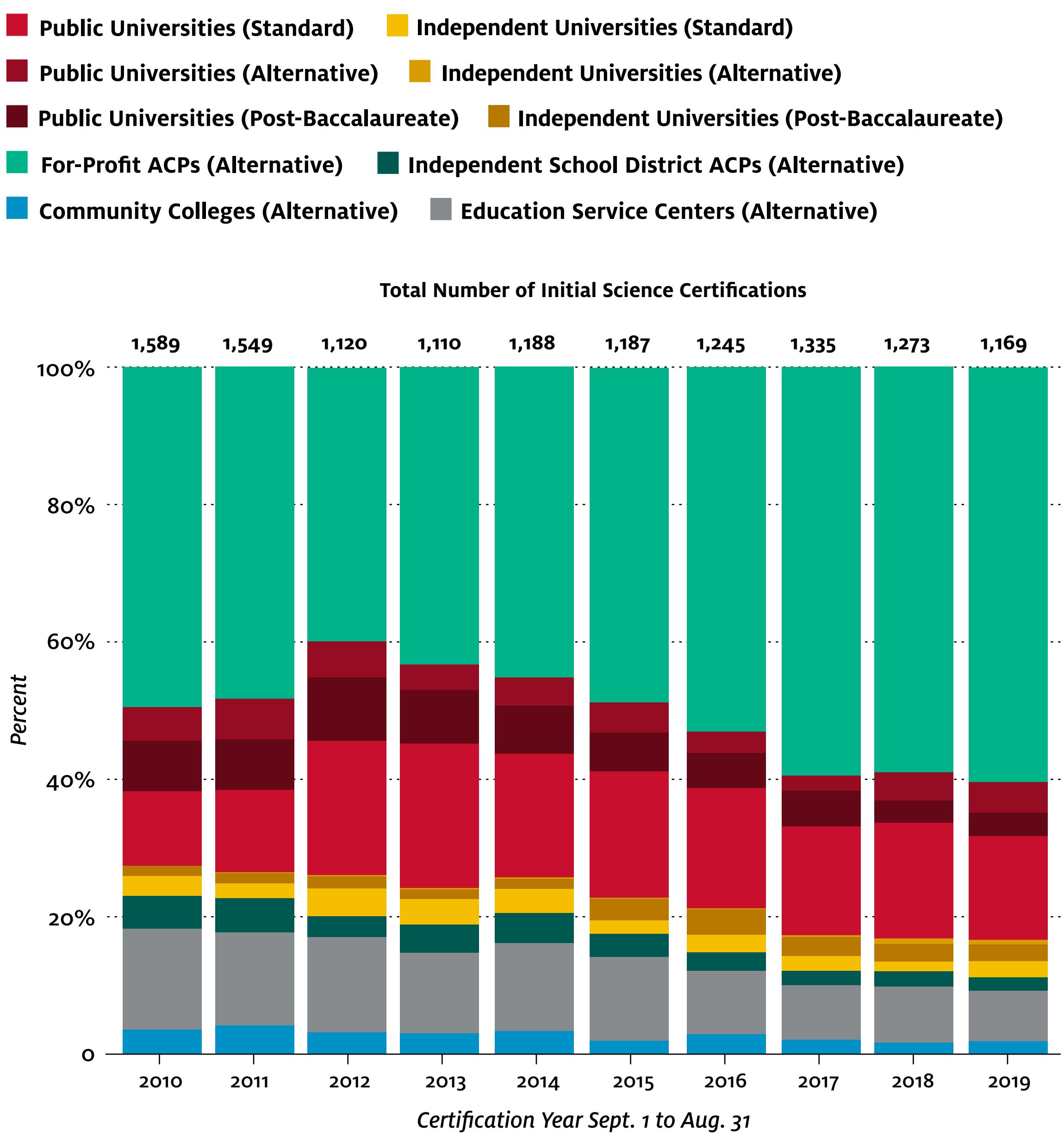



*Notes*. Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source*. Texas Public Education Information Resource

Science initial certification (Figure 2.13) has a much different trajectory than mathematics initial certification. For-profit programs have contributed between 50% and 60% of all initial certifications throughout the decade. Public university standard and post-baccalaureate programs contributed, on average, about 22% of initial certificates, with ESCs contributing a high in 2010 of 14.7% to half that in 2019.

**FIGURE 2.13**

## Science Teacher Certification by Educator Preparation Type

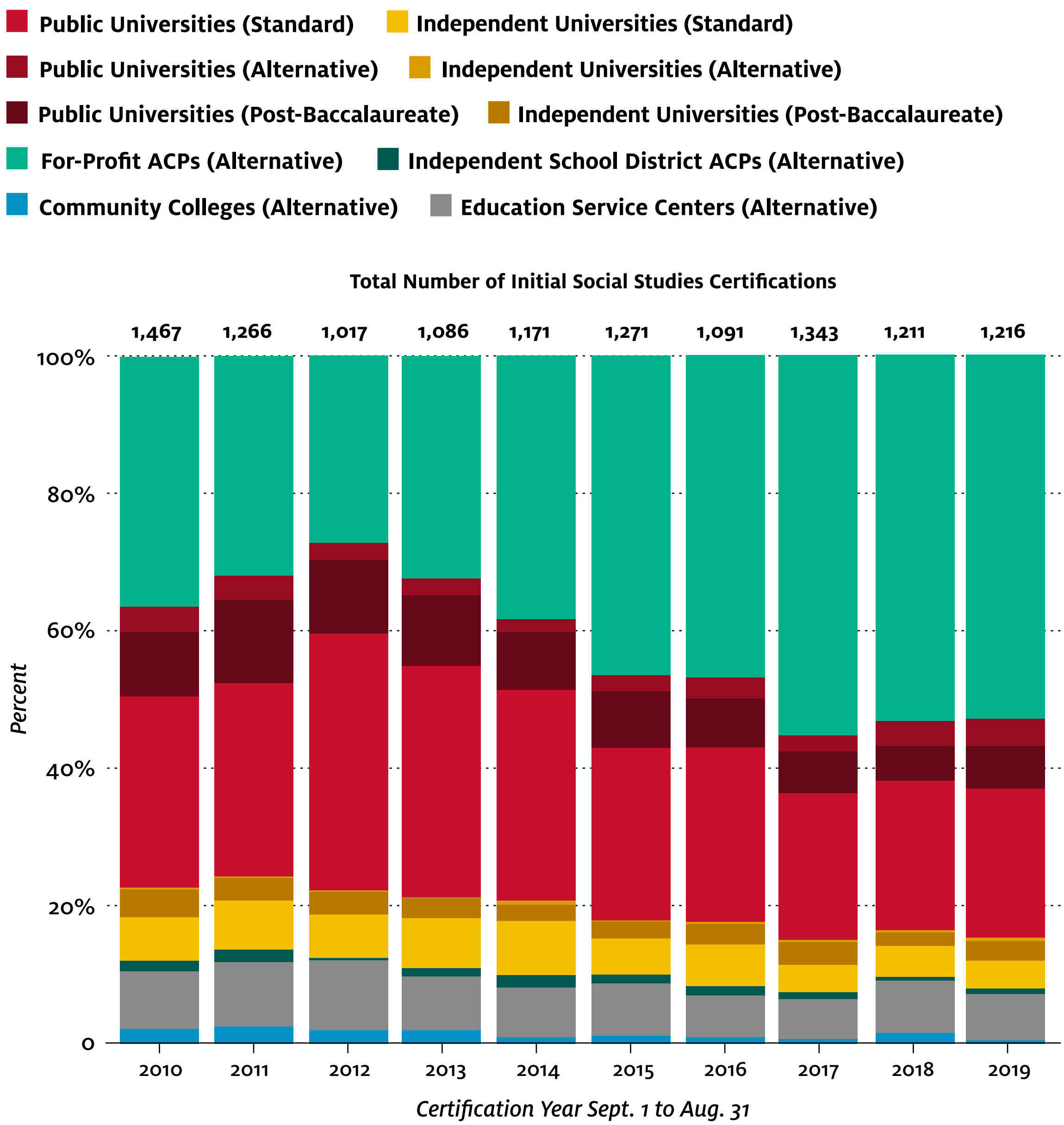



*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source.* Texas Public Education Information Resource

There has been a downward trend in the percentage of certifications awarded by public universities and an increasing trend in the percentage of certifications awarded through for-profit ACPs for both social studies (Figure 2.14) and special education (Figure 2.15) teachers. In 2010, 36.3% of social studies certifications were earned through for-profit ACPs, compared with 52.9% in 2019.

**FIGURE 2.14**

## Social Studies Teacher Certification by Educator Preparation Type

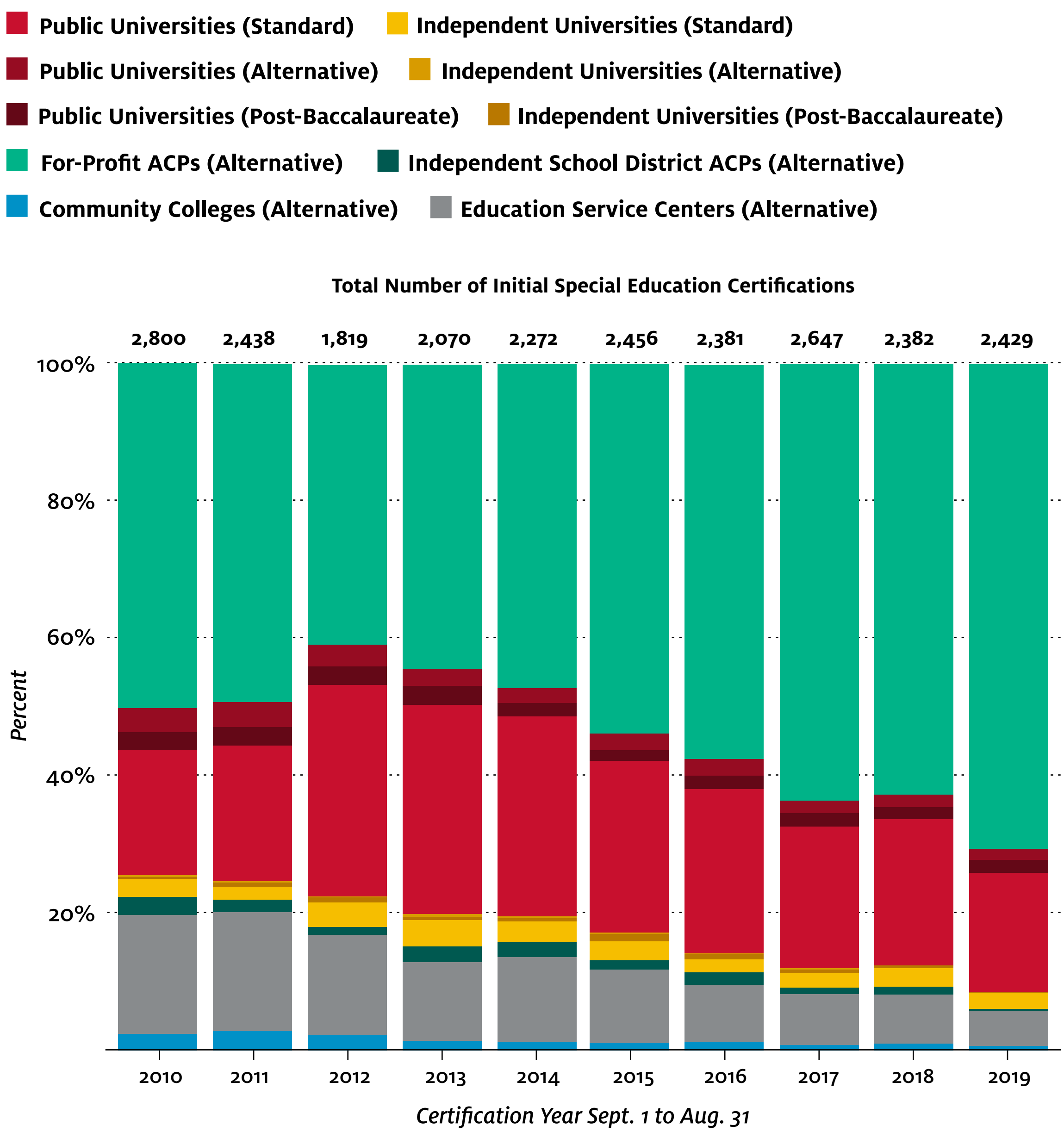



*Notes.* Parentheses in key indicate certification group. ACP = Alternative Certification Program
*Source.* Texas Public Education Information Resource

During the 86th legislative session, there was increased attention paid to special education, which has been designated as a high-need area by the TEA for many years. For-profit ACPs started the decade providing 50.3% of the initial certifications, which increased to 70.6% by 2019. In 2019, public university standard programs were at roughly the same percentage as in 2010 (about 17%). In between, however, they increased to between 25% to 30% for several years before declining again. ESCs, the next-highest contributor of special education initial certificates, were on par with public university standard programs in 2010 (about 17%) but have steadily declined throughout the decade to about 5% in 2019. As with mathematics initial certification, the total number of special education certificates has declined about 13% from a high of 2,800 in 2010 to 2,429 in 2019.

**FIGURE 2.15**

## Special Education Teacher Certification by Educator Preparation Type




*Notes*. Parentheses in key indicate certification group. ACP = Alternative Certification Program

*Source*. Texas Public Education Information Resource

# Section III: Teacher Workforce Characteristics

## Teacher Assignment

In this section, we consider teacher assignment in two ways. First, we discuss positions by selected student population served (e.g., special education). Second, we address positions by subject area.

### *Teacher Assignments by Student Population Served*

For student population served, we focus on three types: bilingual/ESL, career and technical education (CTE), and special education. We focus on these three areas because they align with the student population-based teacher shortage areas identified by the state (TEA, 2020). Table 3.1 shows the number of FTE

**TABLE 3.1**

### Statewide FTE Teachers by Student Population Served

| Academic Year | Bilingual/ESL | | Career & Technical | | Special Education | | Regular | |
|---|---|---|---|---|---|---|---|---|
| | FTE | Change | FTE | Change | FTE | Change | FTE | Change |
| **2010-11** | 18,351.4 | | 13,304.7 | | 30,614.6 | | 244,678.8 | |
| **2011-12** | 17,204.8 | -6.2% | 13,218.4 | -0.6% | 29,094.7 | -5.0% | 238,493.7 | -2.5% |
| **2012-13** | 17,386.3 | 1.1% | 13,429 | 1.6% | 30,279.5 | 4.1% | 239,234 | 0.3% |
| **2013-14** | 19,412.6 | 11.7% | 13,952.8 | 3.9% | 30,446.1 | 0.6% | 242,626.3 | 1.4% |
| **2014-15** | 20,038.3 | 3.2% | 14,581.7 | 4.5% | 30,698.1 | 0.8% | 247,806.1 | 2.1% |
| **2015-16** | 20,574.2 | 2.7% | 15,277.8 | 4.8% | 30,564.3 | -0.4% | 251,224.2 | 1.4% |
| **2016-17** | 21,070.1 | 2.4% | 15,956 | 4.4% | 30,363.3 | -0.7% | 256,337.5 | 2.0% |
| **2017-18** | 21,565.1 | 2.3% | 16,752.8 | 5.0% | 31,958.5 | 5.3% | 257,177.7 | 0.3% |
| **2018-19** | 23,008.5 | 6.7% | 17,429.7 | 4.0% | 32,432.9 | 1.5% | 255,000.7 | -0.8% |
| **2019-20** | 23,496.9 | 2.1% | 18,061.6 | 3.6% | 33,544.3 | 3.4% | 256,510.9 | 0.6% |

*Source.* Center for Research, Evaluation & Advancement of Teacher Education

**TABLE 3.2**

### Statewide Students by Population Served

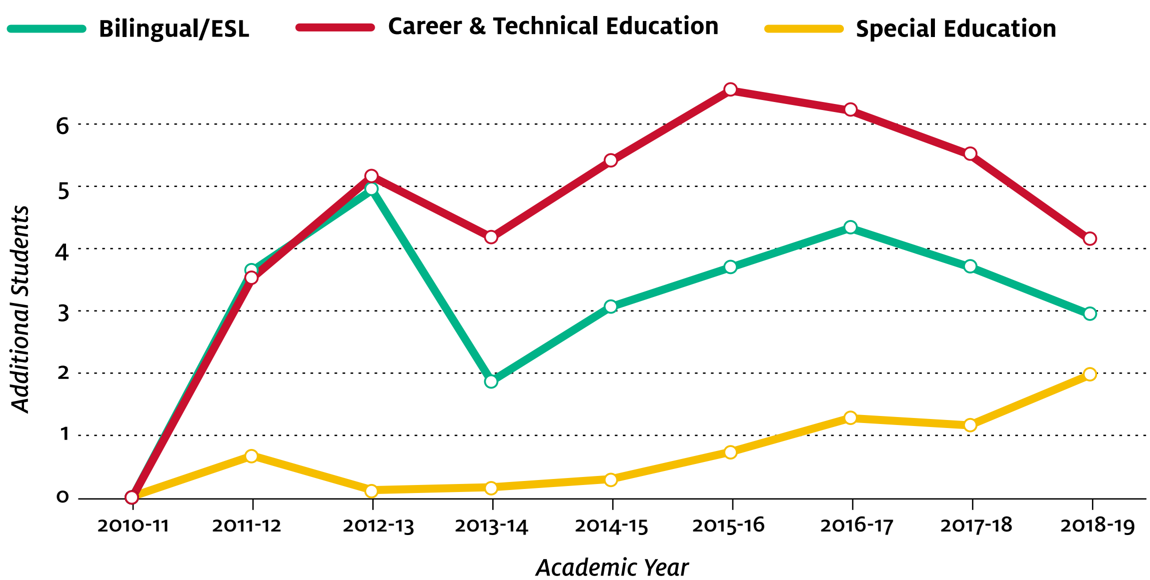
| Academic Year | Bilingual/ ESL | | Career & Technical | | Special Education | |
|---|---|---|---|---|---|---|
| | n | Change | n | Change | n | Change |
| **2010-11** | 796,755 | | 1,032,602 | | 432,763 | |
| **2011-12** | 809,074 | 1.5% | 1,072,030 | 3.8% | 430,350 | -0.6% |
| **2012-13** | 840,072 | 3.8% | 1,110,812 | 3.6% | 431,041 | 0.2% |
| **2013-14** | 878,569 | 4.6% | 1,140,598 | 2.7% | 434,825 | 0.9% |
| **2014-15** | 930,737 | 5.9% | 1,209,784 | 6.1% | 442,476 | 1.8% |
| **2015-16** | 968,569 | 4.1% | 1,284,748 | 6.2% | 453,955 | 2.6% |
| **2016-17** | 1,005,219 | 3.8% | 1,336,684 | 4.0% | 467,611 | 3.0% |
| **2017-18** | 1,015,456 | 1.0% | 1,391,689 | 4.1% | 488,463 | 4.5% |
| **2018-19** | 1,066,099 | 5.0% | 1,424,391 | 2.3% | 521,908 | 6.8% |

*Sources.* Academic Excellence Indicator System and Texas Academic Performance Reports teachers assigned to these populations. Additionally, we include regular assignments for context. Table 3.2 shows the number of students in each population group. Taken together, in Figure 3.1, we see that for all three student populations, each FTE teacher is responsible for more students in 2018-2019 than in 2010-2011. Specifically, the ratio between students and FTE bilingual/ESL teachers increased from 43.4 students to one FTE teacher in 2010-2011 to 46.3 students to one FTE teacher in 2019-2020. Therefore, on average, each FTE teacher is responsible for almost an additional three students. For special education, the ratio changed from 14.1 to 16.1. The ratio for CTE changed from 77.6 to 81.7. It is important to note, however, that although the teacher assignments are broken down by fraction of FTE (i.e., one teacher can serve different student populations), the student data are not broken down in the same way; students may be identified as both bilingual/ESL and special education, for example.

As Figure 3.1 shows, on average, an FTE teacher assigned to bilingual/ESL students taught three more students in 2018-2019 than in 2010-2011. Compared with 2010-2011, FTE teachers assigned to special education in 2018-2019 were teaching an additional two students.

**FIGURE 3.1**

## Additional Students Per Teacher by Population Served Since 2010-2011




*Notes.* The ratio is based on an FTE teacher.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

### *Teacher Assignments by Subject Area*

From 2010-2011 to 2019-2020, the number of teacher FTE positions increased in several subject areas (Table 3.3). The number of mathematics teacher positions increased steadily from 44,743 to 53,944. The number of ELAR FTE teachers increased from 63,705 to 76,611. The number of positions in science was also slightly higher in 2019-2020 (37,464) than in 2010-2011 (32,951).

**TABLE 3.3**

## Statewide FTE Teachers by Select Subject Area

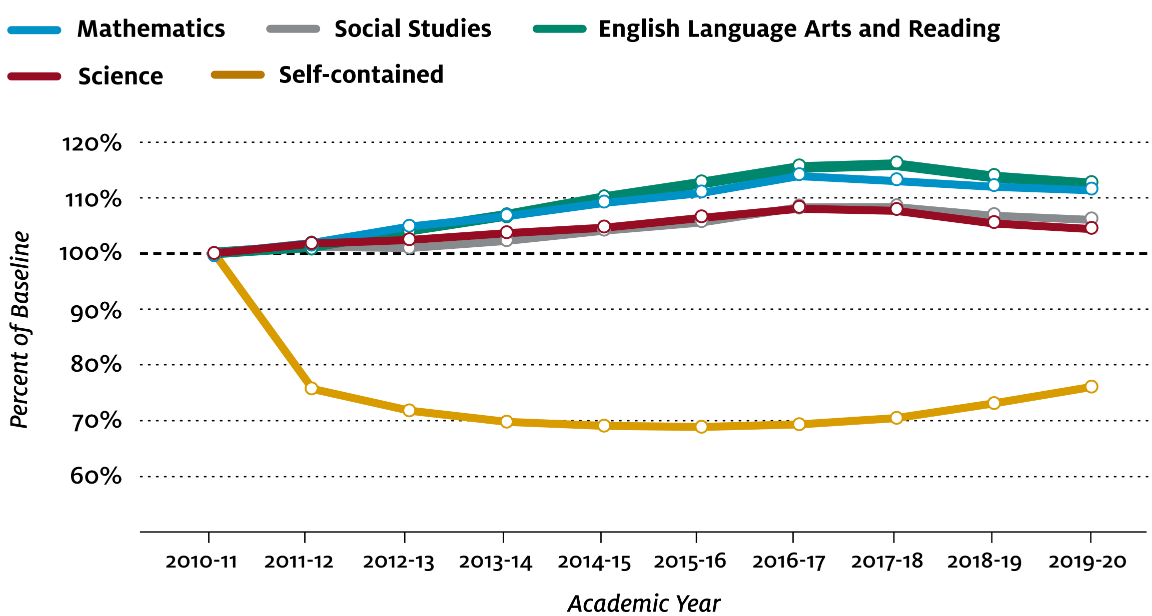
| | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 |
|---|---|---|---|---|---|---|---|---|---|---|
| **English Language Arts** | 63,705 | 64,300 | 66,984 | 69,720 | 72,215 | 74,050 | 76,178 | 77,212 | 76,935 | 76,611 |
| **Mathematics** | 44,743 | 46,059 | 47,991 | 49,448 | 50,925 | 51,873 | 53,479 | 53,626 | 53,904 | 53,944 |
| **Science** | 32,951 | 33,880 | 34,750 | 35,422 | 36,019 | 36,912 | 37,651 | 37,861 | 37,719 | 37,464 |
| **Self-Contained** | 44,106 | 34,520 | 32,602 | 33,303 | 32,952 | 33,002 | 32,922 | 32,929 | 33,505 | 35,353 |
| **Social Studies** | 30,868 | 31,644 | 32,349 | 33,147 | 33,868 | 34,485 | 35,323 | 35,611 | 35,641 | 35,478 |

*Notes*. Counts include assignments across all grade levels.
*Source*. Center for Research, Evaluation & Advancement of Teacher Education

Figure 3.2 shows the number of FTE teachers as a percentage of their 2010-2011 baseline. As shown, self-contained positions decreased, suggesting teaching assignments are increasingly being made by subject rather than as self-contained. ELAR had the largest relative increase, while science had the lowest, indicating where, on average, teaching time is being prioritized.

**FIGURE 3.2**

## FTE Teachers by Selected Subject Area as Percentage of Baseline (2010-2011)



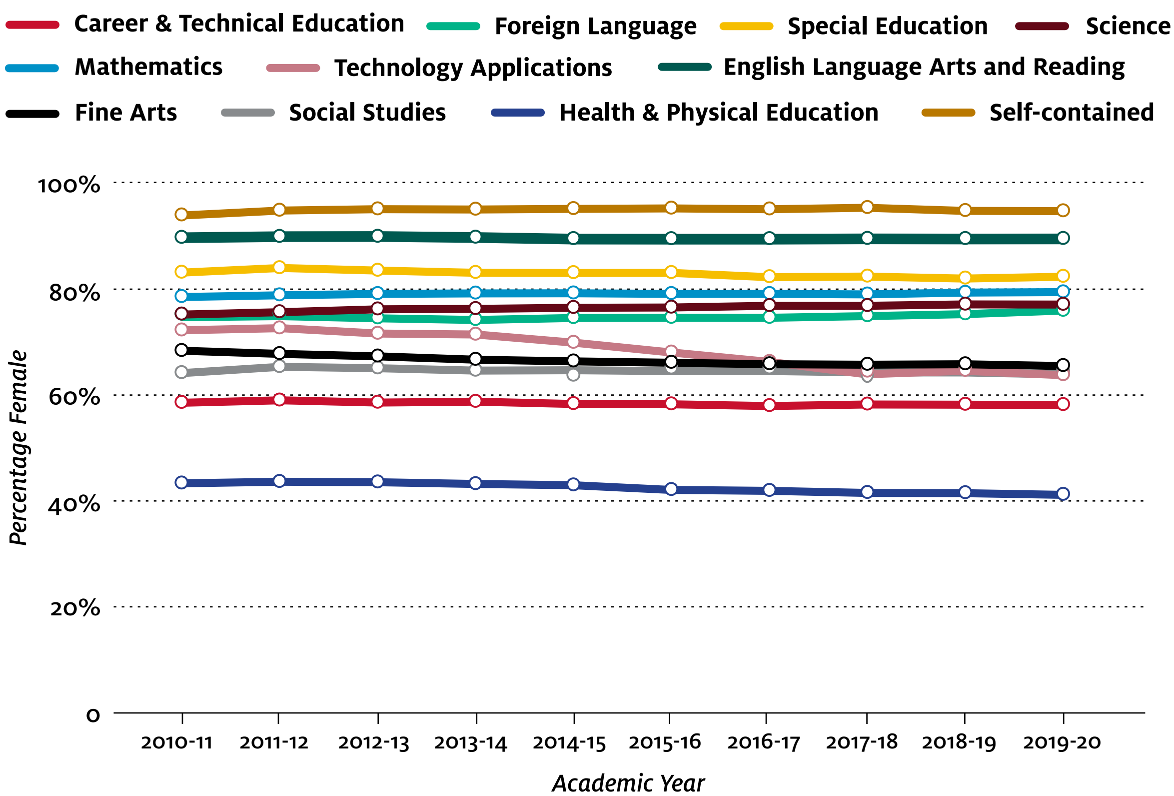

*Notes*. Only includes assignments for the “regular” and “career and technical education” student population. Excludes other subject areas.
*Source*. Center for Research, Evaluation & Advancement of Teacher Education

### *Statewide Gender of Teacher FTE Positions by Employment Subject Area*

Withstanding technology applications, the percentage of female teachers in major subject areas remained consistent from 2010-2011 to 2019-2020 (Figure 3.3). In 2019-2020, self-contained (94.8%), ELAR (89.6%), and special education (82.4%) had the highest percentage of female teachers of all subject areas. At the lower end, CTE and health and physical education had the lowest percentages of female teachers at 58.1% and 41.2%, respectively.

**FIGURE 3.3**

## Percentage of Teachers Who Are Female by Subject Area




*Notes.* Excludes “Not Applicable” and “Other” subject areas.
*Source:* Center for Research, Evaluation & Advancement of Teacher Education

## Teacher Shortage Areas

Every year, TEA identifies teacher shortage areas by subject and submits the list to the U.S. Department of Education (ED) for consideration in partial student loan forgiveness, deferment, or cancellation. The data are available since 1990-1991 from the ED. Using the data, several areas have consistently been noted as shortage areas. For example, special education and bilingual/ESL have both been identified every year since 1990-1991. Mathematics has been identified every year since 1993-1994. Science was included on the list every year between 1993-1994 and 2017-2018. Table 3.4 shows the shortage areas identified from 2010-2011 to 2020-2021.

Figure 3.4 shows the percentage of substitute teachers across specific subject areas. Foreign language and bilingual/ESL are consistently among the subject areas with the highest percentages of substitute teachers. From 2017-2018 to 2019-2020, substitute teacher usage in special education rose dramatically, underscoring the imperative need to address teacher supply and demand in this area. While it is unclear if the persistent shortage stems from increased teacher turnover or from inadequate production of certified teachers in those areas, it is clear that the need continues.

**TABLE 3.4**

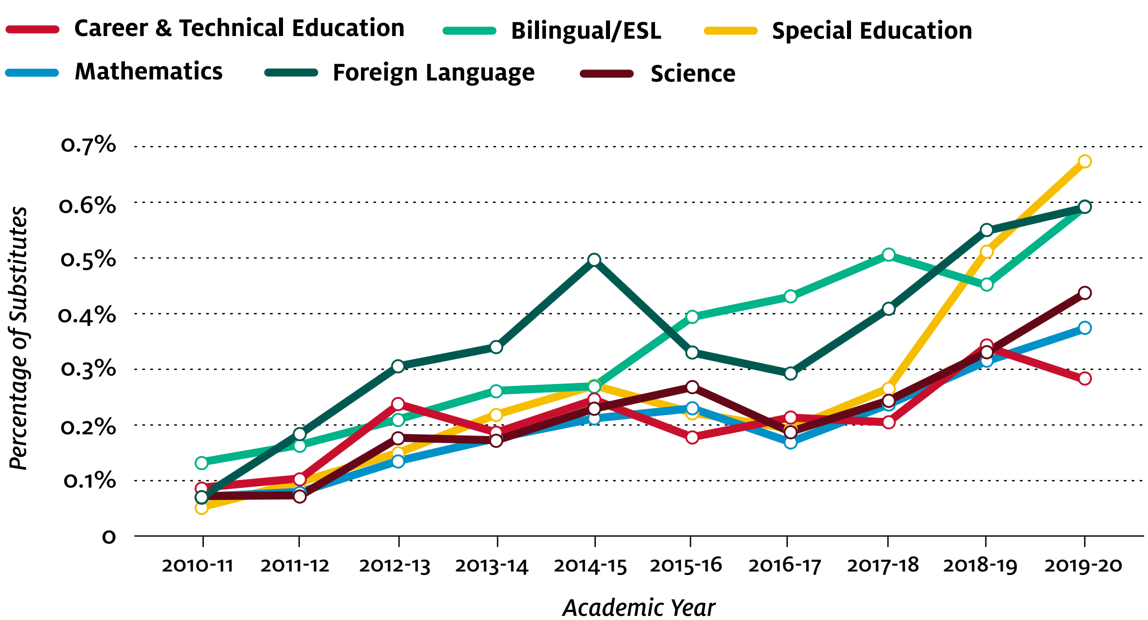
## Texas Teacher Shortage Areas

| Subject Matter | 2010 -2011 | 2011 -2012 | 2012 -2013 | 2013 -2014 | 2014 -2015 | 2015 -2016 | 2016 -2017 | 2017 -2018 | 2018 -2019 | 2019 -2020 | 2020 -2021 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Career and Technical Education | • | | | • | • | • | • | • | 7-12 | 7-12 | 7-12 |
| Bilingual/English as a Second Language | • | • | • | • | • | • | E, S | • | PK-12 | PK-12 | PK-12 |
| Mathematics | • | • | • | • | • | • | • | • | 7-12 | 7-12 | 7-12 |
| Science | • | • | • | • | • | • | • | • | | | |
| Special Education | • | • | • | • | E, S | E, S | E, S | E, S | PK-12 | PK-12 | PK-12 |
| World Languages | • | • | • | • | | | | | | | |

*Notes.* • is identified as a shortage area, but no grade level was included. E, S indicates that both elementary and secondary levels were identified as shortage areas for the subject matter. PK-12 indicates that all grades were identified as shortage areas. 7-12 indicates that grades 7 through 12 were identified as shortage areas.
*Source.* U.S. Department of Education

**FIGURE 3.4**

## Percentage of Substitute Teachers by Selected Subject Areas and Populations Served




*Notes.* Bilingual/ESL includes any subject for a bilingual/ESL student population. Special education includes any subject for special education student population and the special education subject area. Career and technical education includes any subject for career and technical education student population as well as career and technical education and technology applications subject areas.
*Source:* Center for Research, Evaluation & Advancement of Teacher Education

## Salaries

### *Statewide Trends in Salary*

In this section, we turn to teacher base pay.[4] Although this provides perspective into teacher salary, it is important to note that supplemental payments (e.g., stipends) are not included. All values have been adjusted to be in 2019 dollars. As shown in Table 3.5 and Figure 3.5, teacher salaries have remained fairly consistent between 2010-2011 and 2018-2019, although the adjusted base pay has actually declined by about 2.2%. Specifically, the purchasing power for the base pay of a teacher in the 2018-2019 school year was $1,241 less than in 2010-2011.

**TABLE 3.5**

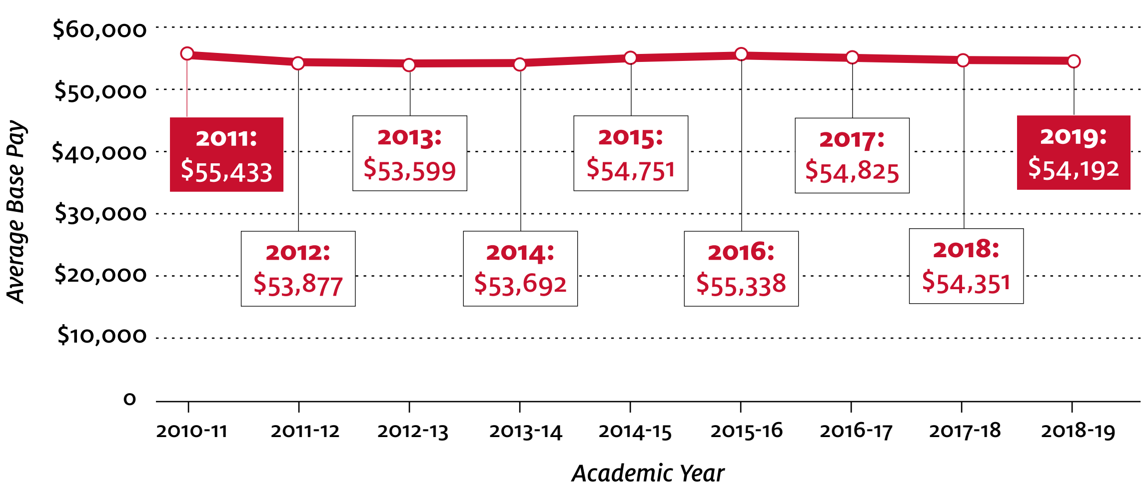
## Teacher Base Pay (in 2019 dollars)

| Academic Year | Total Base Pay | Total FTE | Average Base Pay |
|---|---|---|---|
| 2010-11 | $18,425,127,493 | 332,387 | $55,433 |
| 2011-12 | $17,385,931,824 | 322,699 | $53,877 |
| 2012-13 | $17,467,360,199 | 325,887 | $53,599 |
| 2013-14 | $17,863,346,740 | 332,699 | $53,692 |
| 2014-15 | $18,620,189,826 | 340,090 | $54,751 |
| 2015-16 | $19,091,836,809 | 345,006 | $55,338 |
| 2016-17 | $19,221,792,985 | 350,603 | $54,825 |
| 2017-18 | $19,263,984,438 | 354,437 | $54,351 |
| 2018-19 | $19,262,721,019 | 355,454 | $54,192 |

*Notes.* All amounts are in 2019 dollars. Excludes teachers who have any assignments at the district level (for the year). Average base pay is calculated as the total base pay for each year divided by the total FTE for the year.
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

**FIGURE 3.5**

## Average Base Pay of Teachers (in 2019 dollars)



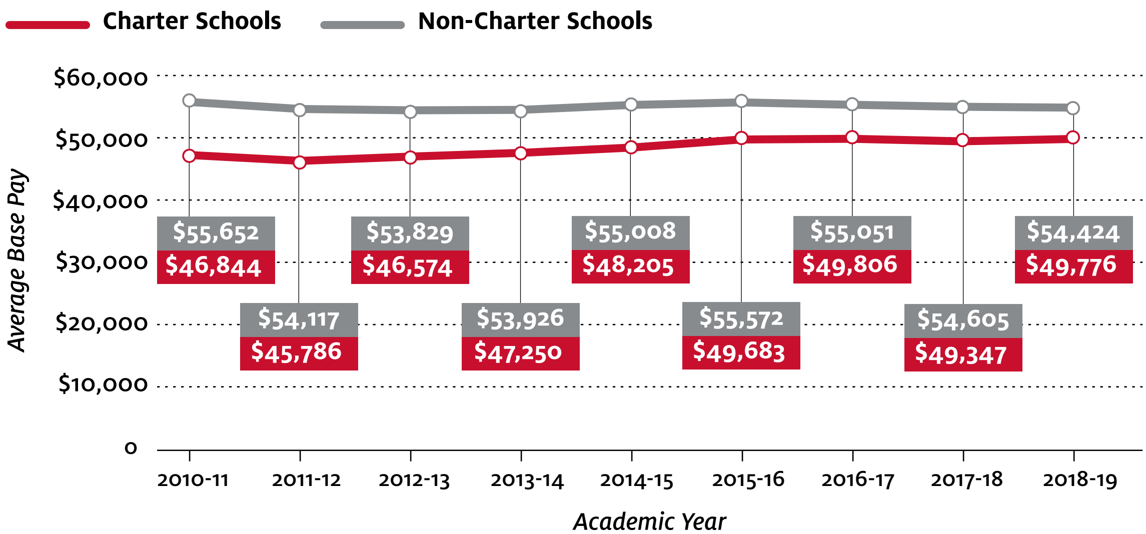

*Notes.* Excludes teachers with any assignments at the district level.
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

4 For the purposes of this report, we focus on general trends. Additional inferential analyses, available on request, considers salary disaggregation by key demographic characteristics.

As shown in Figure 3.6, on average, teachers at charter campuses are paid less than those at traditional public schools. The gap, however, has been gradually closing over time.

**FIGURE 3.6**

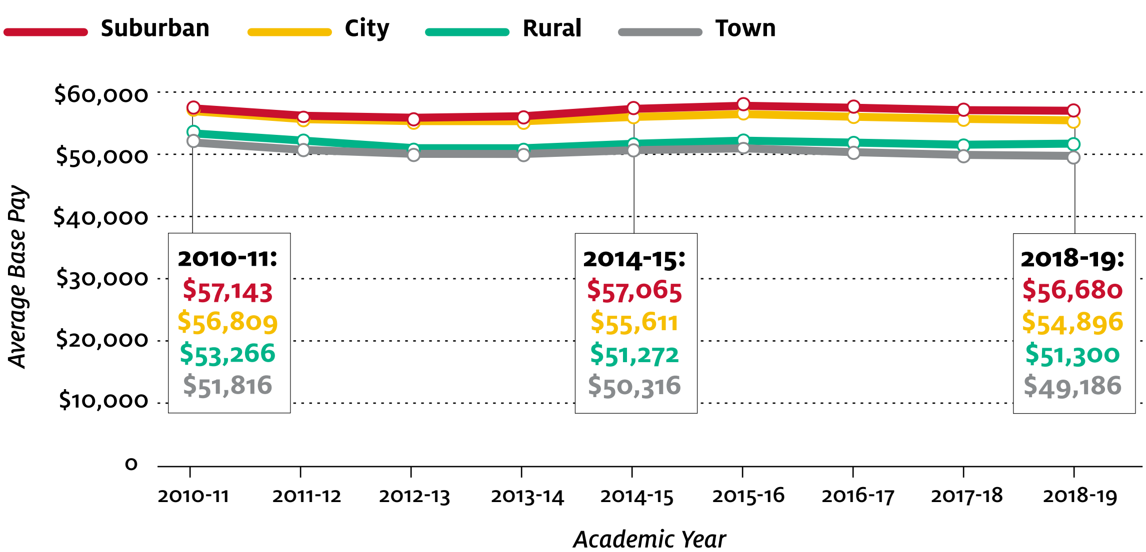
## Average Base Pay of Teachers by Charter School Campus Status (in 2019 dollars)




*Notes.* Excludes teachers with any assignments at the district level. Excludes cases with missing charter data.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

**FIGURE 3.7**

## Average Base Pay of Teachers by Urbanicity (in 2019 dollars)



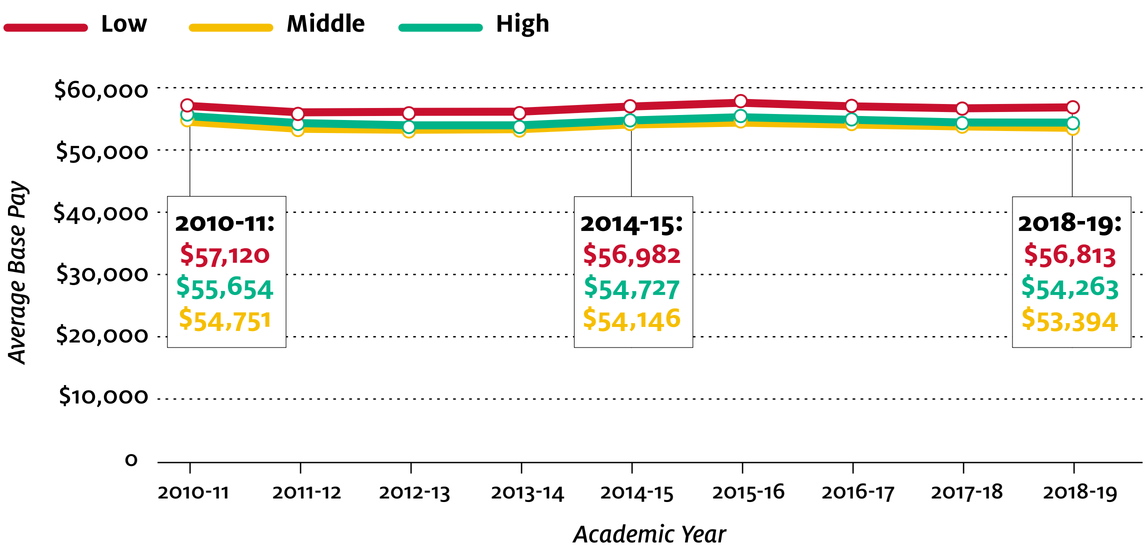

*Notes.* Excludes teachers with any assignments at the district level. Excludes cases with missing locale data. Locale is based on the four basic types from the NCES.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education and National Center for Education Statistics

Like many states, the average salaries of Texas teachers vary based on urbanicity. Teachers in rural settings have long been compensated less than teachers in urban areas (Jimerson, 2003; Ulferts, 2016). We see in Figure 3.7 that the average base pay for teachers in city and suburban locations is consistently higher than rural- and town-situated schools. In 2018-2019, the average salary of suburban teachers was approximately $7,494 higher than teachers in town locales.

Figure 3.8 highlights the average base pay of teachers by campus economic need. We see here that, from 2010-2011 to 2018-2019, teachers at low economic need schools consistently had a higher average base pay than teachers at campuses with high economic need. In 2018-2019, for example, a teacher at a more affluent (i.e., low economic need) school was paid $2,550 more than one at a school with a less affluent (i.e., high economic need) student population. Regarding the proportion of a campus's students at risk of dropping out, Figure 3.9 shows that teachers at low-, middle-, and high-risk campuses have relatively similar base pay averages across all years.

**FIGURE 3.8**

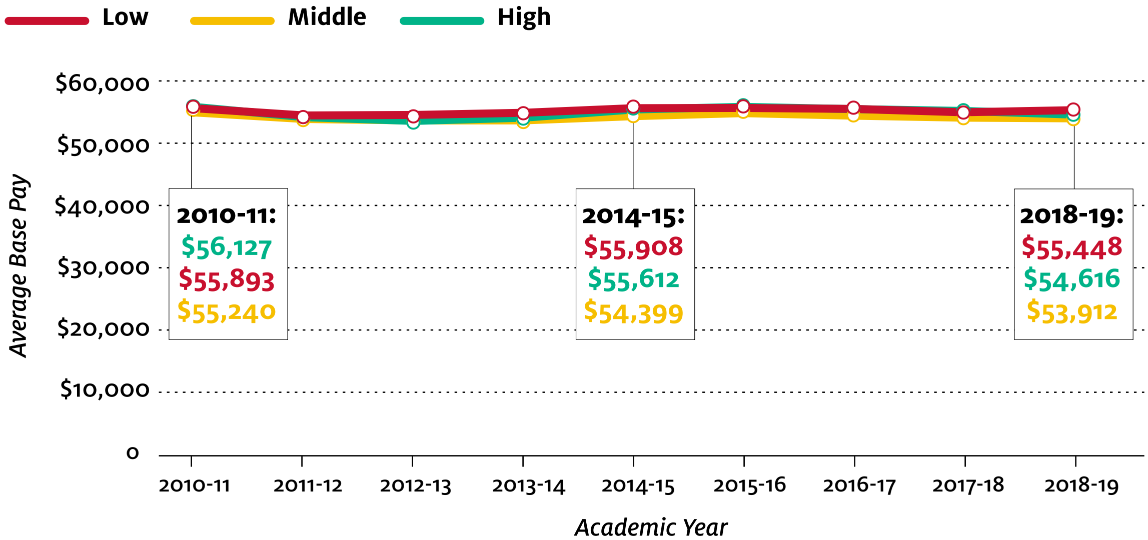
## Average Base Pay of Teachers by Campus Economic Need (in 2019 dollars)




*Notes.* Excludes teachers with any assignments at the district level. Campus need level is based on the percent of a campus's students experiencing economic disadvantage. Low-need campuses have less than or equal to 25% of their students experiencing economic disadvantage, middle-need campuses have more than 25% but less than or equal to 75%, and high-need campuses have more than 75%. Excludes cases with missing campus data.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

**FIGURE 3.9**

## Average Base Pay of Teachers by Campus Students At Risk of Dropping Out (in 2019 dollars)



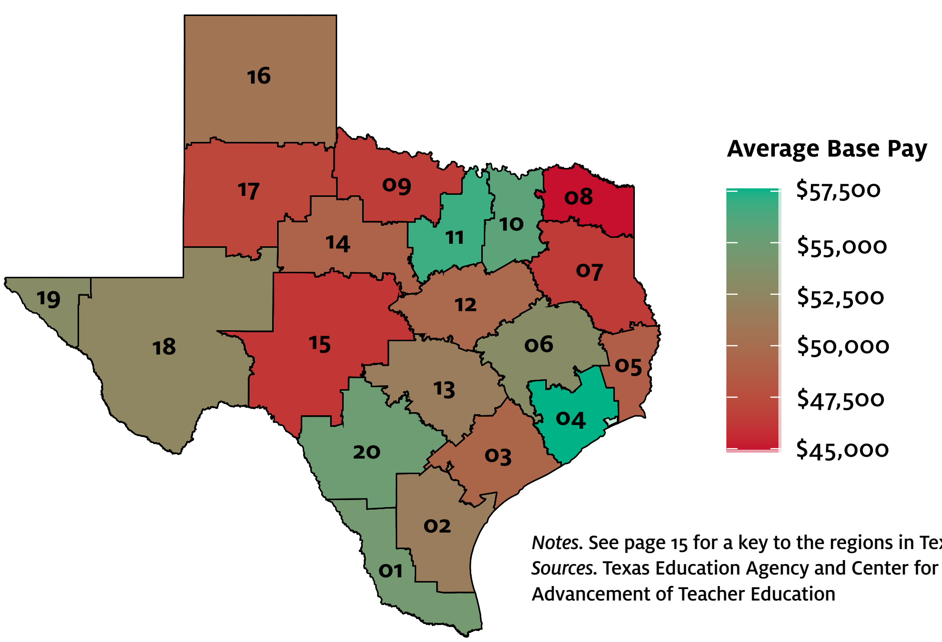

*Notes*. Excludes teachers with any assignments at the district level. Campus risk level is based on the percent of a campus's students at risk of dropping out. Low-need campuses have less than or equal to 25% of students at risk of dropping out, middle-need campuses have more than 25% but less than or equal to 75%, and high-need campuses have more than 75%. Excludes cases with missing campus data.
*Sources*. Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

### *Regional Trends in Salary*

Figure 3.10 presents data on the average base pay for teachers across Texas in 2018-2019. In this academic year, consistent with the urbanicity differences on page 46, teachers in major metropolitan areas had significantly higher average salaries than teachers in less heavily populated, less urban areas. For example, teachers

**FIGURE 3.10**

## Average Base Pay of Teachers in 2018-2019 by Region



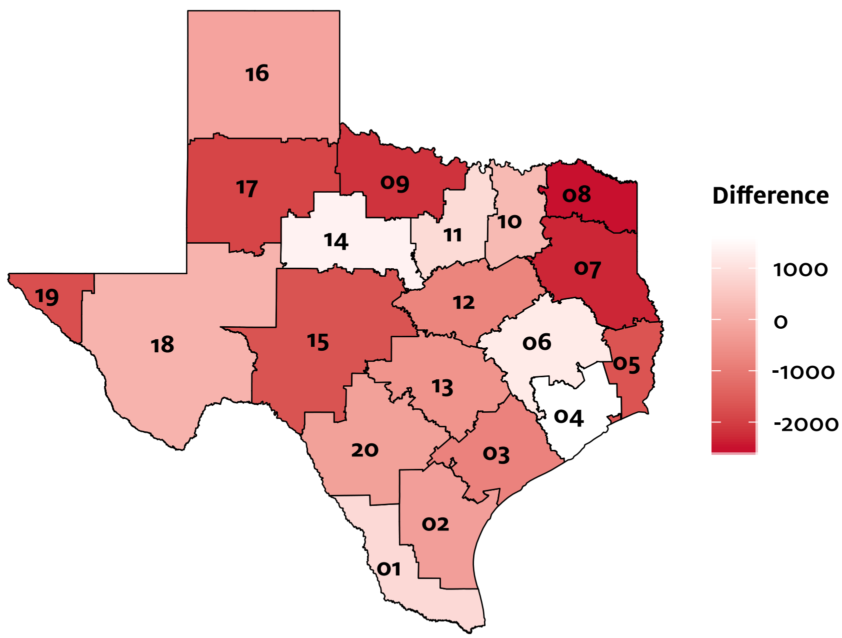

*Notes*. See page 15 for a key to the regions in Texas.
*Sources*. Texas Education Agency and Center for Research, Evaluation & Advancement of Teacher Education

in the Houston (Region 4), Richardson (Region 10), which is a part of Dallas, and Fort Worth (Region 11) areas averaged $57,818, $55,940, and $57,035, respectively, while teachers in the San Angelo (Region 15) area averaged $45,847.

In Figure 3.11, we see regional declines in teacher base pay across the state. Average yearly salaries for teachers in El Paso (Region 19), Lubbock (Region 17), Wichita Falls (Region 9), Mount Pleasant (Region 8), and Kilgore (Region 7) fell by as much as $2,500 from 2011-2012 to 2018-2019.

**FIGURE 3.11**

## Change in Average Base Pay from 2011-2012 to 2018-2019 by Region (in 2019 dollars)




*Notes.* Excludes teachers with any assignments at the district level. See page 15 for a key to the regions in Texas.
*Sources.* Texas Education Agency and Center for Research, Evaluation & Advancement of Teacher Education

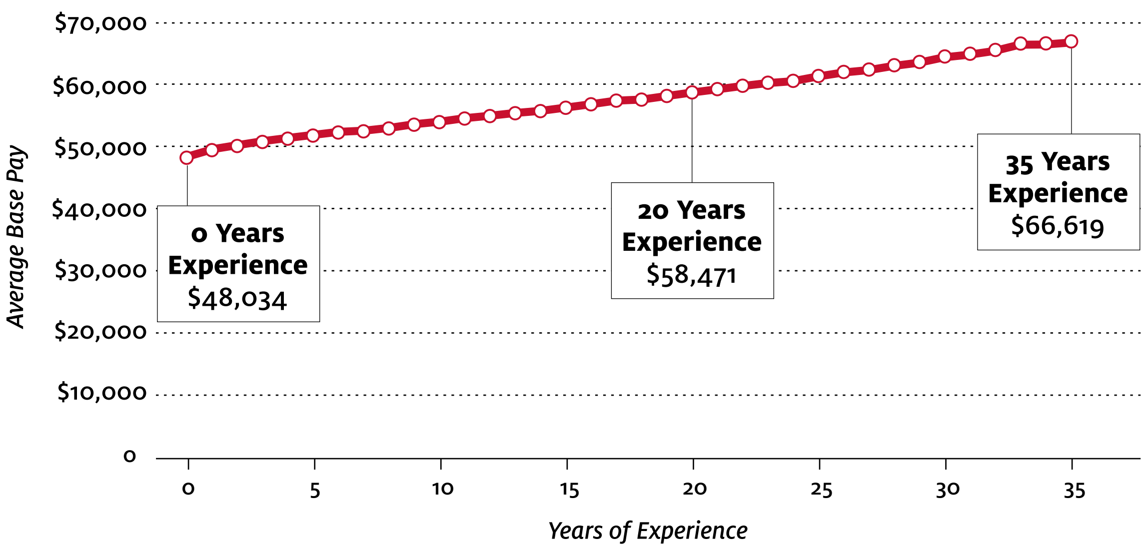
### *Statewide Salary by Experience*

Teacher experience has a significant relationship to student achievement (Clotfelter, Ladd, & Vigdor, 2007; Ladd & Sorensen, 2017). As such, understanding compensation patterns for teachers based on longevity remains integral to the development of personnel-related policies and practices (Rice, 2010). As shown in Figure 3.12, the average base pay of teachers in 2018-2019 increased according to years of experience. For example, teachers who had three years of experience averaged $50,556 in base pay compared with teachers with 25 years of experience who averaged $61,092.

Table 3.6 and Figure 3.13 further explore this phenomenon by examining the actual wage premium—or average increase in pay for each additional year of experience—for teachers over a 10-year period. From 2010-2011 to 2018-2019, the wage premium declined by nearly $190 (in 2019 dollars). For example, on average, the base pay (in 2019 dollars) for a teacher with 10 years of experience in 2010-2011 was $54,285, compared with $53,719 for someone who had 10 years of teaching experience in 2018-2019. This longitudinal analysis of wage premium highlights the need to further consider the implications of experience-focused compensation policies and practices.

**FIGURE 3.12**

## Average Base Pay of Teachers by Prior Experience in 2018-2019




*Notes.* Excludes experience greater than 35 years. Excludes teachers with any assignments at the district level.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

**TABLE 3.6**

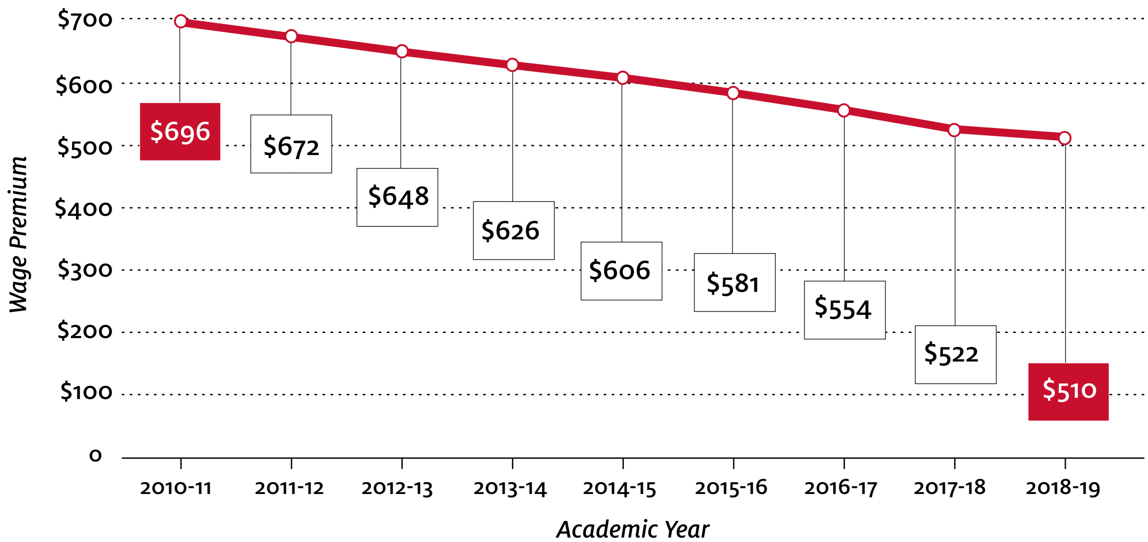
## Wage Premium for Each Additional Year of Experience (in 2019 dollars)

| Academic Year | Premium | Change Since 2011 |
|---|---|---|
| **2010-11** | $695.85 | |
| **2011-12** | $672.06 | −$23.80 |
| **2012-13** | $648.07 | −$47.79 |
| **2013-14** | $626.37 | −$69.48 |
| **2014-15** | $605.77 | −$90.08 |
| **2015-16** | $581.47 | −$114.38 |
| **2016-17** | $553.77 | −$142.08 |
| **2017-18** | $522.39 | −$173.46 |
| **2018-19** | $509.63 | −$186.22 |

*Source.* Center for Research, Evaluation & Advancement of Teacher Education

**FIGURE 3.13**

## Wage Premium for Each Additional Year of Experience (in 2019 Dollars)




*Notes.* Wage premium is the average increase in base pay for each additional year of experience.
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

### Teacher Mobility

We address teacher mobility in six ways. First, we look at how teachers move between campuses. Second, we look at how teachers move between sectors (e.g., charter schools). Third, we look at stayer rates by campus and sector. Fourth, we look at stayer rates by district group. Fifth, we consider the average years of experience by campus. And finally, we look at movement between the ESC regions.

Findings show that around 80% of teachers typically remain at the same campus from one year to the next, with around 10% not returning as a teacher in any district. Additionally, charter schools generally turn over teachers at a higher rate (around 40%).

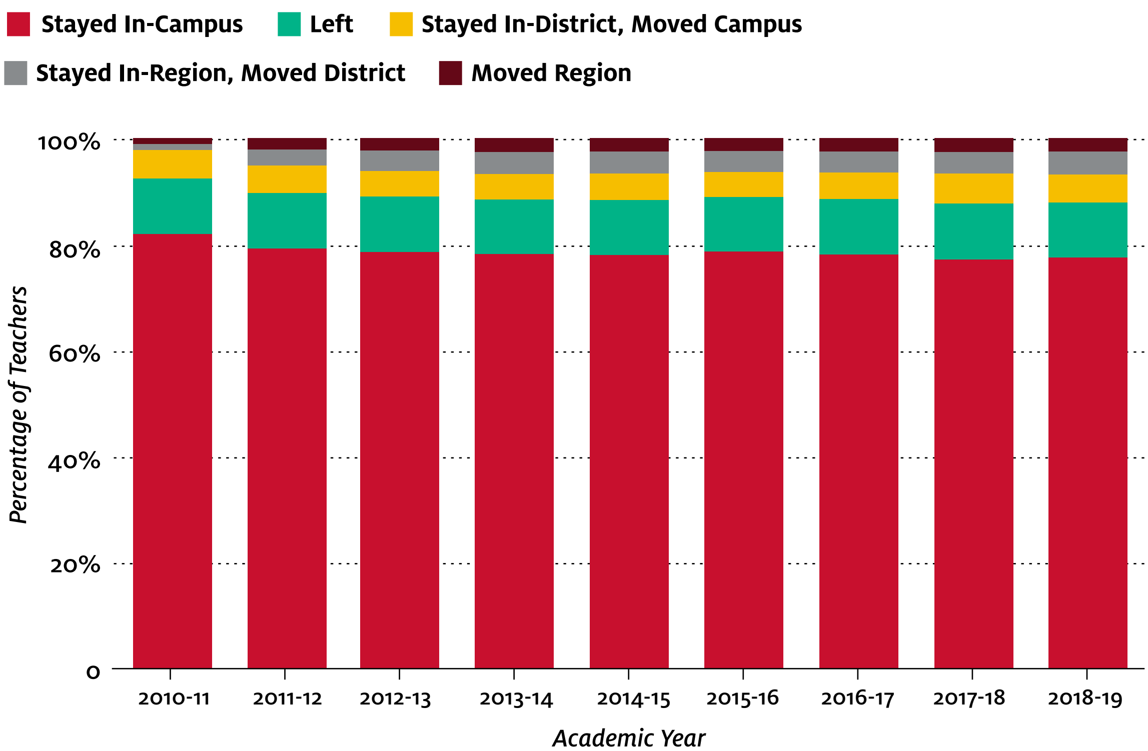
### *Teacher Transitions by Campus*

In this section, we consider the transition of teachers from one year to the next. For each year, we look at the teacher's campus (or where they spend the majority of the time) from the prior academic year to the following one. We identify five possible transitions: staying in the same campus; staying within the same district but moving campuses; staying within the same region but moving districts; moving to a district in a different region; or leaving the teaching pool. Those who left might have retired, changed careers, moved into non-teaching positions, or moved to a different state.

From 2010-2011 to 2018-2019, the majority of the 361,962 Texas teachers remained in their campus (Figure 3.14). Regarding teachers who transitioned, a higher percentage left the teaching pool than moved within their district to a new campus or stayed with the region and moved districts. For example, Figure 3.14 shows that in 2018-2019, 77.5% of teachers stayed in the same campus, 10.3% left the teaching pool, 5.3% stayed in the district but moved to a different campus, 4.4% stayed in the region but changed districts, and 2.6% moved to teach in a different region.

**FIGURE 3.14**

## Teacher Year-to-Year Campus Transition




*Notes.* The academic year indicates the first year of a transition; for example 2010-11 represents the transition between academic years 2010-11 and 2011-12. Teachers who "left" were no longer a teacher in the subsequent year. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.

*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

### *Teacher Movement by Educational Sector*

In this section, we look at teacher movement by three sector groups: charter, campus economic need, and the proportion of students at risk of dropping out. For this section, we do not consider whether the teacher remained in a particular campus; instead we focus on sector movement. For example, if a teacher was at a charter campus in one year and moved to a different charter campus in the next, we would consider that teacher as staying in the charter sector.

As a group, charter schools have more attrition than non-charter ones. As shown in Table 3.7, 20.4% of teachers who worked in a charter school in 2017-2018 left compared with 10.1% of teachers who left non-charters. Similarly, 89.6% of teachers who started in non-charter schools stayed, while 71.7% of teachers remained in a charter campus. Taken together, this suggests that, as a field, charters face a greater challenge to retain their teachers than their non-charter counterparts.

**TABLE 3.7**

## Teacher Movement by Charter Sector

| | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 |
|---|---|---|---|---|---|---|---|---|
| **Started in non-charter** | | | | | | | | |
| Stayed in non-charter | 89.6% | 89.6% | 89.5% | 89.7% | 89.7% | 89.7% | 89.6% | 89.6% |
| Left non-charter | 10.2% | 10.2% | 10.3% | 10.0% | 10.0% | 10.0% | 10.1% | 10.1% |
| Non-charter to charter | 0.2% | 0.2% | 0.3% | 0.3% | 0.3% | 0.3% | 0.3% | 0.3% |
| **Started in charter** | | | | | | | | |
| Stayed in charter | 70.4% | 65.7% | 65.7% | 67.6% | 67.3% | 71.1% | 71.3% | 71.7% |
| Left charter | 25.6% | 22.7% | 20.7% | 19.6% | 20.7% | 19.7% | 20.0% | 20.4% |
| Charter to non-charter | 4.0% | 11.6% | 13.5% | 12.8% | 12.0% | 9.1% | 8.7% | 7.9% |
| **Started not in dataset** | | | | | | | | |
| Joined non-charter | 91.8% | 89.9% | 89.6% | 89.6% | 88.9% | 88.4% | 86.8% | 87.5% |
| Joined charter | 8.2% | 10.1% | 10.4% | 10.4% | 11.1% | 11.6% | 13.2% | 12.5% |

*Notes.* The academic year indicates the first year of a transition; for example 2010-11 represents the transition between academic years 2010-11 and 2011-12. Teachers who "left" were no longer a teacher in the subsequent year. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

Second, we considered the economic conditions experienced by a campus's students (regardless of charter status). Specifically, we identified three sectors of campuses based on the percentage of students experiencing economic disadvantage. Low-need campuses had less than or equal to 25% of their students experiencing economic disadvantage, while high-need campuses had more than 75%. As shown in Table 3.8, teachers who are in low-need campuses (i.e., had less than or equal to 25% of their students experiencing economic disadvantage) are somewhat less likely to remain in such campuses when compared with the other two types. Still, teachers who are in high-need campuses are slightly more likely to leave teaching than those in low-need campuses.

**TABLE 3.8**

## Teacher Movement by Campus Need Sector

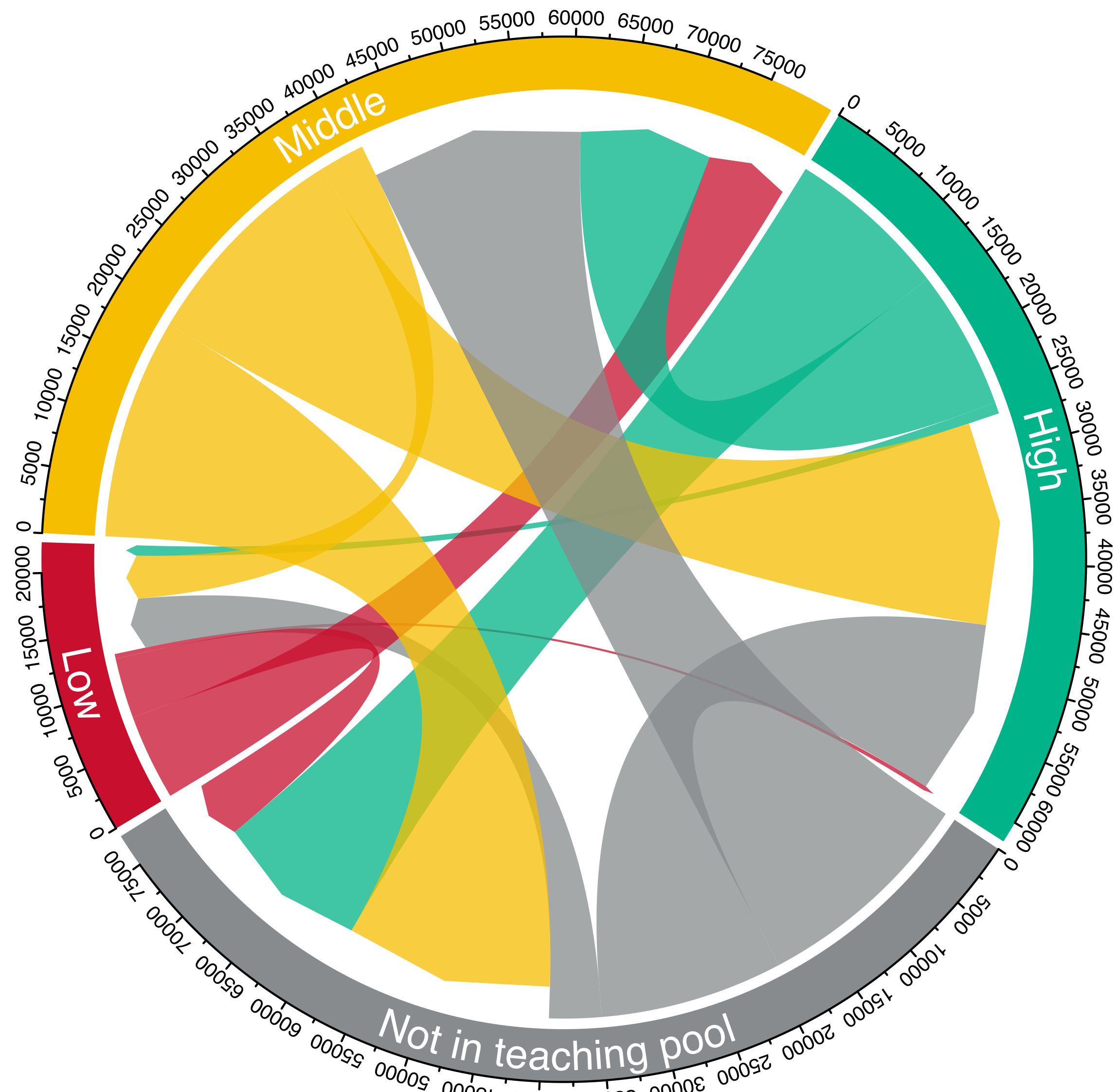
| | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 |
|---|---|---|---|---|---|---|---|---|
| **Started in low-need** | | | | | | | | |
| Stayed in low-need | 74.8% | 81.1% | 83.1% | 83.2% | 82.8% | 81.6% | 81.9% | 75.6% |
| Moved to middle-need | 11.9% | 8.9% | 6.7% | 6.9% | 7.4% | 8.2% | 8.0% | 13.9% |
| Moved to high-need | 4.1% | 0.6% | 0.6% | 0.6% | 0.7% | 0.8% | 0.7% | 0.7% |
| Left | 9.2% | 9.4% | 9.6% | 9.2% | 9.1% | 9.5% | 9.4% | 9.8% |
| **Started in middle-need** | | | | | | | | |
| Stayed in middle-need | 82.7% | 82.3% | 81.6% | 82.2% | 80.2% | 81.1% | 79.8% | 77.1% |
| Moved to low-need | 1.3% | 2.4% | 3.0% | 3.1% | 2.4% | 2.7% | 3.0% | 2.2% |
| Moved to high-need | 5.4% | 4.8% | 4.9% | 4.4% | 7.2% | 6.0% | 6.5% | 10.3% |
| Left | 10.6% | 10.5% | 10.5% | 10.3% | 10.2% | 10.2% | 10.7% | 10.5% |
| **Started in high-need** | | | | | | | | |
| Stayed in high-need | 83.2% | 81.1% | 79.7% | 75.5% | 78.9% | 78.7% | 77.5% | 78.6% |
| Moved to low-need | 0.3% | 0.5% | 0.7% | 0.7% | 0.8% | 0.7% | 0.8% | 0.8% |
| Moved to middle-need | 5.4% | 7.3% | 8.4% | 12.9% | 9.1% | 9.5% | 10.9% | 9.5% |
| Left | 11.1% | 11.1% | 11.2% | 10.9% | 11.2% | 11.1% | 10.8% | 11.1% |
| **Started not in the dataset** | | | | | | | | |
| Joined low-need | 7.7% | 10.1% | 10.3% | 10.8% | 11.2% | 11.2% | 11.3% | 11.4% |
| Joined middle-need | 57.7% | 48.6% | 46.9% | 48.5% | 47.3% | 47.8% | 48.2% | 48.7% |
| Joined high-need | 34.7% | 41.3% | 42.8% | 40.8% | 41.5% | 41.0% | 40.5% | 39.9% |

*Notes.* The academic year indicates the first year of a transition; for example 2010-11 represents the transition between academic years 2010-11 and 2011-12. Need group is based on the percentage of students experiencing economic disadvantage. Low-group campuses have less than or equal to 25%, middle-group campuses have more than 25% but less than or equal to 75%, and high-group campuses have more than 75%. Teachers who "left" were no longer a teacher in the subsequent year. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most. Includes both traditional and charter campuses.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

Figure 3.15 shows teachers' movements between the 2017-2018 and 2018-2019 academic years across the three sector levels described above as well as movement out of the teaching sector.[5] As shown by the in-migration for the high-need group (with a larger proportion of students experiencing economic disadvantage), a larger proportion of teachers entered such schools than left. Conversely, more teachers left middle- and low-need sectors than remained. In 2017-2018, high-need sectors accounted for 35% of all teaching positions, while low-need sectors accounted for just 14.7%. Middle-need sectors constituted the largest group at 50.3%.

**FIGURE 3.15**

## Teacher Movement, Year One to Year Two, Between Percentage Groups of Campus Students Experiencing Economic Disadvantage, 2017-2018 to 2018-2019




*Notes.* Transition between 2017-2018 and 2018-2019 academic years. This only includes teachers who changed campus need level (i.e., teachers who taught at *different* campuses but at the same level are excluded).
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

5 Teachers who remained within the same campus sector between year one and year two are not included in the figure. These teachers could have remained at their campus or moved to a different campus in the same sector.

We also consider the proportion of a campus's students who are at risk of dropping out (regardless of charter status or percentage of students experiencing economic disadvantage). As shown in Table 3.9, teachers who are at a low at-risk campus (i.e., a campus where less than or equal to 25% of their students are identified as at risk of dropping out) are somewhat more likely to remain in such a campus when compared with those at high at-risk schools. Teachers at high at-risk schools—campuses with more than 75% of their students at risk of dropping out—are also more likely to leave the teaching workforce than middle or low at-risk campuses. Interestingly, teachers are most likely to remain in the middle at-risk sector than either of the other groups.

**TABLE 3.9**

## Teacher Movement by Student At-Risk Sector

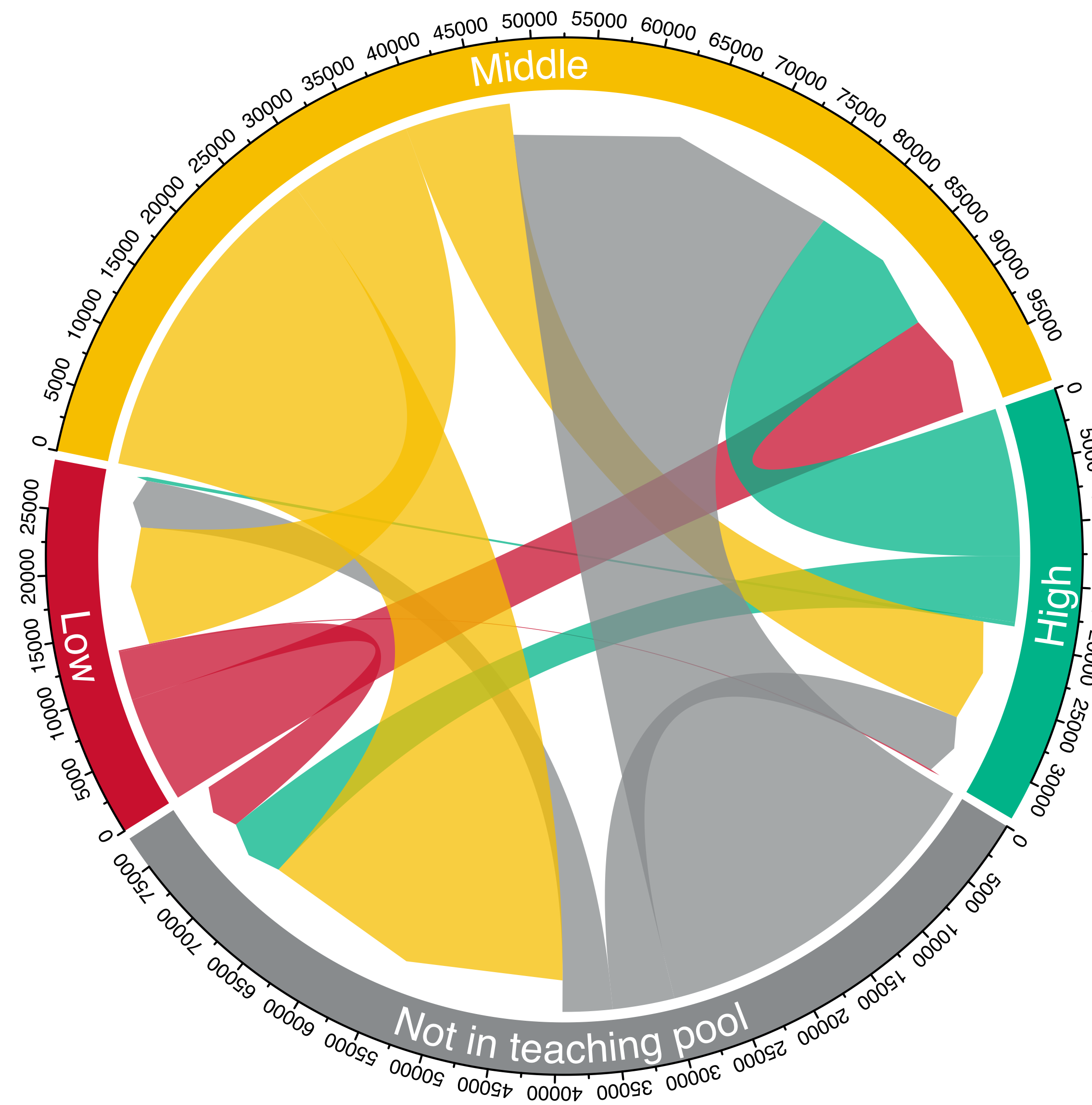
| | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 |
|---|---|---|---|---|---|---|---|---|
| **Started in low at-risk school** | | | | | | | | |
| Stayed in low at-risk | 76.4% | 73.0% | 53.0% | 67.5% | 71.3% | 68.5% | 63.5% | 67.7% |
| Moved to middle at-risk | 14.1% | 17.0% | 36.5% | 22.4% | 18.7% | 21.3% | 26.3% | 21.9% |
| Moved to high at-risk | 0.2% | 0.3% | 0.4% | 0.4% | 0.4% | 0.6% | 0.5% | 0.3% |
| Left | 9.3% | 9.8% | 10.2% | 9.6% | 9.6% | 9.6% | 9.7% | 10.1% |
| **Started in middle at-risk school** | | | | | | | | |
| Stayed in middle at-risk | 82.9% | 82.0% | 81.0% | 81.6% | 82.4% | 82.2% | 81.9% | 82.2% |
| Moved to low at-risk | 4.2% | 5.0% | 2.2% | 3.0% | 4.1% | 3.7% | 3.5% | 3.9% |
| Moved to high at-risk | 2.3% | 2.4% | 6.2% | 5.0% | 3.1% | 3.7% | 4.1% | 3.3% |
| Left | 10.7% | 10.6% | 10.7% | 10.3% | 10.3% | 10.4% | 10.5% | 10.5% |
| **Started in high at-risk school** | | | | | | | | |
| Stayed in high at-risk | 64.1% | 62.5% | 71.3% | 69.0% | 62.0% | 65.8% | 68.2% | 61.9% |
| Moved to low at-risk | 0.6% | 0.9% | 0.6% | 0.6% | 0.7% | 0.6% | 0.8% | 0.7% |
| Moved to middle at-risk | 23.5% | 25.2% | 16.9% | 19.1% | 25.8% | 22.2% | 19.6% | 25.9% |
| Left | 11.8% | 11.5% | 11.1% | 11.3% | 11.5% | 11.3% | 11.4% | 11.5% |
| **Started not in the dataset** | | | | | | | | |
| Joined low at-risk | 12.8% | 16.0% | 10.3% | 9.1% | 10.7% | 10.0% | 10.0% | 10.8% |
| Joined middle at-risk | 78.0% | 74.4% | 75.8% | 73.1% | 73.7% | 74.7% | 74.4% | 75.8% |
| Joined high at-risk | 9.2% | 9.6% | 13.9% | 17.9% | 15.6% | 15.3% | 15.6% | 13.4% |

*Notes.* The academic year indicates the first year of a transition; for example 2010-11 represents the transition between academic years 2010-11 and 2011-12. At-risk level is based on the percentage of a campus's students identified as at risk of dropping out. Low at-risk campuses have less than or equal to 25%, middle at-risk campuses have more than 25% but less than or equal to 75%, and high at-risk campuses have more than 75%. Teachers who "left" were no longer a teacher in the subsequent year. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most. Includes both traditional and charter campuses.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

Figure 3.16 shows teacher movement from 2017-2018 to 2018-2019 across schools with varying levels of students at risk of dropping out, as well as movement out of the teaching sector.[6] As shown by the outmigration for the high at-risk group, a larger proportion of teachers either changed to a lower at-risk level or left the teaching pool than entered high at-risk schools. Conversely, more teachers joined middle and low at-risk sectors than left. In 2017-2018, the vast majority, 74.8%, of teachers were at middle at-risk campuses. High at-risk campuses accounted for 13.6% of teachers while low at-risk campuses accounted for 11.6%.

**FIGURE 3.16**

## Teacher Movement, Year One to Year Two, Between Percentage Groups of Campus Students At Risk of Dropping Out, 2017-2018 to 2018-2019




*Notes.* Transition between 2017-2018 and 2018-2019 academic years. This only includes teachers who changed at-risk campus level (i.e., teachers who taught at different campuses but at the same level are excluded).
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

6 Again, teachers who remained within a campus sector are not included in the figure. These teachers could have remained at their campus or moved to a different campus in the same sector.

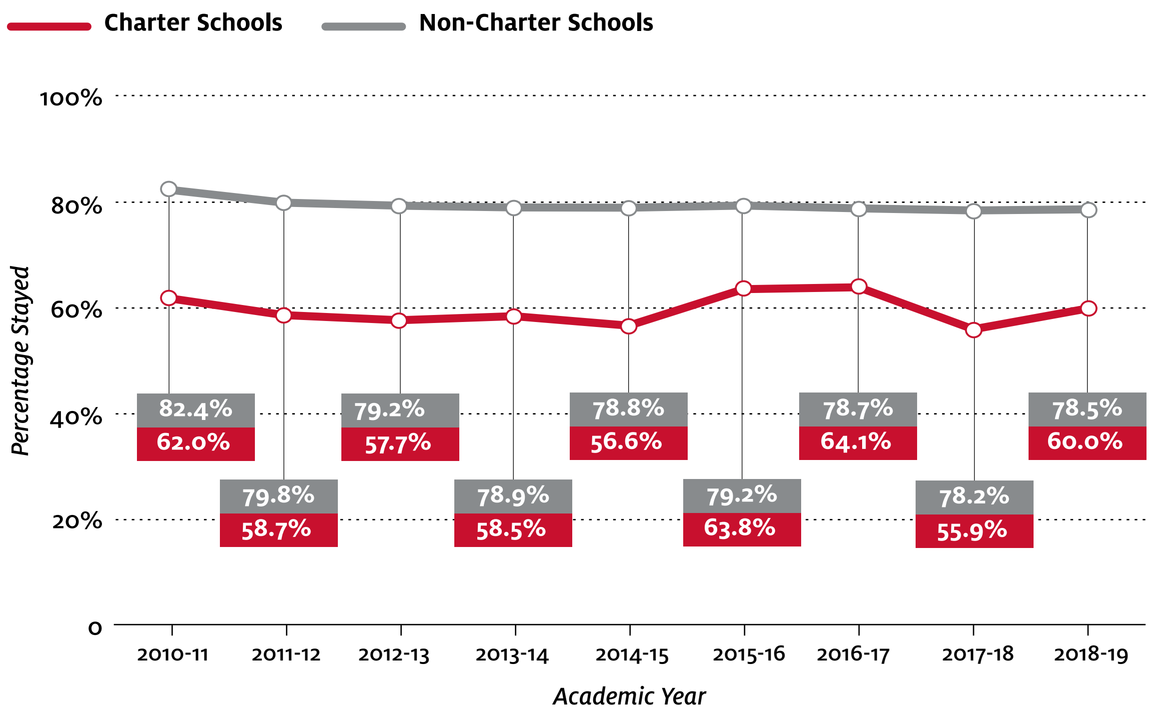
### *Rates of Teachers Staying at the Same Campus by Sector*

In this section, we consider rates of teachers remaining at the same campus from one year to the next by sector. This is tracked year to year for each campus and does not consider the type of transition away from the campus (e.g., whether the teacher moved to a different campus or left teaching entirely).

As shown in Figure 3.17, charter campuses have a lower average staying rate than non-charter ones. For example, between 2018-2019 and 2019-2020, an average of 60% of teachers at charter campuses stayed at their campus compared with 78.5% of teachers at non-charter schools.

**FIGURE 3.17**

## Rate of Teachers Staying at the Same Campus by Charter School Campus Status



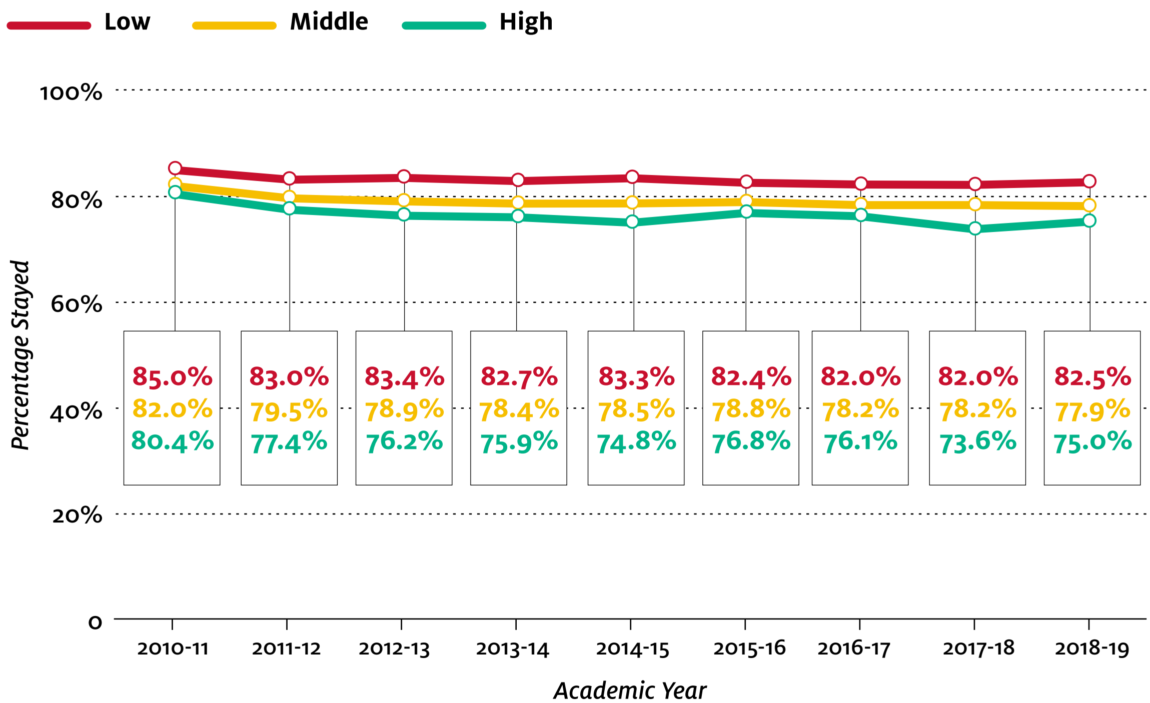

*Notes.* The academic year indicates the first year of a transition; for example, 2010-11 represents the transition between academic years 2010-11 and 2011-12. Teachers stayed if they were at the campus the following year. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.

*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

As shown in Figure 3.18, the rates at which teachers remain at the same campus also differ somewhat by the proportion of a campus's students who experience economic disadvantage. Specifically, on average between 2018-2019 and 2019-2020, campuses with high economic need had 75% of their teachers stay compared with 82.5% for low economic need and 77.9% for middle economic need campuses.

**FIGURE 3.18**

## Rate of Teachers Staying at the Same Campus by Campus Economic Need

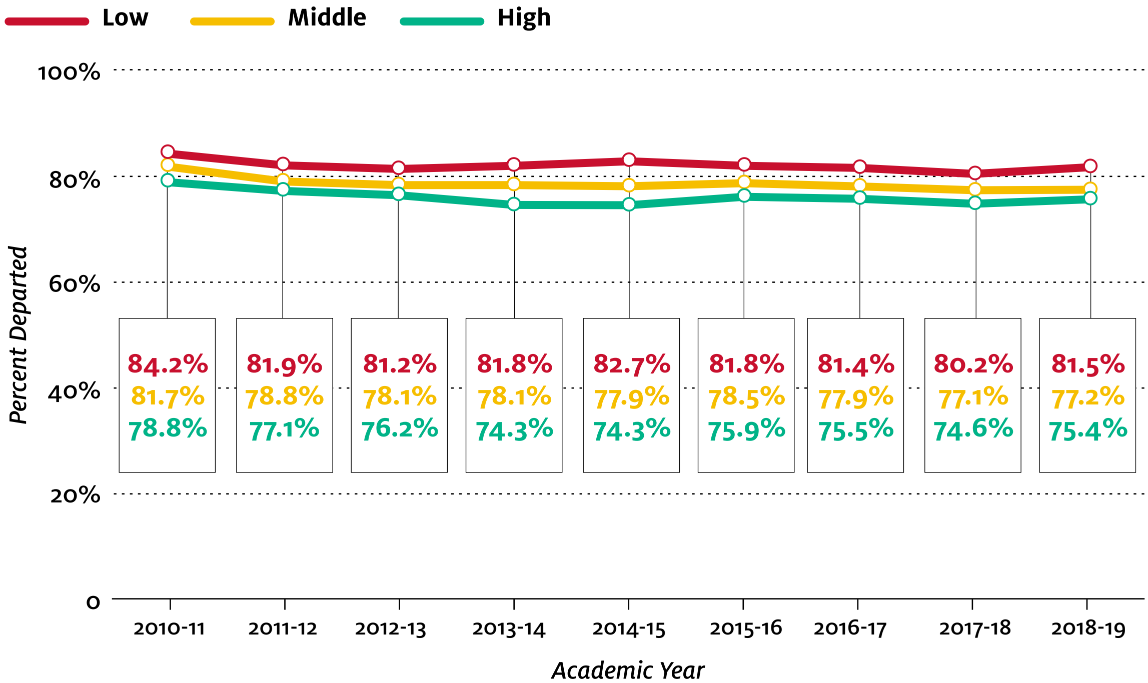



*Notes.* The academic year indicates the first year of a transition; for example, 2010-11 represents the transition between academic years 2010-11 and 2011-12. Campus need level is based on the percent of a campus's students experiencing economic disadvantage. Low-need campuses have less than or equal to 25% of their students experiencing economic disadvantage, middle-need campuses have more than 25% but less than or equal to 75%, and high-need campuses have more than 75%. Teachers stayed if they were at the campus the following year. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

The rates of teachers staying at the same campus also slightly differ by the percentage of a campus's student population at risk of dropping out (Figure 3.19). Between 2018-2019 and 2019-2020, campuses with few students at risk had 81.5% of their teachers stay compared with 77.2% and 75.4% for middle- and high-risk campuses, respectively. Finally, rates of teachers staying at the same campus by district type also varied (Table 3.10). Charter school and rural districts had the lowest average staying rates at 64.6% and 79.6%, respectively.

**FIGURE 3.19**

## Rate of Teachers Staying at the Same Campus by Students At Risk of Dropping Out




*Notes.* The academic year indicates the first year of a transition; for example, 2010-11 represents the transition between academic years 2010-11 and 2011-12. Campus risk level is based on the percent of a campus's students at risk of dropping out. Low-need campuses have less than or equal to 25% of students at risk of dropping out, middle-need campuses have more than 25% but less than or equal to 75%, and high-need campuses have more than 75%. Teachers stayed if they were at the campus the following year. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

**TABLE 3.10**

## Rate of Teachers Staying at the Same Campus by District Group

| District Group | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | Average |
|---|---|---|---|---|---|---|---|---|---|
| Major urban | 87.7% | 85.4% | 84.6% | 84.4% | 84.4% | 84.4% | 84.7% | 84.5% | 85.0% |
| Major suburban | 88.1% | 85.6% | 84.0% | 84.0% | 83.9% | 84.2% | 84.2% | 84.4% | 84.8% |
| Other central city | 89.4% | 86.1% | 85.9% | 85.4% | 85.9% | 85.9% | 84.8% | 85.1% | 86.0% |
| Other central city suburban | 88.1% | 85.9% | 84.9% | 84.8% | 85.1% | 84.5% | 84.5% | 84.8% | 85.3% |
| Independent town | 87.0% | 82.7% | 81.0% | 80.8% | 80.3% | 80.9% | 79.3% | 79.9% | 81.5% |
| Non-Metropolitan fast growing | 88.8% | 83.0% | 82.8% | 81.2% | 84.2% | 82.8% | 81.2% | 82.0% | 83.8% |
| Non-Metropolitan stable | 85.2% | 82.0% | 81.8% | 80.1% | 80.8% | 80.7% | 80.8% | 80.3% | 81.5% |
| Rural | 83.5% | 80.0% | 79.8% | 78.5% | 79.0% | 79.5% | 78.9% | 78.5% | 79.6% |
| Charter school districts | 65.2% | 62.8% | 61.0% | 62.0% | 60.7% | 68.2% | 68.5% | 65.5% | 64.6% |

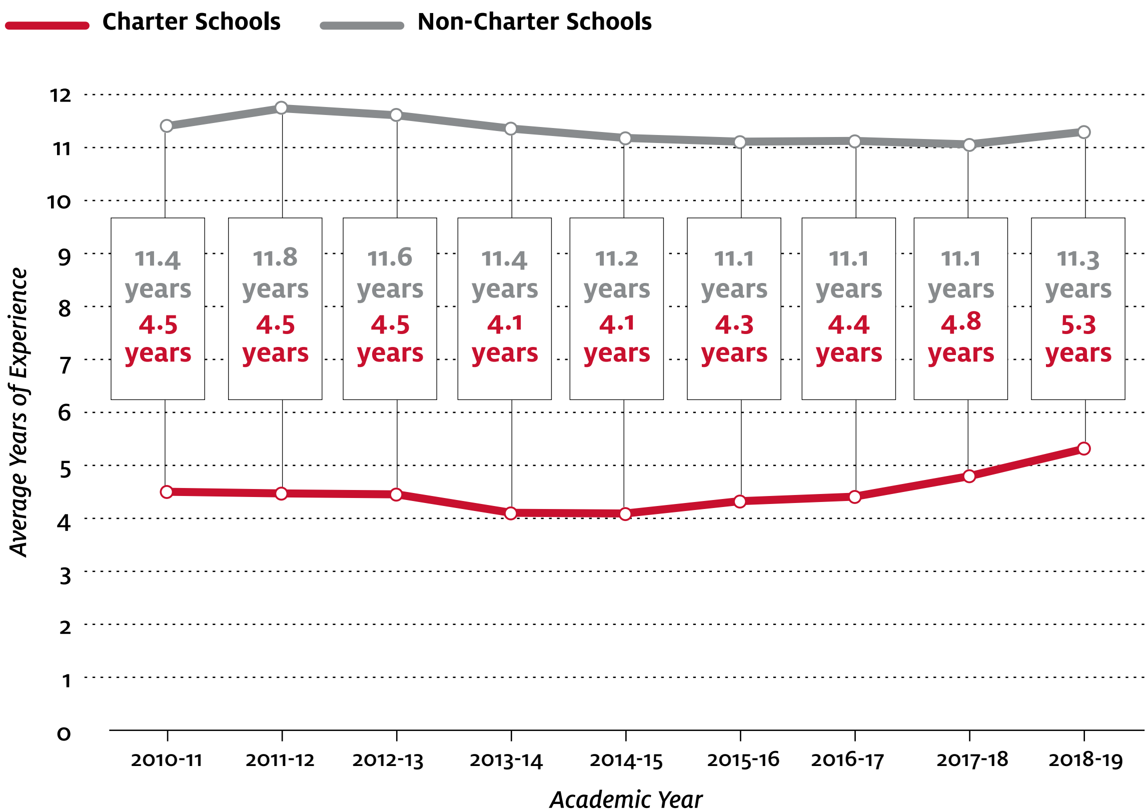
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education and Texas Education Agency

### *Average Years of Experience*

In this section, we analyze the average years of experience for campus teachers by sector. As shown in Figure 3.20, charter campuses have teachers with far less experience, on average, than their non-charter counterparts. In 2018-2019, for example, the average experience for teachers at charter schools was 5.3 years, but it was 11.3 for non-charter schools.

**FIGURE 3.20**

## Average Teacher Experience by Charter School Campus Status

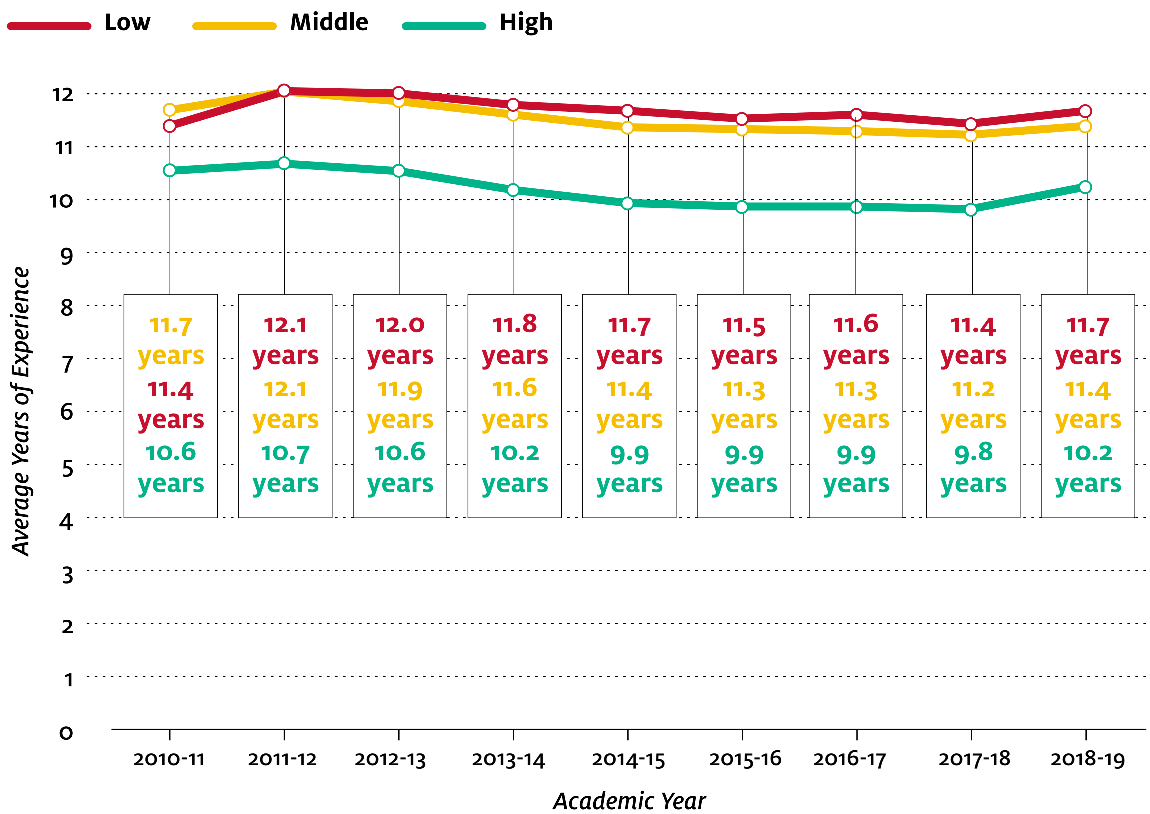



*Notes.* Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

Similarly, the average experience is somewhat different between campuses with high economic need and those with low or middle economic need. In 2018-2019, for example, the average experience for teachers in schools with high economic need was 10.2 years, whereas for low and middle economic need schools the average experience was 11.7 and 11.4, respectively (Figure 3.21). One possible explanation is that as teachers gain experience, they somewhat tend to move toward schools with less economic need. Alternatively, teachers at campuses with high economic need may simply leave the profession earlier.

**FIGURE 3.21**

## Average Teacher Experience by Campus Economic Need

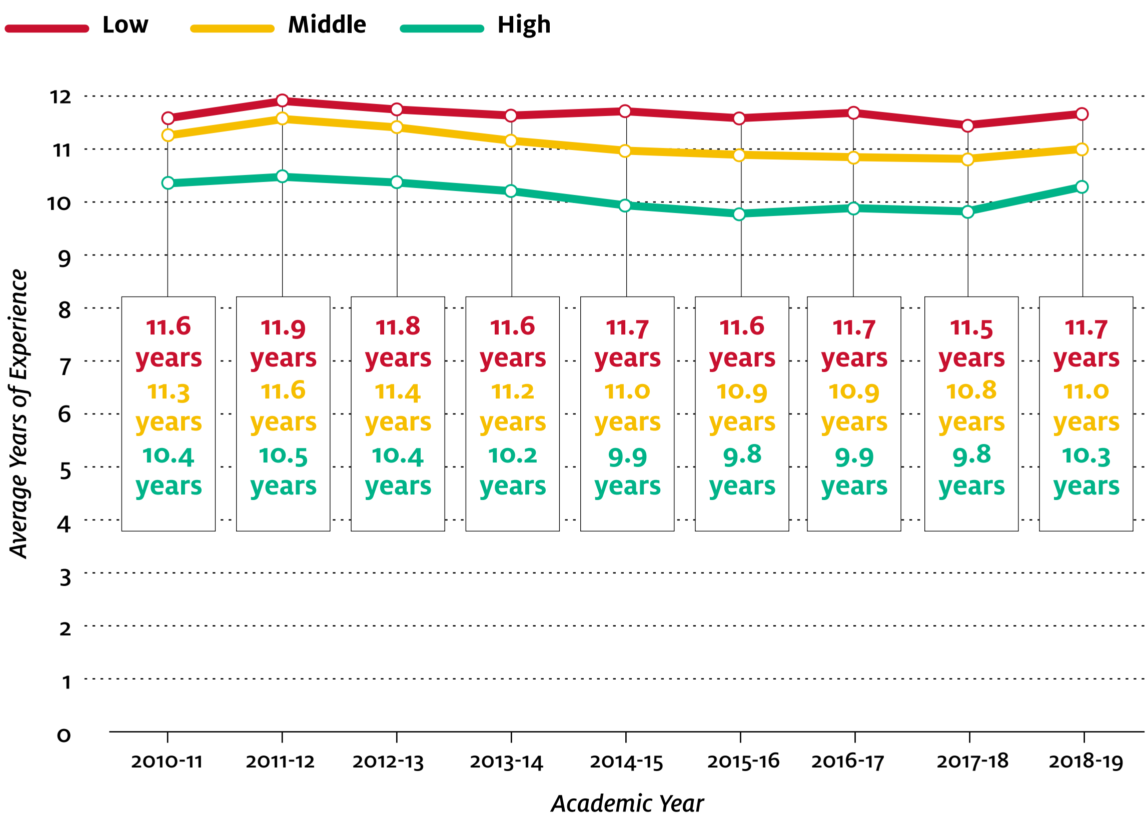



*Notes.* Campus need level is based on the percent of a campus's students experiencing economic disadvantage. Low-need campuses have less than or equal to 25% of their students experiencing economic disadvantage, middle-need campuses have more than 25% but less than or equal to 75%, and high-need campuses have more than 75% Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

Average teaching experience also differs by how much of the student population is identified as being at risk of dropping out. As shown in Figure 3.22, the average years of experience for teachers with fewer students at risk of dropping out in the school was higher in 2018-2019: 11.7 years of experience for teachers at low at-risk schools, compared with 11 years at middle at-risk schools and 10.3 years at high at-risk schools.

**FIGURE 3.22**

## Average Teacher Experience by Campus Students At Risk of Dropping Out

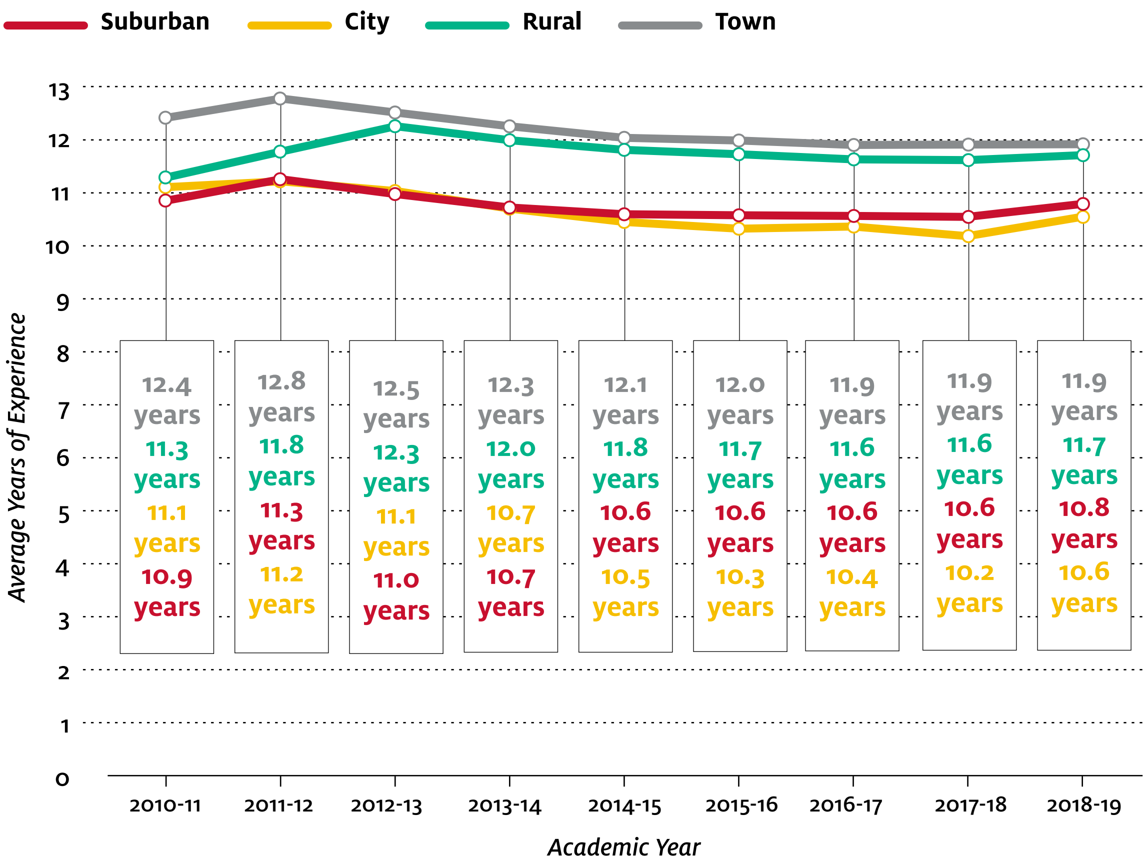



*Notes.* Campus risk level is based on the percent of a campus's students at risk of dropping out. Low-need campuses have less than or equal to 25% of students at risk of dropping out, middle-need campuses have more than 25% but less than or equal to 75%, and high-need campuses have more than 75%. Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

Figure 3.23 shows the average teacher experience by urbanicity. As shown, town and rural teachers tend to have more experience than those at suburban or city schools. In 2018-2019, schools in towns averaged 11.9 years of teacher experience, and rural ones averaged 11.7 years. Suburban schools averaged 10.8 years while city schools averaged 10.6 years. It is worth noting that despite relatively more-experienced teachers in rural and town campuses, salaries for these locales are lower on average. Said differently, the wage premium for teacher experience does not overcome the wage disadvantage for rural and town teachers.

**FIGURE 3.23**

## Average Teacher Experience by Campus Urbanicity



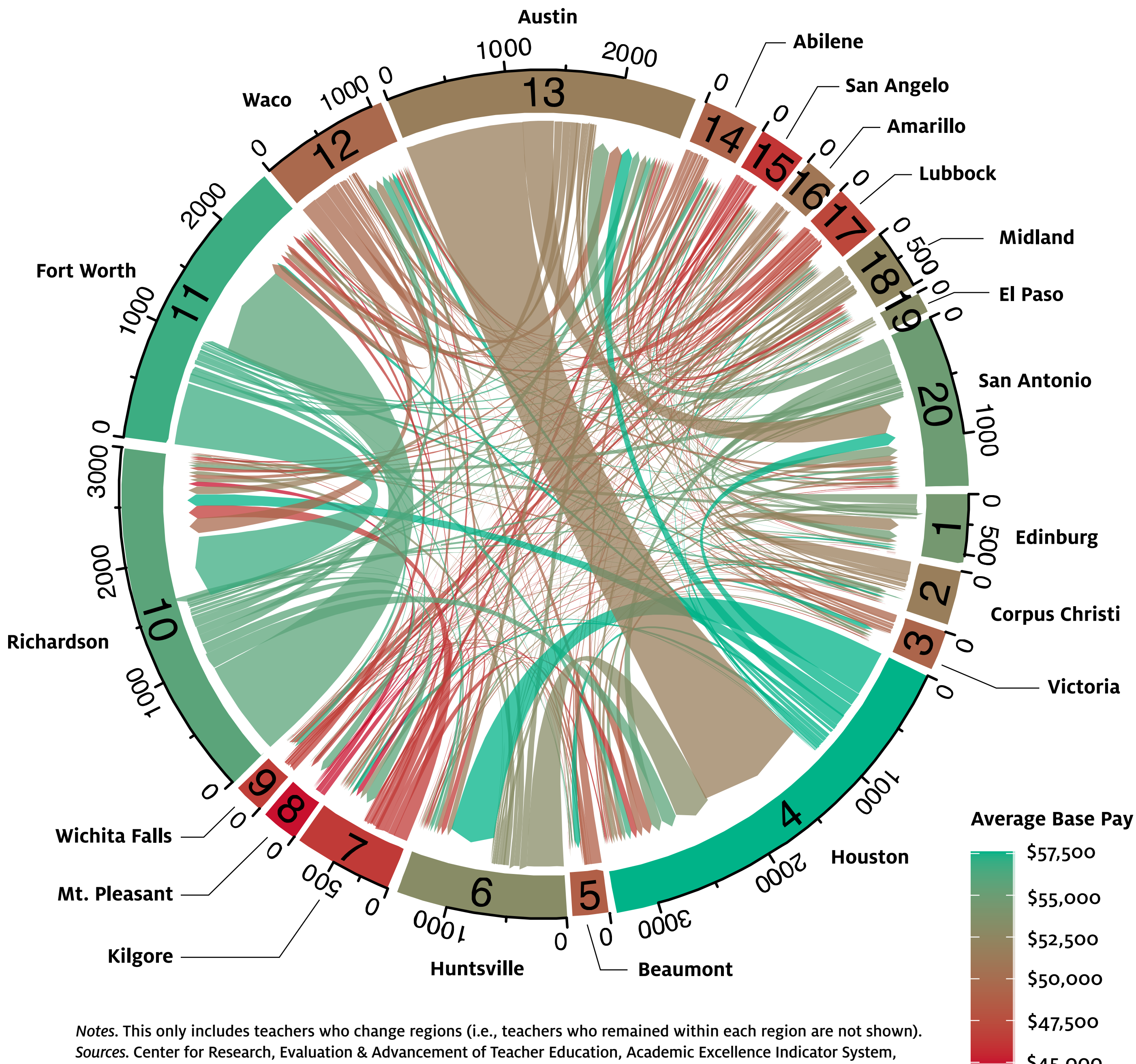

*Notes.* Excludes teachers who had district-level assignments. Teachers who are assigned to multiple campuses were grouped with the campus to which they were assigned the most.
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education and National Center for Education Statistics

***Mobility Between Regions***

Figure 3.24 shows the movement of teachers across regions from the 2018-2019 to the 2019-2020 academic year, along with the average base pay per FTE for that region. As shown, a large proportion of the movement happened between neighboring regions (e.g., Region 10, Richardson, and Region 11, Fort Worth). Additionally, a fairly large out-migration happened from Region 13 (Austin) to Region 4 (Houston).

**FIGURE 3.24**

## Regional Teacher Movement Between Levels of Average Base Pay, 2018-2019 and 2019-2020




*Notes.* This only includes teachers who change regions (i.e., teachers who remained within each region are not shown).
*Sources.* Center for Research, Evaluation & Advancement of Teacher Education, Academic Excellence Indicator System, and Texas Academic Performance Reports

## Teacher Retention

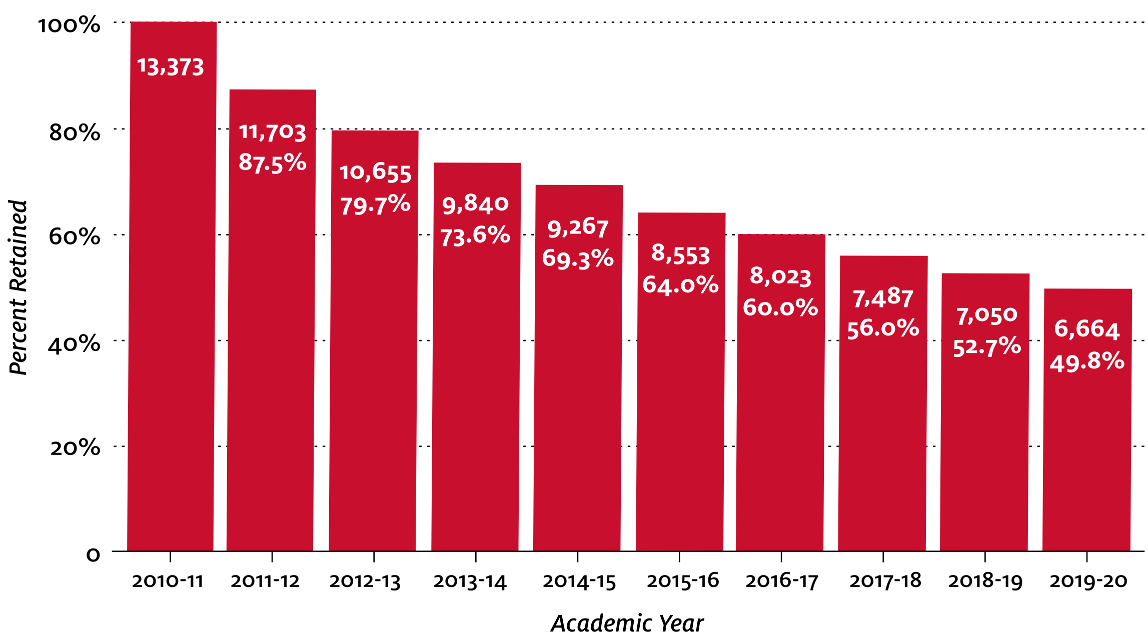
In this section, we report on the retention rates of a cohort of new teachers who were certified in FY 2010 with either a standard, probationary, or out-of-state certificate and employed in a school district as the teacher of record in 2010-2011. We then follow them from first employment in 2010-2011 through 2019-2020.

### *Statewide Trends in Retention*

Looking at statewide data on retention from 2010-2011 to 2019-2020 for one first-year teacher cohort, we found that teachers are the least likely to be retained from year one to year two. Figure 3.25 shows that of the 13,373 teachers in the 2010-2011 cohort, 11,703 (87.5%) of them were retained in 2011-2012 with 12.5% not retained in the role of teacher. The trend for this cohort also indicates that years two (7.8 percentage points) and three (6.1 percentage points) are somewhat critical for new teachers. In the case of this cohort, teachers who remained in the workforce beyond four years were more likely to be retained with each subsequent year.[7]

**FIGURE 3.25**

## Ten-Year Retention Rate Among First-Year Teachers (2011 Cohort)




*Source*. Center for Research, Evaluation & Advancement of Teacher Education

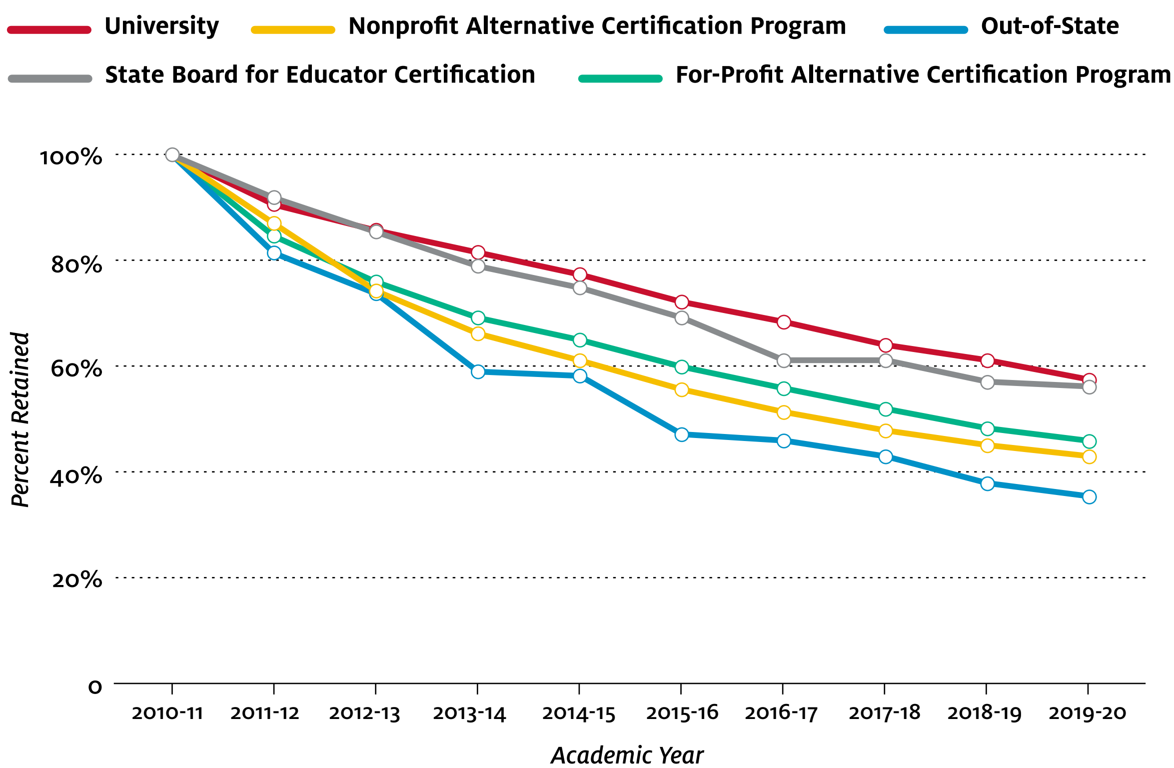
7 A decade of published Texas teacher retention results by the Center for Research, Evaluation & Advancement for Teacher Education shows the Texas new-teacher cohort retention rate after five years to be around 70%. This result, while slightly lower, is not significantly different from other cohorts.

### *Statewide Retention by EPP Type*

Our examination of the 2010-2011 first-year teacher retention based on educator pathway type revealed higher rates of retention for teachers certified in university programs than other programs. As demonstrated in Figure 3.26 and Table 3.11, data from the 2010-2011 cohort shows that for-profit and nonprofit ACPs are most similar in terms of retention outcomes. By 2019-2020, 45.7% of teachers who earned their certification through for-profit ACPs and 42.8% of teachers who earned certification from nonprofit ACPs remained in the workforce, compared with 57.3% from university-based programs.

**FIGURE 3.26 + TABLE 3.11**

## Ten-Year Retention Rate Among First-Year Teachers by Educator Preparation Program Pathway (2011 Cohort)




| | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| **University** | 100.0% | 90.6% | 85.7% | 81.5% | 77.3% | 72.1% | 68.3% | 63.9% | 61.0% | 57.3% |
| | 5,502 | 4,984 | 4,717 | 4,484 | 4,253 | 3,968 | 3,760 | 3,518 | 3,355 | 3,150 |
| **Nonprofit ACP** | 100.0% | 87.0% | 74.2% | 66.1% | 61.0% | 55.5% | 51.2% | 47.7% | 44.9% | 42.8% |
| | 2,366 | 2,058 | 1,755 | 1,563 | 1,444 | 1,314 | 1,212 | 1,129 | 1,063 | 1,012 |
| **For-Profit ACP** | 100.0% | 84.6% | 75.9% | 69.1% | 64.9% | 59.8% | 55.7% | 51.8% | 48.1% | 45.7% |
| | 5,146 | 4,356 | 3,904 | 3,557 | 3,341 | 3,075 | 2,868 | 2,664 | 2,473 | 2,350 |
| **Out-of-State** | 100.0% | 81.4% | 73.7% | 58.9% | 58.1% | 47.0% | 45.8% | 42.8% | 37.7% | 35.2% |
| | 236 | 192 | 174 | 139 | 137 | 111 | 108 | 101 | 89 | 83 |
| **SBEC** | 100.0% | 91.9% | 85.4% | 78.9% | 74.8% | 69.1% | 61.0% | 61.0% | 56.9% | 56.1.% |
| | 123 | 113 | 105 | 97 | 92 | 85 | 75 | 75 | 70 | 69 |

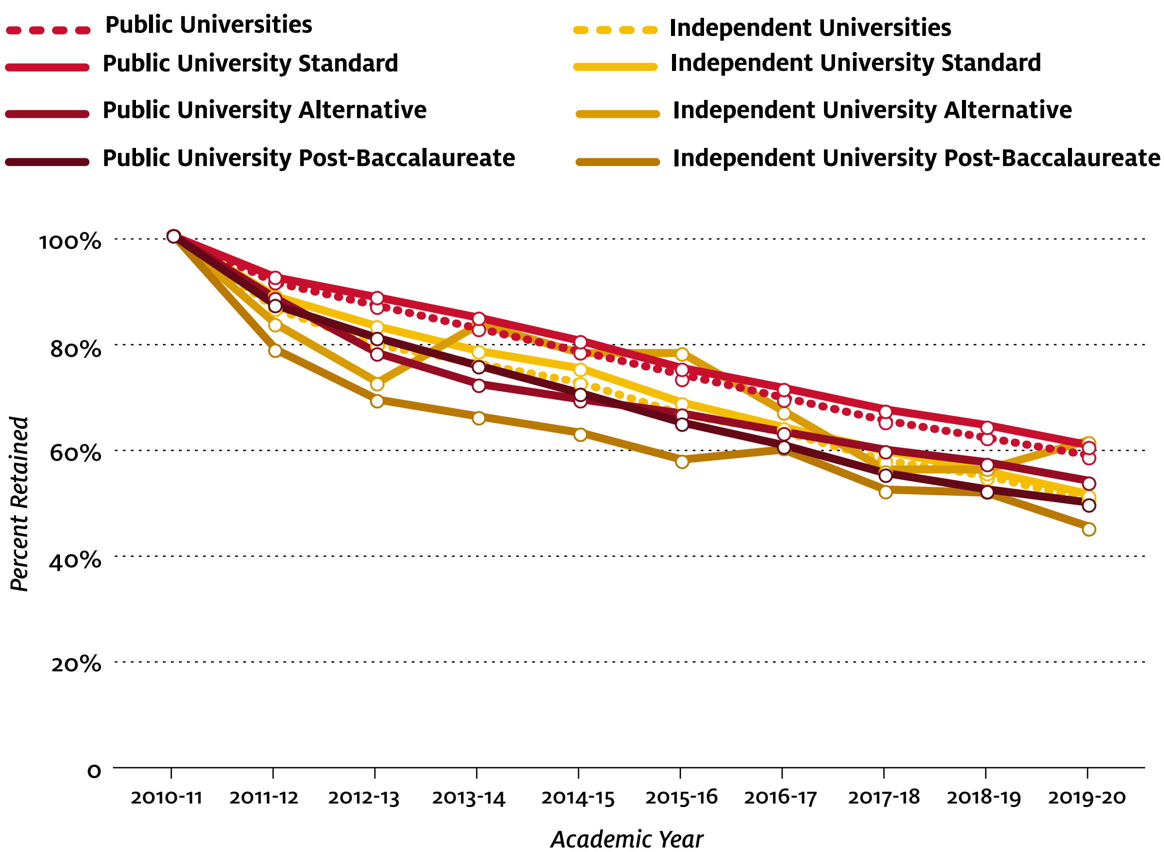
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

### *Retention by University Program Type*

As shown in Figure 3.27 and Table 3.12, analysis of first-year teacher data further disaggregated by university program type reveals that public universities with traditional (standard) programs are more likely to yield consistently higher rates of retention for first-year teachers. In 2019-2020, 60.2% of the teachers certified through traditional (standard) public university programs remained in the Texas teacher workforce, compared with 51% for independent university standard programs. Also of note is the pattern displayed by independent alternative universities, where some teachers in this cohort left but then returned to the classroom, skewing the data largely due to the few number of cases.

**FIGURE 3.27**

## Retention Rate Among First-Year Teachers by Educator Preparation Program Type: Public Universities and Independent Universities (2011 Cohort)




*Source*. Center for Research, Evaluation & Advancement of Teacher Education

**TABLE 3.12**

## Retention Rate Among First-Year Teachers by Educator Preparation Program Type: Public Universities and Independent Universities (2011 Cohort)

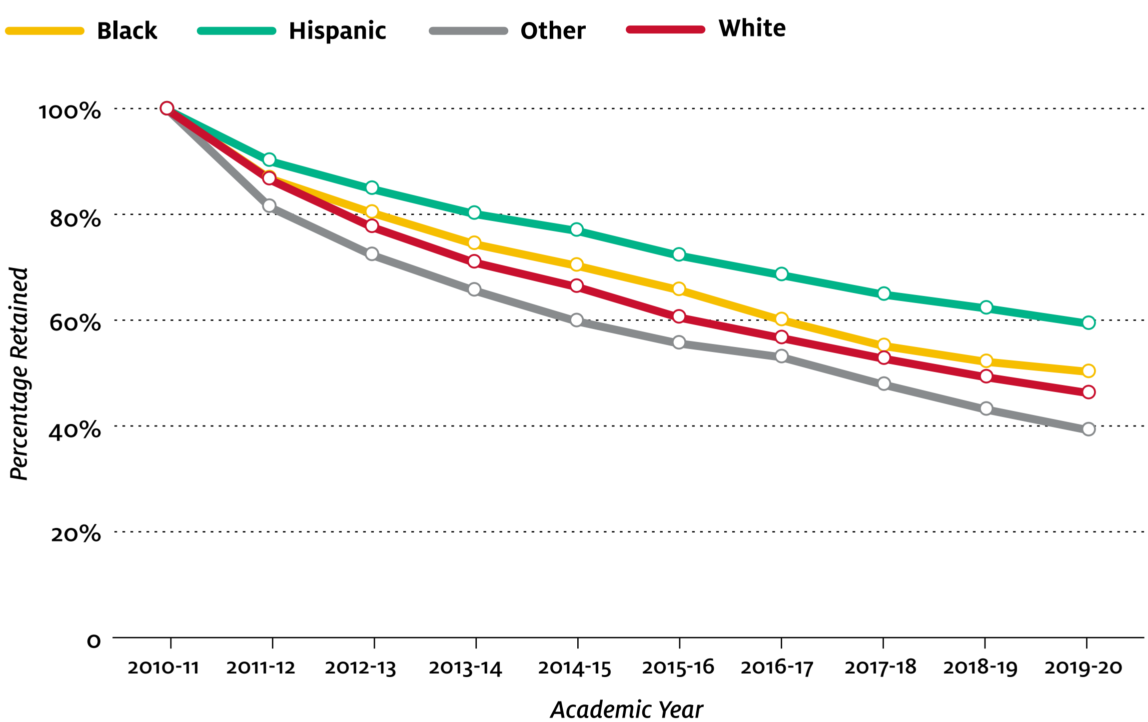
| | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Public Universities** | 4,816 | 4,393 | 4,172 | 3,966 | 3,758 | 3,514 | 3,329 | 3,124 | 2,982 | 2,808 |
| | 100.0% | 91.2% | 86.6% | 82.4% | 78.0% | 73.0% | 69.1% | 64.9% | 61.9% | 58.3% |
| Standard | 3,837 | 3,537 | 3,393 | 3,241 | 3,075 | 2,875 | 2,729 | 2,569 | 2,455 | 2,309 |
| | 100.0% | 92.2% | 88.4% | 84.5% | 80.1% | 74.9% | 71.1% | 67.0% | 64.0% | 60.2% |
| Post-Baccalaureate | 605 | 526 | 488 | 456 | 425 | 391 | 365 | 333 | 314 | 299 |
| | 100.0% | 86.9% | 80.7% | 75.4% | 70.2% | 64.6% | 60.3% | 55.0% | 51.9% | 49.4% |
| Alternative | 374 | 330 | 291 | 269 | 258 | 248 | 235 | 222 | 213 | 200 |
| | 100.0% | 88.2% | 77.8% | 71.9% | 69.0% | 66.3% | 62.8% | 59.4% | 57.0% | 53.5% |
| **Independent Universities** | 686 | 591 | 545 | 518 | 495 | 454 | 431 | 394 | 373 | 342 |
| | 100.0% | 86.2% | 79.4 | 75.5% | 72.2% | 66.2% | 62.8% | 57.4% | 54.4% | 49.9% |
| Standard | 510 | 452 | 423 | 399 | 382 | 349 | 325 | 302 | 282 | 260 |
| | 100.0% | 88.6% | 82.9% | 78.2% | 74.9% | 68.4% | 63.7% | 59.2% | 55.3% | 51.0% |
| Post-Baccalaureate | 158 | 124 | 109 | 104 | 99 | 91 | 94 | 82 | 81 | 71 |
| | 100.0% | 78.5% | 69.0% | 65.8% | 62.7% | 57.6% | 59.5% | 51.9% | 51.3% | 44.9% |
| Alternative | 18 | 15 | 13 | 15 | 14 | 14 | 12 | 10 | 10 | 11 |
| | 100.0% | 83.3% | 72.2% | 83.3% | 77.8% | 77.8% | 66.7% | 55.6% | 55.6% | 61.1% |

*Source.* Center for Research, Evaluation & Advancement of Teacher Education

Figure 3.28 and Table 3.13 present statewide retention rates from 2010-2011 to 2019-2020 for the first-year teacher cohort disaggregated by race and ethnicity. Hispanic teachers consistently display the highest retention. For example, data from year five (2014-2015) show that 77.1% of Hispanic teachers from this cohort remained in the teacher workforce, compared with 70.5% of Black teachers and 66.5% of white teachers. This trend was displayed through a 10-year period, when 59.5% of Hispanic teachers from this cohort remained in the teacher workforce, compared with 50.5% of Black teachers and 46.4% of white teachers.

**FIGURE 3.28 + TABLE 3.13**

## Retention Rate Among First-Year Teachers by Race/Ethnicity (2011 Cohort)




| | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | 2019-2020 |
|---|---|---|---|---|---|---|---|---|---|---|
| Black | 100.0% | 87.0% | 80.5% | 74.6% | 70.5% | 65.9% | 60.2% | 55.3% | 52.3% | 50.4% |
| | 1,302 | 1,134 | 1,049 | 972 | 918 | 859 | 785 | 720 | 682 | 657 |
| Hispanic | 100.0% | 90.3% | 85.0% | 80.3% | 77.1% | 72.4% | 68.7% | 65.0% | 62.4% | 59.5% |
| | 3,381 | 3,353 | 2,875 | 2,716 | 2,608 | 2,448 | 2,322 | 2,197 | 2,109 | 2,012 |
| Other | 100.0% | 81.6% | 72.5% | 65.8% | 60.0% | 55.8% | 53.2% | 48.0% | 43.3% | 39.4% |
| | 538 | 439 | 390 | 354 | 323 | 300 | 286 | 258 | 233 | 212 |
| White | 100.0% | 86.8% | 77.8% | 71.1% | 66.5% | 60.7% | 56.8% | 52.9% | 49.4% | 46.4% |
| | 8,153 | 7,088 | 6,342 | 5,799 | 5,419 | 4,947 | 4,631 | 4,313 | 4,027 | 3,784 |

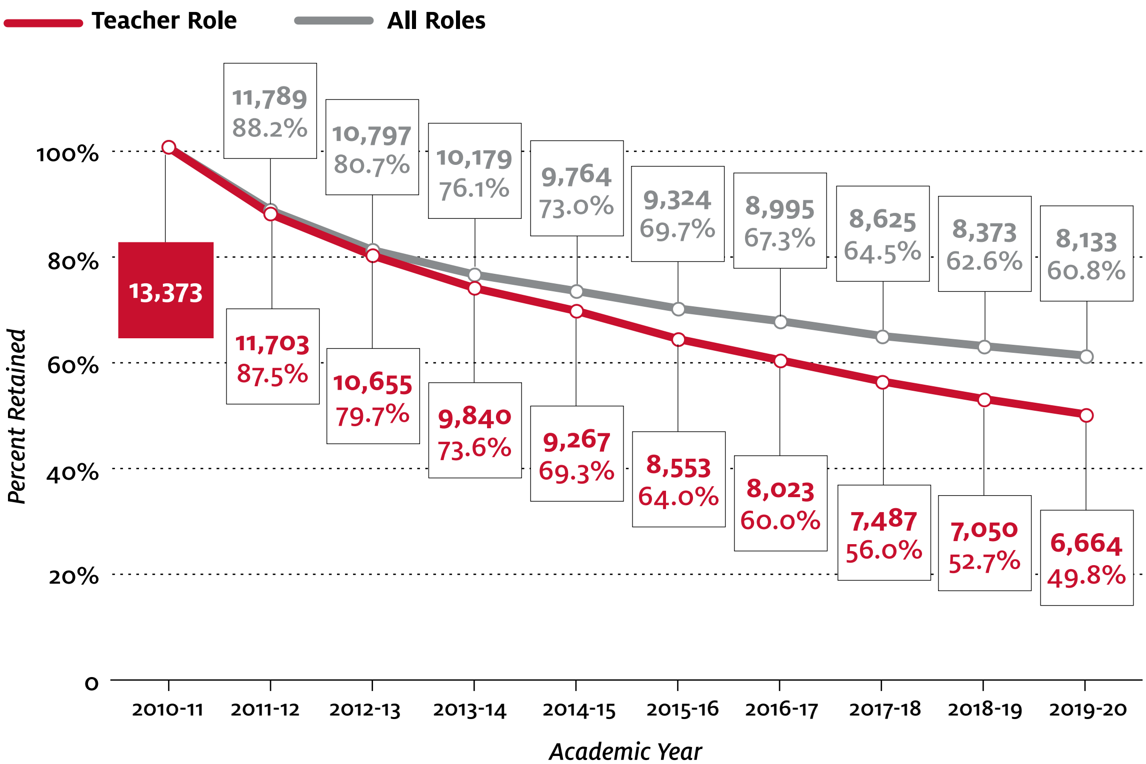
*Source*. Center for Research, Evaluation & Advancement of Teacher Education

***Role Change of 2011 First-Year Teacher Cohort***

Some research suggests that even though teachers leave the role of teacher, they stay in the field of education in a different capacity (Templeton, Horn & Lowrey, 2020). Following the role changes of teachers in the 2010-2011 cohort, there were some teachers who changed roles from teacher to some other role each of the years (Figure 3.29). The 10-year retention rate of teachers in this cohort was 49.8%, but when role was not considered, the rate was 60.8%. About 11% of this cohort remained in education in some capacity other than teacher, the majority classified as non-classroom staff.

**FIGURE 3.29**

## Retention Differences in Role Change of First-Year Teachers (2011 Cohort)



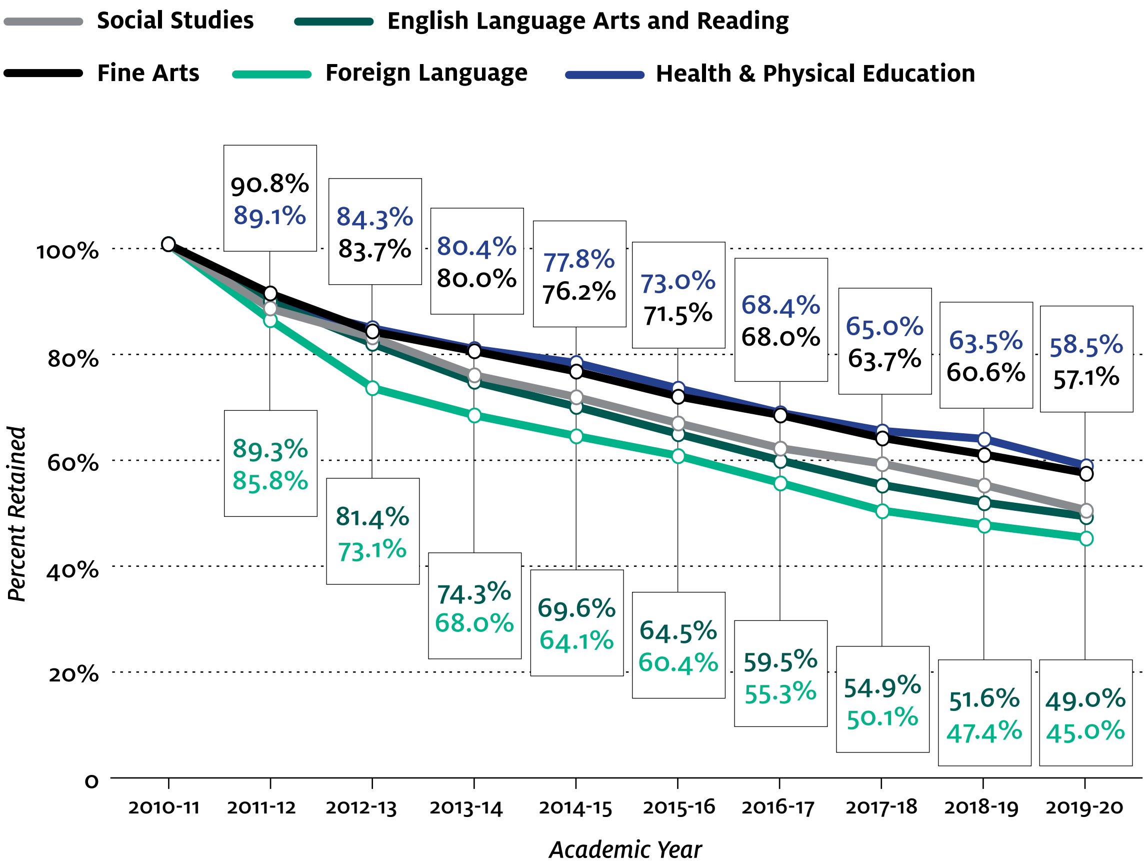

*Source.* Center for Research, Evaluation & Advancement of Teacher Education

***Statewide Retention by Subject Area Placement***

Figures 3.30 through 3.32 depict the retention of the 2010-2011 cohort by subject areas listed in the PEIMS data. Technology applications, health and physical education, fine arts, and self-contained classrooms have the highest 10-year retention rates, while foreign language and science have the lowest retention rates.

**FIGURE 3.30**

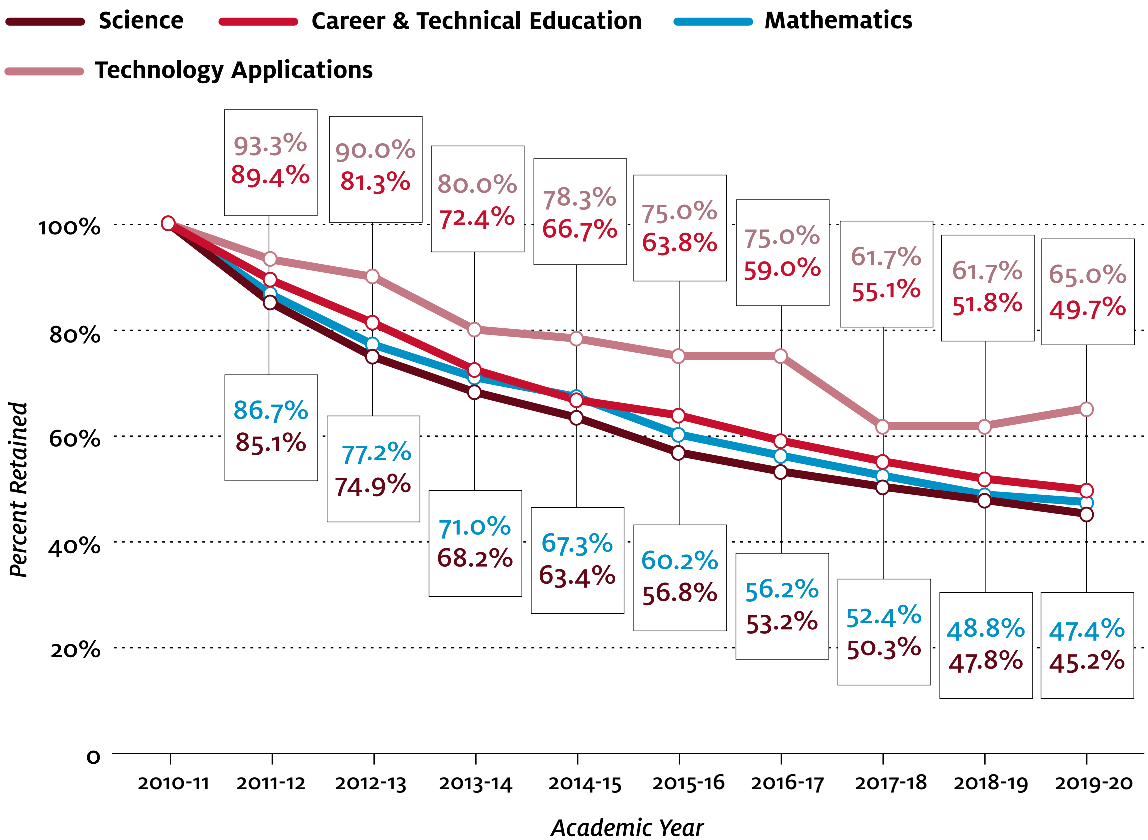
## First-Year Teacher Retention by Select Subject Areas (2011 Cohort)




*Source.* Center for Research, Evaluation & Advancement of Teacher Education

**FIGURE 3.31**

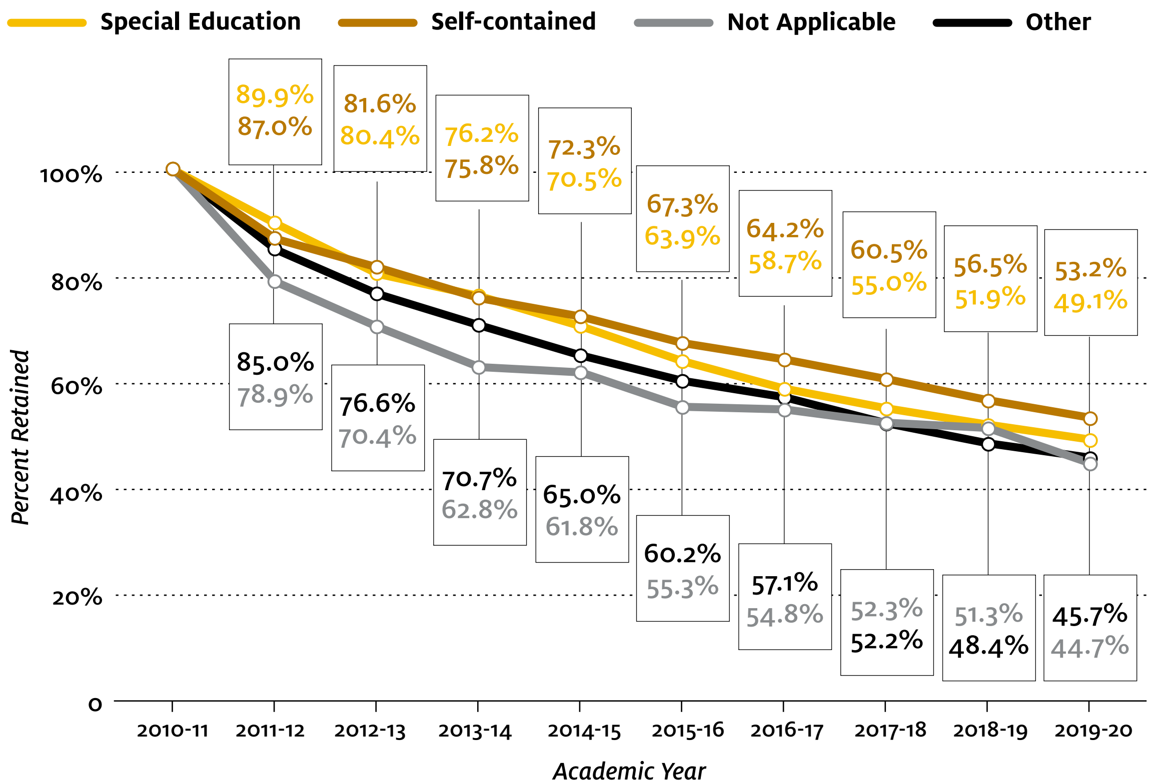
## First-Year Teacher Retention by Select Subject Areas (2011 Cohort)




*Source*. Center for Research, Evaluation & Advancement of Teacher Education

**FIGURE 3.32**

## First-Year Teacher Retention by Select Subject Areas (2011 Cohort)




*Source.* Center for Research, Evaluation & Advancement of Teacher Education

# Discussion and Recommendations

## Teacher and Student Demographic Misalignment

The findings from this report illustrate several major trends across the Texas teacher workforce over the past decade. Regarding teacher diversity, we find that, despite nominal increases for certain racial and ethnic groups, the state's public school teacher and student populations described in this report reveal the lack of alignment between educators and those they serve. This finding holds at both the state, regional, and district levels. The Hispanic teacher population is driving the limited change seen among educators of color, as the data reflect minimal growth (3 percentage points) among this population over the past decade. Texas' Black teacher population showed only modest incremental growth (1.2 percentage points). Similarly, the category of other race teachers (i.e., Asian, Alaska Native, American Indian, Native Hawaiian, Pacific Islander, and two or more races) has grown by only 1 to 2 percentage points. Our analyses also show that—though their representation is declining—the case remains that a majority of Texas teachers are white. These data correspond to the racial characteristics of teachers nationwide; as NCES (2019) demonstrates, the percentage of white teachers fell by 5% from 1999-2000 to 2017-2018, yet this group continues to maintain a strong majority in the national teacher population (79%).

**Regarding teacher diversity, we find that, despite nominal increases for certain racial and ethnic groups, the state's public school teacher and student populations described in this report reveal the lack of alignment between educators and those they serve.**

Though many stakeholders have developed targeted interventions aimed at increasing the number of teachers of color, our data demonstrate how such efforts have been successful with respect to certain racial and gender groups. For instance, the initiatives focused on increasing Black male teacher representation may be producing positive results, as our longitudinal analysis reveals a high net change in FTE teachers for this group—far exceeding their female counterparts. We also show that Hispanic and other race female teachers are growing at a faster rate than their male counterparts.

Importantly, a lack of racial diversity among teachers poses implications for student outcomes (Ingersoll, May, & Collins, 2019; Little & Bartlett, 2010; U.S. Department of Education, 2016). The mismatch between Hispanic students and teachers shown in this report is especially evident in this regard. As highlighted by Bristol and Martin-Fernandez (2019) and others, Hispanic teachers are uniquely positioned to foster success among Hispanic students. For example, Kettler and Hurst (2017) argue that increased racial congruity among teachers and students in this population can result in more students enrolling in Advanced Placement (AP) and International Baccalaureate (IB) courses; and, research from Lopez (2016) shows that the cultural ties stemmed from ethnic alignment improve social and emotional development and learning. Though representation of Hispanic teachers is a relevant issue on its own, the disproportionality between teachers and students in this population substantiates the need for strategic support and investments in this area. Based on the patterns shown by teachers and students, the state would benefit greatly from strategic investments toward building the Hispanic educator workforce.

## Teacher Preparation and Certification

Our statewide analysis of teacher certification data highlights several trends in output among EPPs. First, the number of initial certifications earned by Texas teachers was 20% lower in 2019 than it was in 2010. Although initial certifications do not directly connect with the number of teachers, they imply a downward trend that poses a serious concern, particularly in relationship to the burgeoning student-age population. Second, as compared to other program provider types, for-profit ACPs issue a significant proportion of the certificates earned by Texas teachers. Such trends are also evident nationwide, as the number of teachers enrolling in teacher preparation programs and the share of educators prepared though more traditional routes has declined in many states (Partelow, 2019). However, despite overwhelming growth of for-profit ACPs, public universities continue to produce a significant share of teacher certifications. This production varies by subject, as certifications in fine arts, bilingual, generalist teaching, and mathematics are among the top areas where public universities issued credentials.

The present study also found that a substantial number of certifications in several of the subject areas impacted by the teacher shortage were issued over the past decade through ACPs. For example, the proportion of special education teachers certified though for-profit ACPs increased by 21.8% and the proportion of ACP certifications among mathematics and science teachers also increased around 50% and 60%, respectively, even as certificates awarded in these two areas have declined. A similar pattern exists for career and technical education (CTE) certifications, with for-profit ACPs producing more than 50% of certificates. Interestingly, our analysis also revealed that community colleges and ESCs now issue a reasonable portion of CTE certificates as well (30% combined). Prior research suggests that teachers credentialed through ACPs often have less clinical teaching experience (Darling-Hammond & Podolsky, 2019). There is evidence that the lack of experience contributes to higher first-year attrition rates (Carver-Thomas & Darling-Hammond, 2017). Thus, the salience of for-profit ACPs issuing a majority of the certificates in these areas may impact the state's inability to build up the teaching force in the areas that most need it.

While much of the data is reflective of national trends among educators, the results of this study also illuminate patterns and trends in the professional teacher workforce that have resulted from changes in Texas educational policy over the past 10 years. One such area that has experienced considerable change is special education. ESSA licensure requirements for special education teachers went into effect in 2016-2017, and our findings show an increase in substitute teachers from 2017-2018 to 2019-2020. This trend aligns with prior research (e.g., Billingsley & McLeskey, 2004; Peyton et al., 2020) highlighting the special education teacher shortage as a chronic issue in secondary education. Additionally, this may suggest that despite identifying bilingual/ESL and special education as shortage areas every year since 1990-1991, existing policy interventions have been unable to address the need. Instead, again, the recent trend has been to rely on even more substitute teachers.

**Texas teachers are more likely to transition from campuses with higher levels of economic need than campuses with lower levels of economic need. This trend is concerning as it leaves students most in need particularly vulnerable.**

### Teacher Mobility and Retention

An important finding from our analysis of teacher mobility patterns is that, when examined by sector, most teachers tend to stay at the same campus. The increased likelihood of staying in a particular sector is likely a function of the ways in which schools and districts with higher levels of economic need predominate the state educational landscape. Our examination of mobility across educational sector revealed that departure is higher from this viewpoint. Notably, the state's charter schools have fewer teachers remaining at the campus from year to year than traditional public schools (around 60% compared with around 78%). Also of note, Texas teachers are more likely to transition from campuses with higher levels of economic need than campuses with lower levels of economic need. This trend is concerning as it leaves students most in need particularly vulnerable.

This report's findings on teacher retention add to the body of knowledge that shows teachers are less likely to be retained from year one to year two (Borman et al., 2008; Guarino, Santibanez, & Daley, 2006) and that rates of retention for teachers certified in university-based or traditional programs are often higher than other EPP types (Zhang & Zeller, 2016). Further, our findings also support prior research (Redding & Smith, 2016) that highlights how traditional (standard) programs (vs. alternative) are more likely to yield consistently higher rates of retention for early career teachers. This is important considering the dominance of for-profit ACPs across the state—again, posing considerations for Texas' ability to strengthen and sustain adequate numbers within the teacher workforce.

One particularly encouraging finding of the study is that Hispanic teachers across the state were found to demonstrate higher retention than other race groups. These data sit in opposition to what prior research (Darling-Hammond & Podolsky, 2019; Ingersoll, May, & Collins, 2019) indicates is likely for this population in schools with higher levels of economic need and lends to the notion—mentioned above—that further investment into the Hispanic teacher population may deliver positive results for the state.

**The COVID-19 pandemic has intensified economic inequality and disrupted the state educational system, leaving many Texans—especially those who are racially and economically marginalized — to experience disproportional impacts and interruptions to their life and well-being.**

### Teacher Pay

Much of the scholarship and discourse around teacher compensation shows that, as compared to other degreed professionals, teachers are paid less (OECD, 2020). This issue is also shown to impact teacher retention (Garcia, Slate, & Delgado, 2009; Grissom & Strunk, 2012). The analyses of teacher pay featured in this study offers several significant findings that signal policy implications. First, we see that salaries have remained fairly stagnant over the past 10 years. Second, as our data illustrate, there is a significant difference in the purchasing power for the base pay of a teacher in 2018-2019 compared with 2010-2011, and the wage premium declined by nearly $190 (in 2019 dollars) for each additional year of experience. Additionally, we find that more experienced teachers were paid less in 2018-2019 than in 2010-2011. Next, teachers at schools with higher levels of economic need are—on average—compensated at lower rates than teachers at schools with lower levels of need. The data also suggest that, when considering the ways in which compensation intersects with other teacher characteristics such race, ethnicity, and gender, the disparate outcomes in this area pose even more profound effects for certain subpopulations. Given the evidence that positively associates teacher salary with student outcomes (Akiba, Chiu, Shimizu, & Liang, 2012), an overarching takeaway is that policymakers and other stakeholders within districts and schools should continue to focus on better compensation of teachers.

### COVID-19: Considerations for the Teacher Workforce

Educational attainment, which is made possible through a strong professional teaching workforce, plays a major role in maintaining the state's economic infrastructure. The COVID-19 pandemic has intensified economic inequality and disrupted the state educational system, leaving many Texans—especially those who are racially and economically marginalized —to experience disproportional impacts and interruptions to their life and well-being. Such disruptions drastically impact the teacher workforce, which remains at the center of the state's ability to offer public education to its local communities. Based largely on the outcomes associated with the Great Recession, one of the major challenges that experts anticipate will impair the stability of the teaching profession is a drastic reduction in teacher positions (Griffith, 2020). Addressing this challenge, and its proximate and long-term implications, will require focused policy solutions and bold legislation.

## State Policy Recommendations

**Findings from this descriptive study highlight several policy recommendations that state lawmakers might consider in continuing work to strengthen the breadth of the teacher workforce in Texas:**

- **Expand investment in strategies that cultivate a diverse teacher workforce.** This study documents a persistent gap in the number of in-service teachers of color working with a growing and racially diverse student population. Empirically documented efforts such as grow-your-own programs, targeted scholarships, and culturally and socially responsive curricula offer strong examples to consider as such efforts move to scale.
- **Increase capacity to understand the role of the workplace environment on teacher retention.** Findings from this study consistently suggest that teachers are moving away from schools that are in most need of high-quality teachers. The challenge is that state data are not currently available to understand what conditions exist that are underlying those moves. The state should invest in data collection and analysis that explores thoroughly the perceptions of current teaching, learning, and workplace conditions in Texas.
- **Expand investment in research-based EPPs that well-prepare teachers to enter and stay in the profession.** This study documents distinct differences by university-based programs and ACPs in production, in-service placement, and retention patterns. The state is compelled to spend its limited resources wisely. Supporting programs that include research-based elements like pre-service clinical practice experiences offers a sound investment with a likely positive return.
- **Build on the existing strengths of the state's Hispanic teacher workforce.** As identified in the study, this sector of the teacher workforce is heavily influencing success metrics (both in terms of growth in representation and retention of teachers of color). Texas would be well-served to increasingly understand and support the conditions contributing to the development, support, and retention of Hispanic teachers.
- **Expand investment in closing the gap in high-need teaching areas.** This study finds that bilingual/ESL and special education have been teacher shortage areas in Texas for almost 30 years. Maximizing targeted resources invested in research-based recruitment and retention of well-prepared teachers in this area is foundational to the economic and civic success of the state now and in the foreseeable future.

# Appendix A: Relevant Literature

The well-established body of teacher-focused literature highlights the transformations needed to grow a teacher workforce that equitably meets the educational needs of communities, particularly marginalized groups such as low-income students and students of color (e.g., Bristol & Martin-Fernandez, 2019; Darling-Hammond & Post, 2000; Ingersoll, May, & Collins, 2019; Little & Bartlett, 2010; U.S. Department of Education, 2016). Such needs are complex, and addressing the various challenges associated with advancing educational outcomes will require attention to many areas to build a stronger, more effective teacher workforce. The following review of literature sheds light on existing scholarship and research that is both germane and relevant to the three major focal areas of this report: teacher preparation and certification, teacher retention and mobility, and teacher workforce conditions.

## Teacher Preparation and Certification

Prior research on educator preparation and certification demonstrates the importance of high-quality training programs. As the research on educator preparation evolves, pedagogical development and clinical teaching experience have been shown to enhance teacher success and retention (Ingersoll, Merrill, & May, 2014). Teacher training is also associated with the ability of teachers to meet the needs of students with varying racial, gender, and class identities (Banks, 2015).

Educator preparation is also related to a variety of characteristics and outcomes for teachers, students, and schools. Regarding teacher characteristics, teachers who feel less prepared are more likely to migrate away from schools with higher economic needs and fewer resources than teachers who feel more prepared (Podolsky, Kini, Bishop, & Darling-Hammond, 2016). This issue has disparate impacts on educators of color, who are more likely to teach in such settings and also more likely to enter the teaching workforce without having completed their certification program training (Darling-Hammond & Podolsky, 2019). Considering student characteristics, prior research shows that students from lower-income backgrounds and students of color, namely Black and Hispanic students, have an increased likelihood of being taught by less-prepared, less-experienced teachers (Boyd et al., 2009).

Scholars have also examined the influence of certification program type on student- and school-based outcomes. Though the research findings in this area are fairly mixed, traditional programs continue to demonstrate slightly greater potential to produce high-quality teachers (Whitford, Zhang, & Katsiyannis, 2018). Teachers perceive in-service training opportunities (Lowery, Roberts, & Roberts, 2012) and pedagogical preparation (Kee, 2011) as some of the benefits afforded by traditional programs that contribute to increased feelings of preparedness upon entering the classroom. Further, research focusing on teacher certification shows that teachers certified through alternative means demonstrate lower rates of long-term retention (CREATE, 2020; Freedman & Appleman, 2009; Ronfeldt & Reininger, 2012; Zhang & Zeller, 2016). Such teachers are also more likely to serve in low-income schools that are more likely to display higher rates of teacher turnover (Darling-Hammond, 2006; 2010).

## Teacher Retention and Mobility

In addition to preparation and certification, teacher retention and mobility remain essential areas of focus regarding strengthening the teacher workforce. Mobility, which considers patterns of teacher movement between schools or out of the system, has fiscal implications for schools and school districts (Feng & Sass, 2016; Watlington, Shockley, Guglielmino, & Felsher, 2010). Among the findings from research on teacher retention are consistent themes showing a complex web of factors that impact staying, moving, and leaving patterns among teachers, such as salary, resources, and dissatisfaction with various aspects of the school setting (Sutcher, Darling-Hammond, & Carver-Thomas, 2016).

Teacher mobility continues to influence outcomes as well, with many studies citing specific patterns of movement among early career teachers. For example, moving between schools has been shown to pose implications for the educational continuity of students and schools (Carver-Thomas & Darling-Hammond, 2017; Ronfeldt, Loeb, & Wyckoff, 2013). Mobility also contributes to the unequal distribution of well-qualified, experienced teachers across school type and student population characteristic (Darling-Hammond & Podolsky, 2019). Teachers' beliefs about students of color and low-income students have also been found to be related to mobility (Djonko-Moore, 2016).

Retention and mobility are more likely to impact outcomes among lower-income students and students of color. Scholars have highlighted how turnover is often a heightened issue for schools with high economic need and large populations of Black and Hispanic students (Borman & Dowling, 2008; Ingersoll, Merrill, & Stuckey, 2018). Additionally, teacher turnover is associated with subject areas, thus worsening the teacher shortage in specific disciplines (e.g., mathematics, science, special education, and English language development) (Darling-Hammond & Podolsky, 2019).

Several highly cited studies also show the relationship between organizational context of schools and teacher retention (Ingersoll, 2001). Extant research on this topic highlights how educators tend to migrate away from schools with fewer resources and more students from marginalized backgrounds, as such schools fail to provide adequate working conditions and tend to offer less competitive salaries (Darling-Hammond, 2010; Darling-Hammond & Podolsky, 2019; Ingersol, 2001; 2004; Papay, Bacher-Hicks, Page, & Marinell, 2017; Simon & Johnson, 2015). Studies also indicate that schools with lower-achieving students and less parental engagement are also less likely to retain teachers (Borman & Dowling, 2008; Guarino et al., 2006; Hanushek, Kain, & Rivkin, 2004). Other contextual factors shown to influence teacher retention include leadership (e.g., principal effectiveness) and climate and culture (e.g., norms of trust, respect, and collegiality) (Grissom, 2011; Ingersoll, 2001; Simon & Johnson, 2015).

Retention rates among teachers from racially minoritized backgrounds warrant particular consideration. As prior research from Ingersoll, May, and Collins (2019) reveals, strategic recruitment programming efforts—carried out at the national level—that aim to increase the number of teachers from underrepresented racial groups have largely been successful. However, the gains made in this area are often diminished by the high rates of teacher turnover in schools with large numbers of students who are racially minoritized and economically disadvantaged (Darling-Hammond & Podolsky, 2019; Ingersoll, May, & Collins, 2019). This is especially important given the ways high teacher turnover can negatively impact student achievement (Ronfeldt, Loeb, & Wyckoff, 2013).

## Teacher Workforce Conditions

Much of the contemporary literature related to conditions that shape the experiences of professional teachers points to a few central factors such as school conditions (e.g., leadership, culture, climate, and physical settings) (Harris & Sass, 2011; Johnson, Kraft, & Papay, 2012; Kraft, Marinell, & Yee, 2016) and pay or salary structures (Sutcher, Darling-Hammond, & Carver-Thomas, 2016).

According to the Organization for Economic Cooperation and Development (OECD), the salaries of teachers in the United States are, on average, 30% below those of college graduates in other professions (OECD, 2020). Teacher wages and salaries have also declined as compared to other college educated workers (Allegretto & Mishel, 2016). In addition to influencing teacher turnover, the lack of competitive pay also contributes to the inequities that plague the schools with the most need, as compensation rates are often lower in urban and rural areas (Adamson & Darling-Hammond, 2012).

Teacher pay has been shown to influence educators' decisions related to staying, moving, and leaving, as teacher salary is negatively associated with teacher turnover (Garcia, Slate, & Delgado, 2009). Conversely, teacher salary is positively associated with student achievement (Akiba, Chiu, Shimizu, & Liang, 2012), making it an imperative area for consideration. Pay structure is also linked to student performance, and higher levels of pay for beginning teachers has been shown to improve achievement across grades (Grissom & Strunk, 2012).

Generally, across disciplines, rising tuition costs and increased student loan consumption have led many to question the cost-benefit trade-off of pursuing a degree (Avery & Turner, 2012). This is especially true for teacher candidates, who often earn less than other college-educated professionals. Showing the intersecting nature between these issues, salary concerns are exacerbated for teachers with student debt (Fiddiman, Campbell, & Partelow, 2019). The matter of teacher debt also intersects with efforts to increase racial and ethnic diversity in the educator workforce, as Black students and degree holders typically rely on student loan funding more than their other race peers, and Black women particularly are more likely to default (Miller, 2017). In their analysis of debt burden on teachers of color, Fiddiman, Campbell, and Partelow (2019) found that Black and Hispanic teachers hold more debt than their white peers, with Black teachers in particular expressing challenges with loan repayment.

# Appendix B: Report Methodology

In this section, we provide an overview of the data and methods used. The subsequent section addresses some key limitations.

## Data and Methods

This report used descriptive methods to analyze trends in the Texas teacher workforce. By combining and examining multiple sources of data, we provide insights into the teaching landscape over the past decade. In this section, we discuss the data used.

The data for this report are derived from six sources. First, the majority of data come from the Center for Research, Evaluation & Advancement of Teacher Education (CREATE). The teacher certification data set, obtained from the Texas Education Agency (TEA), lists information about each Texas teaching certificate obtained by a qualified applicant in Texas. The teacher assignment data set, also obtained from TEA, matches each teacher to the district and campuses at which someone is employed. These data include information on the responsibility assigned to teachers and related salary data. They provide details on, for example, the campus, subject area, and population served for each teacher. These data are disaggregated by proportion of full time equivalent (FTE; see Key Terms, page 13), allowing for meaningful analysis.

Second, campus and student data come from publicly accessible Texas Academic Performance Reports (TAPR).[8] These data include information on the campus type, location, and student population. As with much of the CREATE data, these are based on the academic year (see Key Terms, page 13). Third, the initial teacher certification data come from the Texas Public Education Information Resource (TPEIR), a publicly accessible interactive website. Fourth, the campus urbanicity data come from the National Center for Education Statistics (NCES). Fifth, teacher shortage areas are determined using data available from the U.S. Department of Education based on reports sent from the TEA.

Lastly, state demographic data come from the publicly available Texas Demographic Center. The center provided information on the race/ethnicity of the state population by age group. We focused on two such groups: adults (over age 18) and student-age (ages 4 to 18). Data from the Texas Demographic Center are based on a calendar year. Therefore, when we combined them with academic-year-based data, we combined the calendar-year data as the first of the school year. For example, 2011 calendar-year data were combined with 2011-2012 academic-year data.

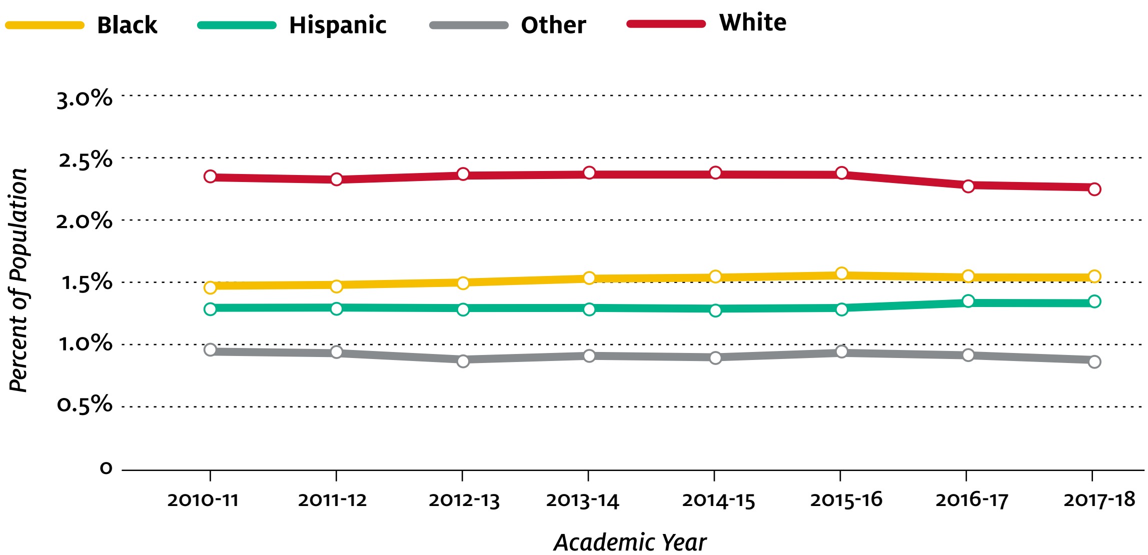
8 Prior to 2013, these were called Academic Excellence Indicator System (AEIS) reports.

# Appendix C: Additional Data Tables and Figures

Across the eight-year period presented in Figure C.1, white teachers are consistently overrepresented as a share of the population. Greater than 2% of white adults in Texas are employed as teachers, compared with approximately 1.5% of Black adults and less than 1.5% of Hispanic adults.

**FIGURE C.1**

## Percentage of Adult Population Teaching in Public Schools



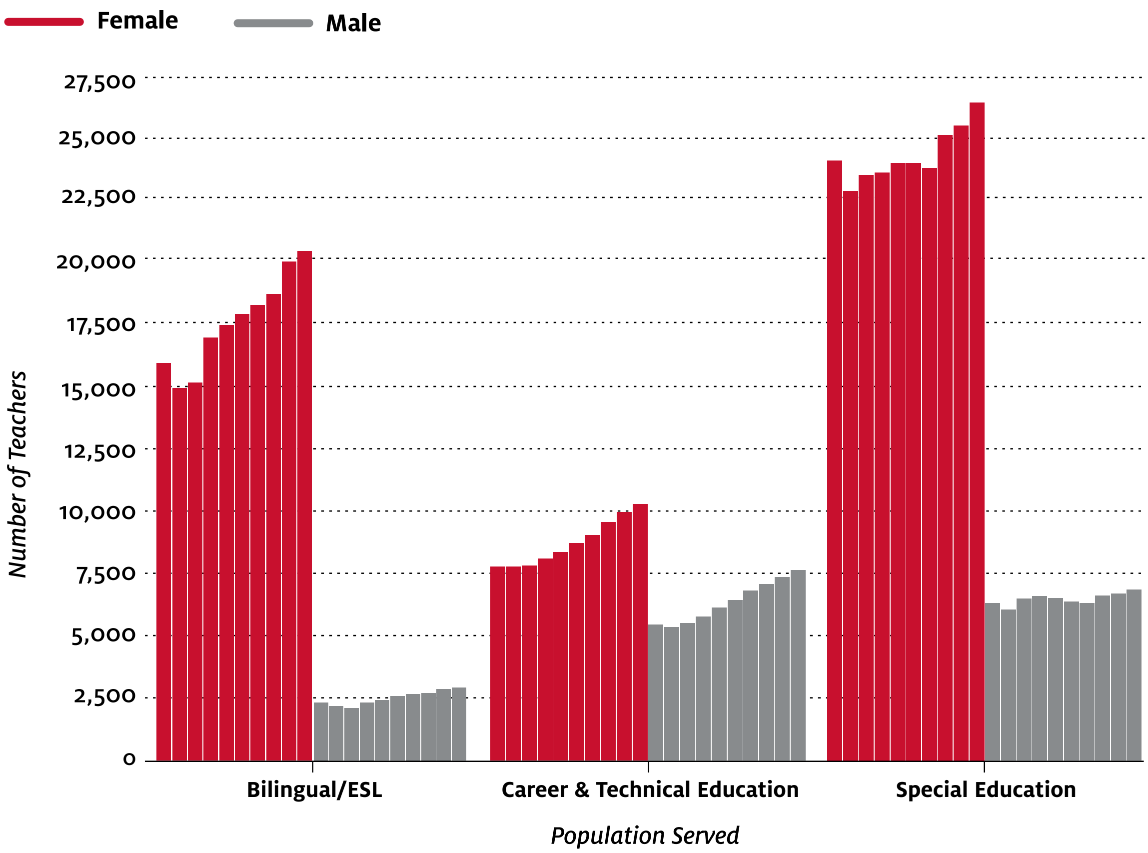

*Notes.* Adult population is at least 19 years old.
*Sources.* Texas Demographic Center and Texas Academic Performance Reports student information

***Statewide Race and Gender of Teacher FTE Positions by Student Populations Served***

In general, Texas teachers continue to be predominately female and white. In this section, we look at differences in these demographics by student population served. As shown in Figure C.2, career and technical education (CTE) has proportionately more male teachers than assigned to teach the other student population groups. Even still, female teachers remain more prevalent overall.

**FIGURE C.2**

## Teachers by Gender and Student Population Served, 2010-2011 to 2019-2020

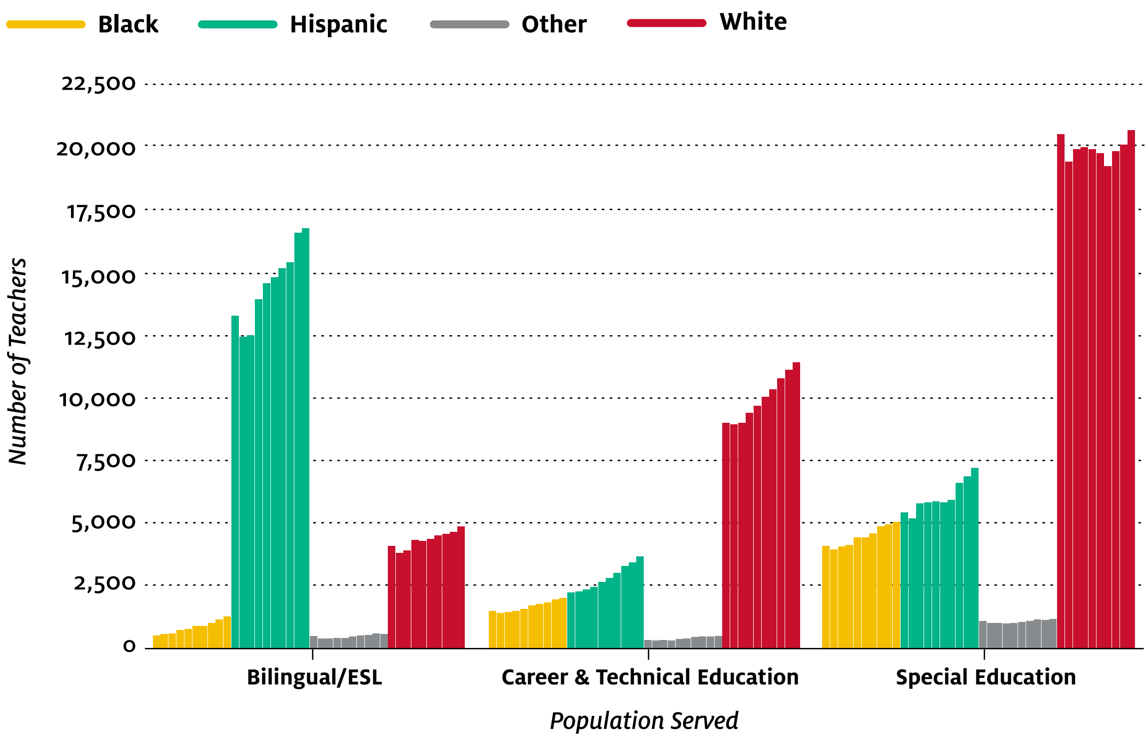



*Notes.* Each bar represents an academic year from 2010-2011 to 2019-2020 (left to right).
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

Figure C.3 presents data on teacher race and ethnicity based on student population served from 2010-2011 to 2019-2020. As shown, while teachers serving CTE and special education populations are predominately white, those serving bilingual/ESL populations are predominately Hispanic. Additionally, whereas all racial and ethnic groups are growing in positions serving CTE populations, white teachers are growing at a relatively slower rate than Hispanic or Black teachers for special education.

**FIGURE C.3**

## Teachers by Race/Ethnicity and Student Population Served, 2010-2011 to 2019-2020




*Notes.* Each bar represents an academic year from 2010-2011 to 2019-2020 (left to right).
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

**TABLE C.1**

## Percentage of Teachers Staying Within the District for Selected Districts

| District Name | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| Aldine ISD | 88.8% | 82.4% | 80.7% | 80.2% | 79.9% | 81.1% | 78.6% | 81.1% | 81.6% | 81.5% |
| Alief ISD | 91.7% | 86.9% | 85.2% | 86.0% | 87.1% | 87.6% | 86.4% | 87.3% | 85.5% | 87.1% |
| Amarillo ISD | 92.0% | 89.5% | 89.6% | 89.2% | 88.0% | 90.4% | 88.4% | 88.7% | 87.2% | 89.2% |
| Arlington ISD | 90.4% | 89.0% | 88.2% | 88.5% | 86.4% | 85.2% | 84.0% | 84.9% | 84.3% | 86.8% |
| Austin ISD | 85.9% | 83.6% | 84.7% | 82.6% | 84.3% | 82.2% | 82.7% | 84.1% | 81.7% | 83.6% |
| Brownsville ISD | 93.2% | 91.0% | 93.4% | 93.3% | 93.9% | 90.9% | 92.2% | 92.3% | 93.4% | 92.6% |
| Clear Creek ISD | 86.0% | 85% | 84.9% | 86.5% | 83.7% | 85.1% | 85.4% | 84.0% | 83.8% | 84.9% |
| Conroe ISD | 91.5% | 87.7% | 86.4% | 85.8% | 86.1% | 87.0% | 87.7% | 86.5% | 86.0% | 87.2% |
| Corpus Christi ISD | 89.6% | 88.4% | 86.5% | 86.8% | 83.9% | 86.4% | 87.3% | 87.9% | 86.4% | 87.0% |
| Cypress-Fairbanks ISD | 88.6% | 87.8% | 85.8% | 86.4% | 88.1% | 87.1% | 86.8% | 87.3% | 87.1% | 87.2% |
| Dallas ISD | 87.3% | 82.0% | 77.4% | 78.5% | 78.0% | 81.5% | 81.1% | 80.6% | 81.9% | 81.0% |
| Denton ISD | 90.0% | 90.4% | 87.7% | 87.6% | 88.5% | 89.1% | 86.5% | 87.6% | 87.2% | 88.2% |
| Edinburg CISD | 94.1% | 92.3% | 90.1% | 91.2% | 92.8% | 92.6% | 93.1% | 94.0% | 93.3% | 92.6% |
| El Paso ISD | 90.3% | 90.6% | 91.1% | 90.6% | 88.5% | 88.2% | 90.4% | 88.6% | 88.1% | 89.6% |
| Fort Bend ISD | 86.1% | 87.3% | 85.4% | 85.4% | 85.4% | 83.9% | 85.0% | 86.1% | 84.1% | 85.4% |
| Fort Worth ISD | 86.4% | 84.7% | 84.3% | 84.0% | 85.7% | 83.4% | 83.4% | 83.0% | 82.7% | 84.1% |
| Frisco ISD | 92.1% | 87.4% | 88.9% | 86.0% | 87.2% | 86.9% | 83.6% | 85.0% | 86.5% | 86.8% |
| Garland ISD | 90.6% | 87.7% | 86.1% | 84.6% | 83.1% | 84.6% | 82.4% | 85.2% | 83.7% | 85.3% |
| Houston ISD | 82.8% | 81.1% | 80.5% | 79.2% | 80.2% | 80.6% | 82.1% | 80.7% | 80.2% | 80.8% |
| Humble ISD | 81.1% | 82.3% | 81.1% | 82.5% | 84.5% | 86.4% | 85.1% | 84.1% | 84.2% | 83.5% |
| Idea Public Schools* | 63.6% | 62.7% | 64.5% | 71.5% | 79.0% | 76.6% | 77.5% | 68.2% | 79.1% | 73.3% |
| Irving ISD | 86.8% | 79.6% | 79.5% | 79.1% | 77.5% | 76.7% | 80.6% | 76.0% | 82.1% | 79.8% |
| Katy ISD | 85.6% | 85.3% | 86.4% | 86.2% | 88.5% | 87.5% | 87.8% | 88.6% | 88.1% | 87.2% |
| Keller ISD | 87.7% | 87.9% | 89.6% | 89.1% | 89.8% | 88.1% | 88.8% | 88.2% | 88.2% | 88.6% |

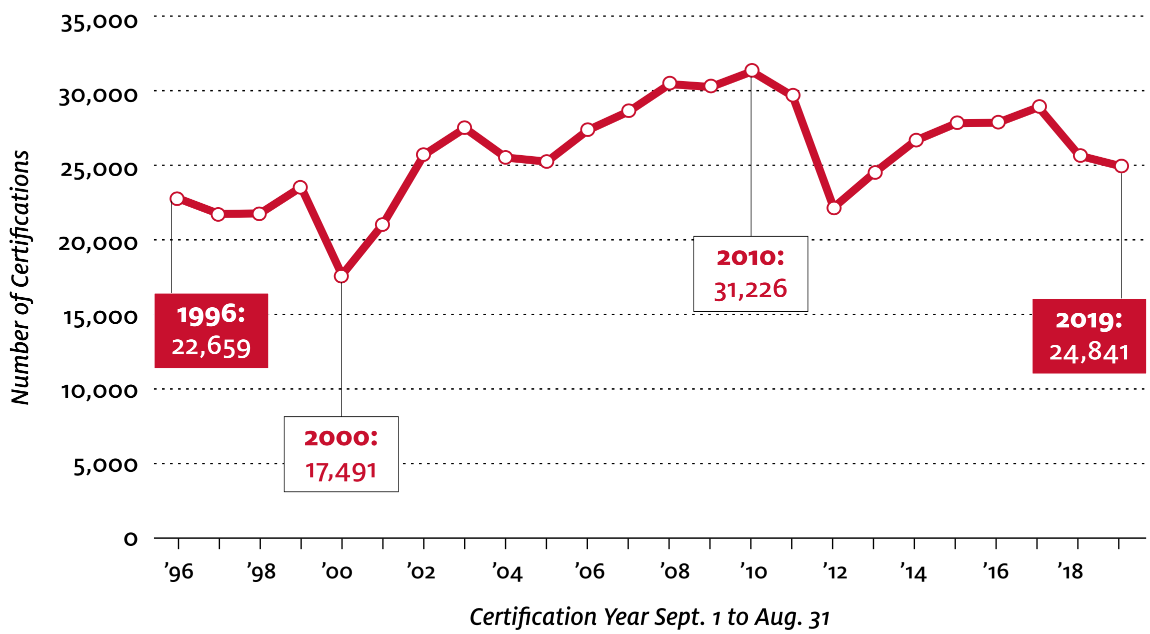
*Notes.* ISD is Independent School District. List includes districts that had at least 2,000 teachers during any of the years.
*Idea Public Schools is the only charter school district that met the criteria.
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

| District Name | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 | 2017-2018 | 2018-2019 | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| **Killeen ISD** | 88.4% | 85.1% | 84.7% | 84.4% | 84.6% | 82.4% | 82.1% | 82.6% | 80.1% | 83.8% |
| **Klein ISD** | 88.3% | 87.7% | 87.1% | 85.9% | 85.6% | 85.4% | 85.9% | 84.9% | 83.7% | 86.0% |
| **La Joya ISD** | 91.6% | 87.9% | 89.5% | 90.7% | 91.7% | 91.1% | 89.5% | 91.9% | 93.5% | 90.8% |
| **Lamar CISD** | 91.6% | 86.0% | 83.7% | 86.3% | 85.3% | 85.2% | 87.2% | 87.4% | 83.8% | 86.2% |
| **Leander ISD** | 90.8% | 88.5% | 88.5% | 87.3% | 85.6% | 86.0% | 86.5% | 86.5% | 84.7% | 87.1% |
| **Lewisville ISD** | 91.4% | 86.3% | 85.9% | 87.6% | 87.6% | 87.4% | 87.2% | 87.0% | 87.0% | 87.5% |
| **Lubbock ISD** | 85.6% | 82.8% | 81.7% | 82.8% | 82.1% | 80.9% | 81.4% | 81.6% | 81.5% | 82.3% |
| **Mansfield ISD** | 92.5% | 89.3% | 87.3% | 87.9% | 88.0% | 86.9% | 89.4% | 89.2% | 88.6% | 88.8% |
| **Mesquite ISD** | 89.9% | 87.5% | 86.1% | 85.9% | 83.8% | 83.9% | 83.6% | 83.2% | 81.5% | 85.0% |
| **North East ISD** | 90.6% | 88.6% | 86.7% | 86.0% | 88.8% | 87.0% | 86.8% | 86.4% | 86.8% | 87.5% |
| **Northside ISD** | 92.1% | 89.1% | 90.0% | 89.9% | 89.3% | 89.8% | 89.1% | 90.1% | 89.6% | 89.9% |
| **Pasadena ISD** | 88.6% | 86.3% | 86.0% | 85.3% | 84.6% | 85.9% | 85.9% | 86.7% | 86.1% | 86.2% |
| **Pharr-San Juan-Alamo ISD** | 90.2% | 88.3% | 88.3% | 89.6% | 89.4% | 90.1% | 90.5% | 87.0% | 90.1% | 89.3% |
| **Plano ISD** | 88.9% | 88.6% | 87.1% | 87.7% | 87.8% | 86.7% | 88.1% | 87.2% | 86.4% | 87.6% |
| **Richardson ISD** | 87.5% | 79.9% | 82.7% | 80.8% | 80.8% | 81.0% | 81.5% | 82.6% | 81.6% | 82.0% |
| **Round Rock ISD** | 87.6% | 87.3% | 87.1% | 86.9% | 87.2% | 86.7% | 87.4% | 84.6% | 85.1% | 86.6% |
| **San Antonio ISD** | 87.9% | 86.0% | 84.0% | 84.6% | 84.2% | 81.2% | 82.4% | 81.0% | 81.8% | 83.7% |
| **Socorro ISD** | 93.7% | 89.1% | 91.9% | 91.9% | 91.0% | 91.2% | 91.6% | 91.2% | 89.8% | 91.3% |
| **Spring Branch ISD** | 87.9% | 85.6% | 77.7% | 81.9% | 83.2% | 82.4% | 82.1% | 85.6% | 83.7% | 83.3% |
| **Spring ISD** | 78.9% | 76.9% | 75.9% | 73.4% | 72.2% | 69.5% | 77.1% | 75.9% | 74.3% | 74.8% |
| **United ISD** | 93.5% | 92.6% | 91.5% | 91.9% | 93.4% | 92.7% | 93.1% | 94.6% | 93.4% | 93.0% |
| **Ysleta ISD** | 93.9% | 91.9% | 90.2% | 92.5% | 89.0% | 90.9% | 90.5% | 92.0% | 90.9% | 91.3% |

*Notes.* ISD is Independent School District. List includes districts that had at least 2,000 teachers during any of the years.
*Idea Public Schools is the only charter school district that met the criteria.
*Source.* Center for Research, Evaluation & Advancement of Teacher Education

**FIGURE C.4**

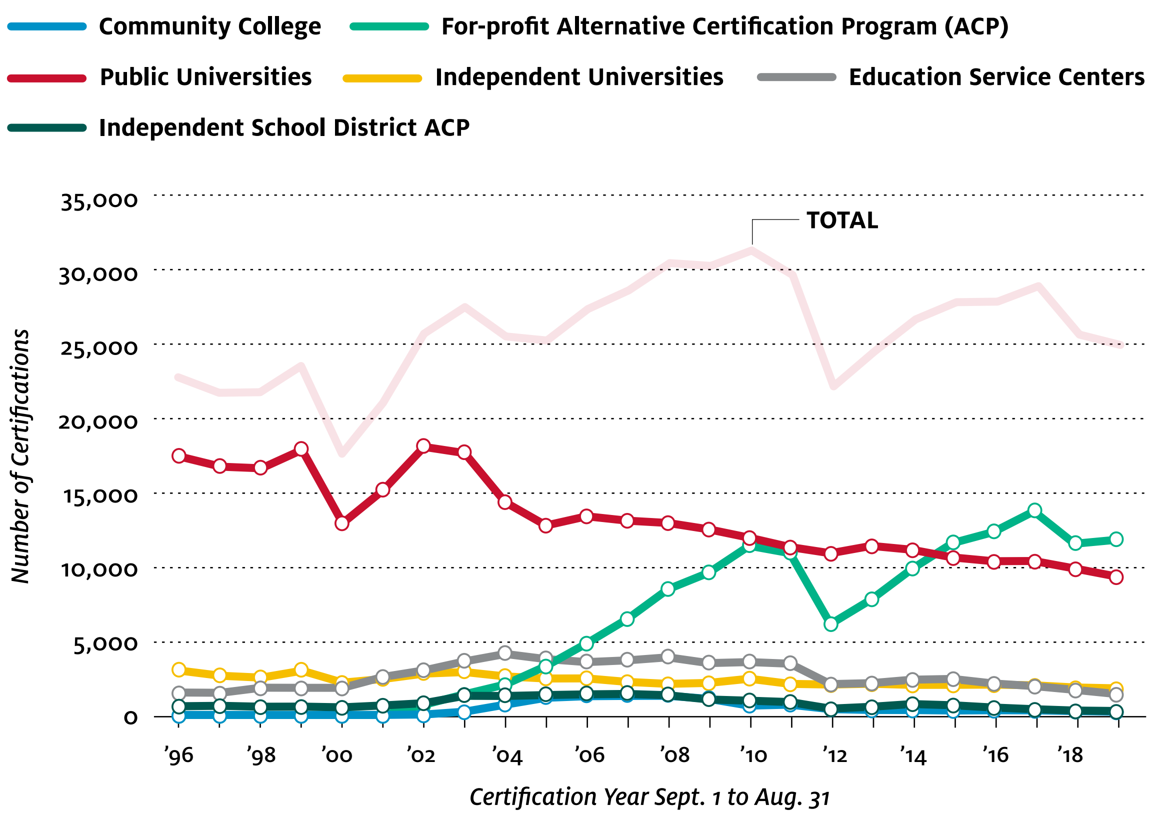
## Total Initial Certifications in Texas, 1995-1996 to 2018-2019




*Source*. Texas Public Education Information Resource

**FIGURE C.5**

## Teacher Certificates by Preparation Pathway, 1995-1996 to 2018-2019




*Source*. Texas Public Education Information Resource

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