Early Progress and Outcomes of a Grow Your Own Grant Program for High School Students and Paraprofessionals in Texas

See https://ies.ed.gov/ncee/rel/Products/Publication/100848 for the full report.

Appendix A. About the Texas Grow Your Own grant program

This appendix provides additional information on the Texas Grow Your Own (GYO) grant program.

In 2018, the Texas Education Agency launched a two-year, competitive grant program funded by the state legislature. The GYO grant program provides funds to districts to conduct activities in two major pathways in attempts to diversify their teacher workforce. The program's long-term goal is to increase the diversity of the teaching workforce, particularly in small and rural districts and in subject areas with persistent teacher shortages in Texas (that is, career and technical education, English as a second language, bilingual education, mathematics, special education, and science).

Grant activities for each pathway

Pathway 1 provides education and training courses and potentially a program of study for high school students, with the goal of garnering interest from diverse groups of students to pursue a teaching career. Some districts might offer only one education and training course, using grant funds to establish the first course within the program of study's sequence. Some districts may use grant funds to expand course offerings by adding additional courses or adding courses in new schools. The grant program provides stipends to teachers who teach the education and training courses on high school campuses (up to two teachers per school and 10 teachers per district). When such a course is offered to students as a dual credit course, the teacher can receive a two-year stipend of $11,000; a teacher who teaches these courses but not as dual credit can receive a stipend of half the amount.[1] Teachers selected to receive stipends must be currently employed by the district, hold a standard or life teacher certificate in Texas, and show measurable evidence of student achievement with a diverse student population. To receive a stipend for teaching dual credit courses, a teacher must hold a master's degree with at least 18 hours in the related field. The grant also provides additional funds to cover the costs of

[1] Each cycle has its own program guidelines posted to the grant opportunities page of the Texas Education Agency website. The guidelines provide cycle-specific information on funding, requirements, and implementation. The stipend amounts and other program guidelines described in this section, unless otherwise noted, are for cycle 2.

implementing the education and training courses and the associated career and technical student organization ($6,000 per school for high schools with existing education and training courses and $9,000 per school for high schools without existing courses), including costs for teacher and student memberships in the career and technical student organization, travel to professional development events, supplies, and instructional materials.

Pathway 2 supports district-employed paraprofessionals, instructional aides, and long-term substitute teachers to pursue certification and full-time teaching roles. The purpose of the grants is to provide paraprofessionals with bachelor's degree opportunities to earn a teaching certificate and paraprofessionals with associate degrees or equivalent opportunities to earn a bachelor's degree and a teaching certificate. Through partnerships with local educator preparation programs, participating staff remain employed in the district and work toward certification to become classroom teachers. The grant program provides stipends of $5,500 per candidate (for one year) to pursue only teacher certification or $11,000 (for two years) to pursue both a bachelor's degree and teacher certification. Candidates selected to receive stipends must not already hold teacher certification in Texas, must already have a minimum of 60 credit hours toward a bachelor's degree, must have the capacity to graduate with a bachelor's degree and teacher certification within the grant period of two years, and must be serving in a capacity in which they spend the majority of their time assisting certified teachers in instructional activities. Each district can apply for a maximum of 10 candidates. Cycle 2 participants receiving funding to earn a bachelor's degree and teacher certification must do so within the grant period of two years and serve as a teacher of record in the district by the 2021/22 school year.[2] The program encourages district applicants to create a cohort model and allows districts to choose their own educator preparation program partner.

A third pathway (pathway 3) is open to educator preparation programs. This pathway focuses on developing well-qualified teacher candidates through a one-year clinical teaching assignment or an intensive preservice experience with a clinical component. The study team did not work with pathway 3 in this study.

Grant competition process

The Texas Education Agency offered GYO grants to districts using a competitive application process. Districts must include in their design of each pathway a needs assessment that addresses teacher vacancies, the demographic characteristics of the student and teacher population, and other local needs. Districts submitted grant applications in which they described their needs and outlined how the district would use the grant funds. Multiple evaluators reviewed and scored grant applications that met the basic compliance requirements. Small districts received additional priority points based on the size of enrollment (10 points if enrollment is less than 500 students; 6 points if enrollment is between 500 and 999 students; and 3 points if enrollment is between 1,000 and 4,999 students). The Texas Education Agency awarded GYO grants to the districts with the highest scores, with the cut score based on the amount of funding available and requested.

[2] Cycle 1 program guidelines do not include this latter requirement.

Qualifying applicants for pathways 1 and 2 were districts and Education Service Centers. According to information published on the program website, 19 district grants were awarded in cycle 1 in 2018/19, and grant activities were implemented in 2018/19 and 2019/20; 76 districts applied for but were not awarded cycle 1 grants.[3] Twenty-seven district grants were awarded in cycle 2 in 2019/20, and grant activities were implemented in 2019/20 and 2020/21; 42 districts applied for but were not awarded cycle 2 grants. In addition to the district applicants, nine Education Service Centers applied for and three were awarded grants in cycle 1 for pathway 1 and/or pathway 2. Seven centers applied for and one was awarded a grant in cycle 2.

[3] See https://tea.texas.gov/texas-educators/educator-initiatives-and-performance/educator-initiatives/grow-your-own.

Appendix B. Methods

This appendix describes the study data, data preparation, and analysis methods used to address the primary and supplemental research questions.

Data sources

The study used a combination of administrative data collected by the Texas Education Agency and publicly available data (table B1). The Texas Education Agency provided the following data, which were accessed through the data repository at the Texas Education Research Center at the University of Texas at Austin:

- Program records of districts that participated in the Grow Your Own (GYO) grant program in cycles 1 and 2. Program records include district name, district identification number, and GYO pathway implemented (pathway 1, pathway 2, or both).[4]
- Deidentified student records from the Public Education Information Management System database, including student enrollment in Texas public high schools, demographic characteristics, graduation, and course enrollment and completion.
- Deidentified teacher and staff records from the Public Education Information Management System database, including teacher and staff employment records that capture professional job position, demographic characteristics, and educational background (for example, highest degree earned).
- Deidentified educator certification records from the State Board for Educator Certification database. The data included all certifications for those working in Texas education from 2005/06 to 2020/21 (the most recent year of data available).
- Deidentified student responses from the Factors Influencing Teaching (FIT) Choice Survey that the Texas Education Agency administered in fall 2019, fall 2020, and spring 2021.

The study also used the following publicly available data:

- Data on district geographic locale codes from the Common Core of Data. The National Center for Education Statistics provides geographic locale codes for all public school districts. This study used the four primary locale codes: city, suburb, town, and rural area.
- District-level snapshot data on the Texas Education Agency's website. The snapshot data contain district-level information on student enrollment and the percentages of students who are Asian, Black, Other, or White; economically disadvantaged; English learner students; and receiving special education services. The data contain district-level information on average teacher years of

[4] The Texas Education Agency provided the study team with a list of paraprofessionals who participated in pathway 2 activities as reported by the districts. However, about half of the records (48 percent) in this file were not associated with a GYO district. About one third of the records had missing data on key identification variables, such as employment ID and last name. The study team could not match some district IDs in this file to district IDs in the Texas Education Research Center data, so the study team decided that the list could not reliably identify paraprofessionals who directly participated in GYO districts. Thus, the data were not used in the analysis, and the analysis of paraprofessional outcomes was based on all paraprofessionals in GYO districts (and their comparison districts).

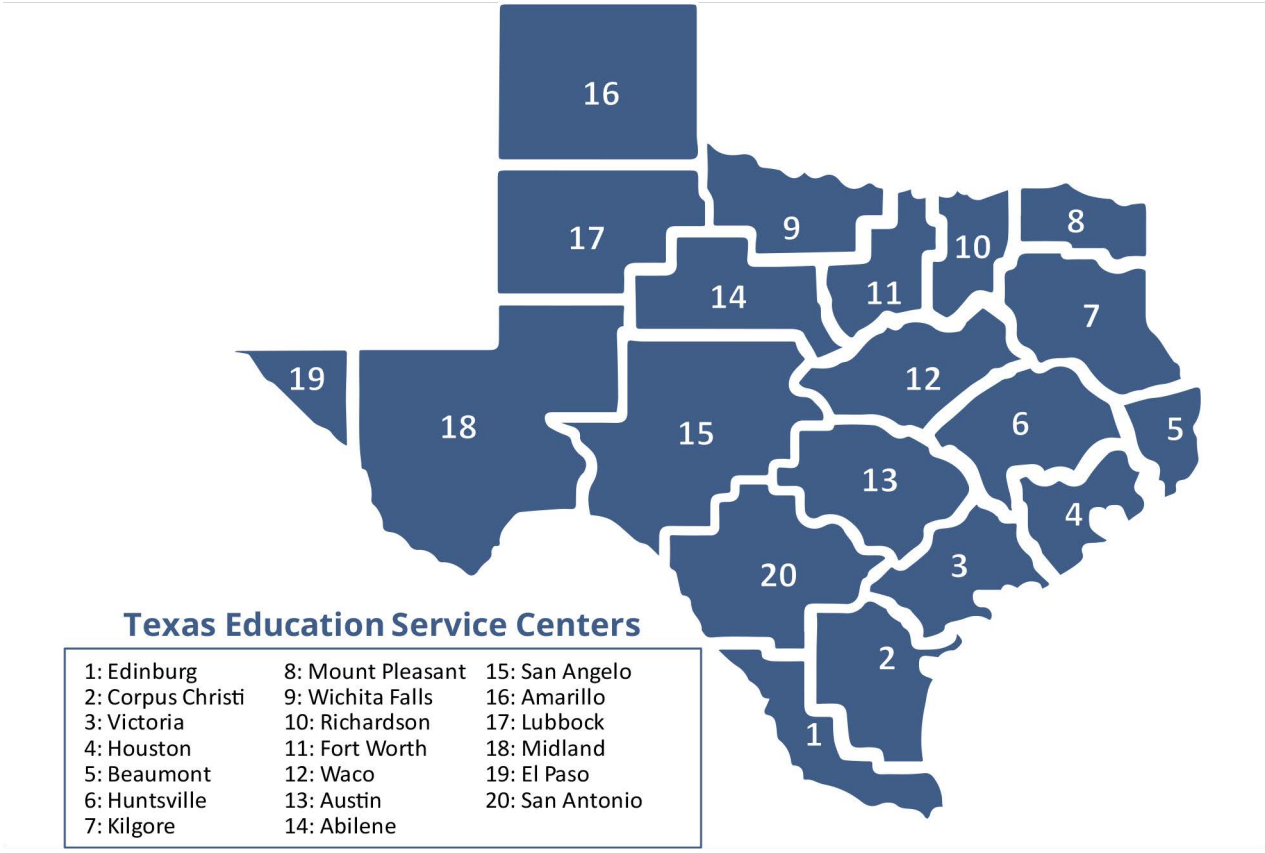
experience and the teacher turnover rate. The data also include the Education Service Center region that each district is in (see the map of the 20 regions in figure B1).

Table B1. Data sources

Source	Data file or type	Data elements	Years	Research questions
TEA program records	TEA Grow Your Own district participation	List of district grantees	2018/19–2019/20	All
TEA student demographic data for all enrolled students	p_enroll_demog(yy)	Student ID; campus and district of enrollment; race/ethnicity; English learner status; gender; economic disadvantage status; age; CTE participation/enrollment indicator	2015/16–2019/20	3–5
TEA CTE course completion information for students in grades 9–12	p_course_complete(yy)	Student ID; CTE course enrollment, course completion, earned credit, and earned certificates during fall and spring semesters	2015/16–2019/20	3–5
TEA course lists	p_course_section(yy)	Campus organization file that lists the individual classes for a campus; used in concurrence with student enrollment	2015/16–2019/20	3–5
TEA course information for all students	p_stud_class_enroll(yy)	Student ID; course completion information for all students collected during summer and including information from the entire school year; information on courses students enrolled in and completed, as well as courses they did not complete; student-teacher links	2015/16–2019/20	3–5
TEA information for classroom employees and classes	p_teacher_class_assign(yy)	Staff ID; staff assignment (grade/subject taught); campus and district of employment	2015/16–2019/20	3–7
TEA information for all school district employees	p_employ(yy)	Staff ID; campus and district of employment; degree; years of experience	2014/15–2020/21	3–7
TEA demographic information for school district employees	p_demog_employ(yy)	Staff ID; race/ethnicity; gender	2014/15–2020/21	3–7
SBEC data on educators holding a teaching certification	sbec_yy	Staff/teacher ID; certification type; certification field; issue date; effective data; expiration date	2005/06–2020/21	6, 7
SBEC data on educators holding a certification in areas other than teaching	sbec_nonteach_certs_yy	Staff ID; certification type; certification field; issue date; effective data; expiration date	2005/06–2020/21	6, 7
NCES Common Core of Data	Geographic locale type	District locale type (city, suburb, town, rural area)	2019/20	1–7
TEA website	District-level snapshot data	District-level enrollment; student demographic characteristics; teacher average experience; turnover rate	2018/19	1, 2
TEA Factors Influencing Teaching Choice Survey data	Deidentified student responses to survey items	Survey administration time; district name (student reported); student responses to survey items	Fall 2019, fall 2020, and spring 2021	8

ID is identification number; CTE is career and technical education; NCES is National Center for Education Statistics; TEA is the Texas Education Agency; PEIMS is the Public Education Information Management System; SBEC is the State Board of Educator Certification.
Source: Authors' compilation.

Figure B1. Map of Education Service Center regions in Texas



Note: During cycles 1 and 2 of the Grow Your Own grant program, no districts in three regions (3, 9, and 15) participated in either pathway. Region 8 districts participated in pathway 1 only, and Region 16 districts participated in pathway 2 only. Districts in the remaining 15 regions participated in both pathways.
Source: Texas Education Agency (https://tea.texas.gov/about-tea/other-services/education-service-centers/education-service-centers-map).

Data preparation

The study team used the program records provided by the Texas Education Agency to identify districts that participated in each cycle of the GYO grant program (and the pathways implemented) and districts that did not. The list of GYO districts was then merged with the 2018/19 district-level snapshot data downloaded from the Texas Education Agency's website and data on district locale from the Common Core of Data (National Center for Education Statistics, n.d.). This merged file was used to answer research questions 1 and 2.

To prepare the course completion data for addressing research questions 3-5, the study team used student course enrollment records to identify students who enrolled in and passed education and training courses, thereby earning credit for those courses. Education and training courses in GYO districts can be taken as part of a complete course sequence or as an elective. The sequence of these courses by academic track is in table B2. A course sequence completion indicator was not provided. The study team developed the indicator based on criteria defined by the Texas Education Agency (2019). A student was considered as having completed an education and training course sequence if they enrolled in and earned credit for at least one course during the grant period, at least three courses in high school, and at least one level 3 or level 4 course in high school. The course completion data

were limited to high school grades (9–12) and linked to student demographic characteristics. The resulting file was used to answer research questions 3–5.

Table B2. Education and training course sequence and grade

Academic track	Level 1 courses	Level 2 courses	Level 3 courses	Level 4 courses
Early Learning	Principles of Education and Training (9–10)	Child Development (10–12)	Child Guidance (10–12)	Practicum in Early Learning (TBD)
	Principles of Human Services (9–12)	Child Development Associate Foundations (10–12)		Project-Based Research (11–12)
				Career Preparation I (11–12)
Teaching and Training	Principles of Education and Training (9–10)	Human Growth and Development (10–12)	Instructional Practices (11–12)	Practicum in Education and Training (12)
	Principles of Human Services (9–12)	Child Development (10–12)	Special Populations (TBD)	Project-Based Research (11–12)
		Communication and Technology in Education (10–12)		Career Preparation I (11–12)

TBD is to be determined.
Source: Texas Education Agency (2020a, 2020b).

The following study variables were used in the analysis:

- *Course completer*. Students who passed and earned credit for at least one education and training course were coded as 1. Students who did not take such courses or did not earn credit for at least one course were coded as 0.
- *Sequence completer*. Students who completed three or more education and training courses, in which at least one course was completed during the grant period and one course was an upper level course, were coded as 1. An upper level course is a level 3 or level 4 course. Levels refer to the recommended order for stackable knowledge and skills that a student should obtain as they progress through the sequence. They do not represent grade bands, and there is flexibility in how districts offer courses between levels (Texas Education Agency, n.d.). Students who completed fewer than three education and training courses, did not complete any of the courses during the grant period, or did not complete an upper level course were coded as 0.
- *Grade*. Students were coded as being in grades 9, 10, 11, or 12. Students who were enrolled in or completed education and training courses in grades 7 or 8 were excluded from the analyses.
- *Gender*. Students were coded as male or female.
- *Race/ethnicity*. Students were coded as being one of the following:
  - Asian.
  - Black/African American.
  - Hispanic.
  - White.
  - Other races/ethnicities, including American Indian, Alaska Native, Pacific Islander, or two or more races.

- *Economically disadvantaged status.* Students identified as economically disadvantaged include those who are eligible for the National School Lunch Program and those who experience other economic disadvantages defined by the Texas Education Agency. However, the study team found that data on this variable were not reliable for 2018/19 and prior years.[5] Therefore, only data from 2019/20 were used in the study.
- *Special education status.* Students were coded as 1 if they participated in a special education instructional and related services program or a general education program using special education support services, supplementary aids, or other special arrangements. Students were coded as 0 if they did not participate in such programs.
- *English learner status.* Students were coded as 1 if they were in a state-approved English as a second language program and as 0 if they were not.

To address research questions 6 and 7, the study team first built a dataset that compiles each year of employment for 2014/15 through 2020/21 and then attached the certification records from the certification database to all individuals in the employment file. The study team then created and coded three outcome measures: highest degree reported (1 = a bachelor's degree or higher, 0 = less than a bachelor's degree), attainment of a standard certificate (1 = attained a standard certificate, 0 = did not attain a standard certificate), and attainment of a teaching position (1 = attained a teaching position, 0 = did not attain a teaching position) for all individuals in the file. The study team then merged the employment file with the list of GYO districts provided by the Texas Education Agency and data on district locale to identify districts that implemented pathway 2 of the GYO grant program and comparison districts (non-GYO districts in the same region with the same locale type). For each year between 2015/16 and 2020/21, the study team determined the universe of paraprofessionals who worked in GYO districts and comparison districts based on their instructional roles (those working in roles of educational aide, certified interpreter, and substitute teacher). The study team used this file to answer research questions 6 and 7.

To address research question 8, the study team used data from the FIT Choice Survey that the Texas Education Agency administered in fall 2019, fall 2020, and spring 2021. The survey was anonymous, so the study team could not link survey responses to administrative data or examine survey responses for the same individuals across time. However, the survey data included student self-reported district names. The study team therefore linked the deidentified student survey data to the list of GYO districts by matching district names and used this file to answer research question 8.

Study sample

The sample for research question 1 included 72 districts that participated in pathway 1 or pathway 2 in the first two GYO grant cycles in 2018/19 and 2019/20 and 1,121 districts that did not participate in either cycle of the GYO grant program (non-GYO districts). The sample for research question 2 included

[5] The study team found that the percentage of students identified as economically disadvantaged in the data provided to the study team for 2018/19 and prior years was far below the values in publicly available reports on the Texas Education Agency website for those years. The study team was not able to resolve this problem, even after consulting with the Texas Education Research Center.

72 GYO districts and 688 comparison districts. The study team identified comparison districts by first sorting all Texas districts into 80 cells (that is, 20 regions in each of four locales) and then selecting any non-GYO districts in the cells that had at least one GYO district.

The sample for research questions 3–5 included cycle 1 and cycle 2 GYO districts that implemented pathway 1 and the comparison districts (table B3). The student sample included the populations of high school students in the sampled districts.

Table B3. Number of districts included in research questions 3–5

Cycle	Grow Your Own districts		Comparison districts		Total	
	Number of districts	Number of students	Number of districts	Number of students	Number of districts	Number of students
Cycle 1	24	39,417	393	459,475	427	498,892
Cycle 2	35	65,807	446	770,599	481	836,406

Note: The data were for the first year of each grant cycle (that is, 2018/19 for cycle 1 and 2019/20 for cycle 2). In all, 193 districts served as comparison districts for both cycle 1 and cycle 2 GYO districts.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

The sample for research questions 6 and 7 included the combined sample of 61 cycle 1 and cycle 2 GYO districts that implemented pathway 2 and 585 comparison districts. The paraprofessional sample included the populations of paraprofessionals employed each year in the sampled districts (46,930 paraprofessionals in 2018/19 and 49,398 paraprofessionals in 2019/20), regardless of whether they participated in pathway 2 of the GYO grant program.

The sample for research question 8 included high school students who completed the FIT Choice Survey (4,695 in fall 2019, 1,619 in fall 2020, and 873 in spring 2021). The FIT Choice Survey was designed for all individuals in Texas who are currently in or interested in the teaching profession. The Texas Education Agency administers the survey to all high school students enrolled in education and training courses; however, not all students complete the survey, and the sample is a subset of those students. The study team could not compute a response rate for each FIT Choice Survey administration because the number of high school students invited to participate in the survey each year was not known.[6]

Analysis

This section describes the methods used to answer each research question. For all research questions, differences or changes of 5 percentage points or greater are considered meaningful.

[6] Based on data used to address research question 3 (see tables C2 and C3 in appendix C), 3,581 students in cycle 1 GYO districts and 5,282 students in cycle 2 GYO districts completed at least one education and training course in 2019/20. The number of students responding to the fall 2019 survey therefore represents about 31 percent of the students in GYO districts who completed at least one education and training course in 2019/20. The number of students responding to the survey was much lower in non-GYO districts.

Research question 1: What were the geographic locales of GYO districts in 2018/19? Did they differ from the geographic locales of non-GYO districts?

To examine the geographic distribution of GYO districts, the study team calculated the number of GYO districts in each cycle belonging to each locale type (city, suburb, town, or rural area) and compared the distribution with that of non-GYO districts in the state.

Research question 2: How did the characteristics of GYO districts compare with districts in the same region with the same geographic locale type in 2018/19?

To answer research question 2, the study team examined student characteristics (enrollment and percentages of students by gender, race/ethnicity, economically disadvantaged status, English learner status, and special education status) and teacher characteristics (average years of experience, turnover rate) for GYO districts in each cycle and comparison districts. For enrollment, the study team calculated the percentage of GYO districts and comparison districts that were in each of the four enrollment categories (less than 500 students, between 500 and 999 students, between 1,000 and 4,999 students, and 5,000 students or more; see appendix A). For other characteristics, the study team took the average of each characteristic for GYO districts and comparison districts.

Research question 3: What percentage of high school students completed education and training courses in GYO districts in 2018/19 and 2019/20 (that is, in cycle 1 and the first year of cycle 2)?

To answer research question 3, the study team calculated the percentage of high school students who completed any education and training course in cycle 1 and cycle 2 GYO districts between 2015/16 and 2019/20 based on total student enrollment in the district for grades 9–12 students each year. The study team also calculated the percentage of high school students who completed any education and training course during the GYO grant period (2018/19 and 2019/20 in cycle 1 districts and 2019/20 in cycle 2 districts). The study team calculated and reported how many students completed one, two, three, and four courses within the grant period, and across a two-year period for students in cycle 1 districts, as well as how many students completed a sequence of courses (sequence completers). If a student began taking education and training courses prior to their district receiving a GYO grant, that student's course/program of study completion data were included in the analyses.

Research question 4: Were there differences in the grade-level and demographic characteristics of students in GYO districts who completed at least one education and training course each year in 2018/19 and 2019/20 compared with students in GYO districts who did not complete any education and training courses?

For research question 4, the study team calculated the distribution of students by grade and the average characteristics (that is, the percentages of students by gender, race/ethnicity, economically disadvantaged status, English learner status, and special education status) of students who completed education and training courses in 2018/19 and 2019/20. The study team calculated two sets of descriptive statistics: one for students who completed education and training courses in each of the two GYO grant years, and the other for students in the same grade levels in GYO districts in the same years who did not take any of these courses.

Research question 5: How did the completion of education and training courses in GYO districts compare with districts in the same region with the same geographic locale type that did not participate in the GYO grant program before and after the grant awards (between 2015/16 and 2019/20)?

For research question 5, the study team compared the percentages of students who completed education and training courses from 2015/16 to 2019/20 for GYO districts and comparison districts. Not every GYO district had a comparison district.

Research question 6 (supplemental question): Were there differences in the characteristics of paraprofessionals in GYO districts and districts in the same region with the same locale type that did not participate in the GYO grant program before and after the grant awards (between 2015/16 and 2020/21)?

For research question 6, the study team calculated the average characteristics of paraprofessionals (gender, race/ethnicity, job roles, highest degree earned, and certification status) for GYO districts and comparison districts.

Research question 7 (supplemental question): What percentages of paraprofessionals in GYO districts attained bachelor's degrees, teaching credentials, and teaching positions each year before and after the grant awards (between 2015/16 and 2020/21)? Did attainment of those outcomes among paraprofessionals in GYO districts differ from districts in the same region with the same geographic locale type that did not participate in the GYO grant program?

For research question 7, the study team calculated the percentages of paraprofessionals in GYO districts and in comparison districts who attained each of the following outcomes each year between 2015/16 and 2020/21:

- *Attaining a bachelor's degree or higher*. Because the study team did not have direct data on degree attainment records, the study team relied on the variable on highest degree reported for any individual in the employment file to identify paraprofessionals who attained a bachelor's degree each year. For each year between 2015/16 and 2020/21, the study team first identified paraprofessionals whose highest degree reported in the employment file from the prior year is lower than a bachelor's degree. For these paraprofessionals, the study team calculated the percentage of paraprofessionals whose reported highest degree is a bachelor's degree or higher in the current year. For example, for calculating the degree attainment rate for paraprofessionals employed in 2015/16, the denominator is the number of paraprofessionals employed in 2015/16 whose highest degree was lower than a bachelor's degree in the 2014/15 employment file (*D*). Paraprofessionals who were not employed in 2014/15 were not included in the denominator. The numerator is the number of paraprofessionals in *D* whose highest degree is a bachelor's degree or higher in 2015/16.
- *Attaining a teaching certificate.* To examine the attainment of a teaching certificate, the study team first identified paraprofessionals employed each year who did not have a record for standard certification from prior years based on available teacher certification data. The study team then calculated the percentage of paraprofessionals who attained a standard certification in each year. For example, to calculate the teaching certificate attainment rate for paraprofessionals employed in 2015/16, the denominator is the number of paraprofessionals employed in 2015/16 who have no records of a teaching certificate from 2005/06 (the earliest year with certification data) to 2014/15

(*D*), and the numerator is the number of paraprofessionals in *D* who attained a teaching certificate in 2015/16.

- *Attaining a teaching position*. To examine the attainment of teaching positions, the study team calculated the percentage of paraprofessionals employed each year who attained a teaching position (working in role of "teacher" in the Public Education Information Management System data) in any Texas district in the following year. For example, to calculate the teaching position attainment rate for paraprofessionals employed in 2015/16, the denominator is the number of paraprofessionals employed in 2015/16 (*D*), and the numerator is the number of paraprofessionals in *D* who attained a teaching position in any Texas school in 2016/17.

Research question 8 (supplemental question): To what extent did students who completed education and training courses in GYO districts and non-GYO districts report plans to become a teacher?

For research question 8, the study team examined the frequencies of student responses to two survey items from the FIT Choice Survey: One item asked about students' intentions to become a teacher (Have you decided to become a teacher?), and the other item asked about the reasons for enrolling in education and training courses (Why did you choose to enroll in this course?).

Limitations

This study has two major limitations for the analyses of outcomes for high school students (research questions 3–5).

A primary limitation relates to the short period of time for implementing the GYO grants and the general timeframe for the study. Cycle 1 grants started in 2018/19, and cycle 2 grants started in 2019/20. The study used available data through 2019/20 for high school course completion, which meant that analyses were limited to two years for cycle 1 districts and one year for cycle 2 districts since the start of the grant. The study team examined student enrollment and completion for cycle 1 and cycle 2 districts, explicitly recognizing that the data for cycle 2 districts were limited to the first year of the grant period. Although high school students can complete multiple education and training courses in one or two academic years, it is unlikely that significant sequence completion would be observable within the two grant years, particularly for students in lower grades. It is possible that stronger patterns might be observable in course completion for high school students after a few more years of implementing the GYO grant program. The study timeframe also could not capture long-term outcomes for high school students, such as entering an educator preparation program.

A second limitation relates to the determination of sequence completion. The Texas Education Research Center database does not include an indicator for each student about whether the student completed a full course sequence of education and training courses. Thus, the study team developed an indicator for sequence completion based on the Texas Education Agency's definition. It is possible that this indicator differs from official sequence completion records that the Texas Education Agency or districts may have.

Three additional limitations relate to the supplemental analyses:

- The study used available data through 2020/21 for the analyses of outcomes for paraprofessionals. The data were insufficient for capturing long-term outcomes for paraprofessionals, such as certification. Nor did the study team have data on any milestones or interim outcomes for paraprofessionals on their way to attaining a teaching certificate (for example, enrolling in and completing an educator preparation program or passing certification examinations).
- The study team analyzed all paraprofessionals in GYO districts that implemented pathway 2, regardless of whether they directly participated in the program activities. The Texas Education Agency provided the study team with a list of participant paraprofessionals. However, with incompleteness of the data (missing data on key identification variables such as employment ID and last name for about one third of the records) and questions about validity of data (for example, the study team could not match district IDs to district IDs in the Texas Education Research Center data), the study team decided that the list could not reliably identify participating paraprofessionals in GYO districts. Therefore, the results describe the attainment of career-related outcomes for all paraprofessionals in the sampled districts. Because the percentage of paraprofessionals attaining a bachelor's degree or a teaching position each year were very small, the study team did not disaggregate the results for paraprofessionals by cycle.
- The study team could not compute a response rate for each FIT Choice Survey administration because the number of high school students invited to participate in the survey each year was not known. It is unknown to what extent the survey respondents were representative of all students who enrolled in education and training courses each year in GYO districts and non-GYO districts. Thus, the study team urges caution when interpreting the results.

The final set of limitations apply to both the primary and supplemental analyses.

- To examine short-term outcomes for GYO districts, the study team decided to use districts in the same region with the same locale type to compare districts that may face similar challenges recruiting and retaining teachers, such as districts in rural areas. The comparison districts may differ from GYO districts in unobservable ways, such as proximity to an educator preparation program or the existence of additional funding or initiatives to recruit and retain teachers. For this reason, the study team cautions about interpreting the results as causal. Rather, the results provide the Texas Education Agency with descriptive information about the characteristics of participants in the GYO grant program and relative changes in outcomes for GYO districts and other districts in the same region with the same locale type.
- The study findings (particularly results for 2019/20 and 2020/21) should be viewed within the context of the COVID-19 pandemic. The study team did not account for the disruption the pandemic may have had on implementing the GYO grant program and on program outcomes.

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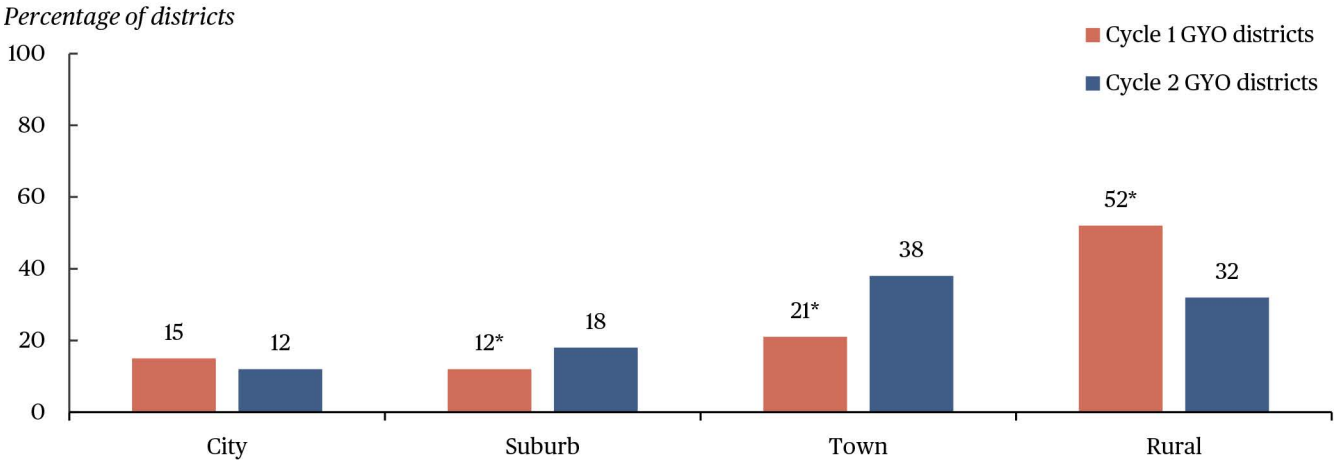
Appendix C. Supporting analysis

This appendix provides supporting analyses for the findings related to research questions 1-5. Figure C1 presents the geographic locales of Grow Your Own (GYO) districts, separately for cycle 1 and cycle 2 districts.

Figure C1. Cycle 1 Texas Grow Your Own districts are more likely to be in rural areas and less likely to be in towns and suburbs compared with cycle 2 Grow Your Own districts, 2018/19



* Denotes differences of 5 percentage points or greater between cycle 1 GYO districts and cycle 2 GYO districts.
GYO is Grow Your Own.
Note: The sample included 33 cycle 1 GYO districts and 39 cycle 2 GYO districts.
Source: Authors' analysis of data provided by the Texas Education Agency and publicly available data from the Common Core of Data.

Table C1 presents the characteristics of GYO districts and districts in the same region with the same locale type that did not participate in the GYO grant program (comparison districts; research question 2).

Table C1. Average characteristics of Texas Grow Your Own districts and districts in the same region with the same locale type that did not participate in the Grow Your Own grant program, 2018/19

Characteristic (average)	Cycle 1 GYO districts (*N* = 33)	Cycle 2 GYO districts (*N* = 39)	Cycles 1 and 2 GYO districts (*N* = 72)	Comparison districts (*N* = 688)
Enrollment size				
Less than 500 students	27	18	22	17
Between 500 and 999 students	36*	62*	50*	31
Between 1,000 and 4,999 students	18*	5*	11*	22
5,000 students or more	18*	15*	17*	30
Average percentage of students by race/ethnicity				
Black	14	10	12	10
Hispanic	46*	52*	50*	39
Other races/ethnicities	4	4	3	4
White	36*	34*	35*	47
Average percentage of students who are economically disadvantaged	69*	65*	67*	59
Average percentage of English learner students	10	18*	14	10
Average percentage of students in special education	10	10	10	10
Average teacher years of experience (years)[a]	12	11	11	12
Average district teacher turnover rate (percentage)[b]	20	22	21	21

* Denotes differences of 5 percentage points or greater between GYO districts (cycle 1, cycle 2, or both cycles) and comparison districts.
GYO is Grow Your Own.
Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. The "other races/ethnicities" category includes Asian, Amer{ican Indian, Alaska Native, Pacific Islander, and two or more races. The study team combined these categories because of small percentages in each category.
a. District average teacher years of experience is a weighted average obtained by multiplying each teacher's full-time equivalent (FTE) count by the teacher's years of experience, summing for all weighted counts, and then dividing by the total teacher FTEs, with proper adjustments for teachers with zero years of experience (Texas Education Agency, n.d.).
b. Average district teacher turnover rate is the total FTE count of teachers not employed in the district in fall 2018/19, who were employed in the district in fall 2017/18, divided by the teacher FTE count for fall 2017/18 (Texas Education Agency, n.d.). Teachers who continue employment with a district but in a role other than teaching are included in the turnover rate.
Source: Authors' analysis of data provided by the Texas Education Agency and publicly available data on the Texas Education Agency website.

Tables C2–C5 provide information about the completion of education and training courses among grades 9–12 students in GYO districts that implemented pathway 1 activities, which focused on establishing or expanding existing education and training course offerings for high school students (research question 3). Tables C2 and C3 present the numbers and percentages of students completing at least one education and training course. Table C4 shows how many students completed education and training courses during the grant period (2018/19 and 2019/20) and the number of courses completed. Table C5 shows how many students did and did not complete a course sequence during the grant period.

Table C2. Number and percentage of grades 9–12 students completing education and training courses in cycle 1 Texas Grow Your Own districts that implemented pathway 1, 2018/19 and 2019/20

Academic year	Number of students completing at least one course	Total students	Percentage of students completing at least one course
2018/19	3,313	39,417	8.4
2019/20	3,581	40,164	8.9

Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table C3. Number and percentage of grades 9–12 students completing education and training courses in cycle 2 Texas Grow Your Own districts that implemented pathway 1, 2019/20

Academic year	Number of students completing at least one course	Total students	Percentage of students completing at least one course
2019/20	5,282	65,807	8.0

Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table C4. Number and percentage of grades 9–12 students completing education and training courses in Texas Grow Your Own districts that implemented pathway 1, 2018/19 and 2019/20

Cycle	Number of courses completed		
	1	2	3 or 4[a]
Cycle 1 GYO districts (2018/19 and 2019/20)			
Number of students completing education and training courses	5,602	912	92
Percentage of students completing education and training courses	84.8	13.8	1.4
Cycle 2 GYO districts (2019/20)			
Number of students completing education and training courses	4,882	371	29
Percentage of students completing education and training courses	92.4	7.0	0.6

GYO is Grow Your Own.
a. Data for students completing three or four courses were combined to comply with the small cell size guidelines from the Texas Education Research Center.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table C5. Number and percentage of students who did and did not complete an education and training course sequence in Texas Grow Your Own districts that implemented pathway 1, 2015/16–2019/20

Cycle and completion status	Grade 9	Grade 10	Grade 11	Grade 12	Total
Cycle 1 GYO districts (2018/19 and 2019/20)					
Number of students who did not complete a course sequence	12,511	11,854	11,106	16,569	52,040
Number of students who completed a course sequence	[a]	[a]	147	406	562
Percentage of students who completed a course sequence	[a]	[a]	1.3	2.5	1.1
Cycle 2 GYO districts (2019/20)					
Number of students who did not complete a course sequence	18,351	16,692	15,605	14,491	65,139
Number of students who completed a course sequence	[a]	[a]	219	440	668
Percentage of students who completed a course sequence	[a]	[a]	1.4	3.0	1.0

GYO is Grow Your Own.
a. The number/numerator is smaller than 5 and masked to comply with small cell guidelines from the Texas Education Research Center.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table C6 presents data on the grade levels and demographic characteristics of students who completed at least one education and training course in GYO districts compared with students in GYO districts who did not complete any such course (research question 4).

Tables C7 and C8 present the percentages of students who completed at least one education and training course in cycle 1 and cycle 2 GYO districts and in their comparison districts, overall and by grade and student demographic characteristics (research question 5).

Table C6. Grade level and demographic characteristics of students who completed at least one education and training course and students who did not complete any such course in Texas Grow Your Own districts that implemented pathway 1, 2018/19 and 2019/20

Characteristic	Cycle 1 year 1 (2018/19)		Cycle 1 year 2 (2019/20)		Cycle 2 year 1 (2019/20)	
	Completed at least one course	Did not complete any courses	Completed at least one course	Did not complete any courses	Completed at least one course	Did not complete any courses
Number of students	*3,313*	*36,104*	*3,581*	*36,583*	*5,282*	*60,525*
Grade						
Grade 9	20.0*	28.3	27.0	28.0	18.3*	28.7
Grade 10	27.6	26.5	25.7	26.2	26.3	25.3
Grade 11	25.4	24.2	24.9	24.1	27.9	23.7
Grade 12	27.0*	20.9	22.5	21.6	27.6*	22.3
Gender						
Female	75.8*	46.4	74.5*	46.1	70.2*	46.7
Male	24.2*	53.6	25.5*	53.9	29.7*	53.3
Race/ethnicity						
Asian	2.0	4.0	1.7	3.9	3.1*	11.5
Black	16.4	13.9	15.6	13.9	16.0	17.9
Hispanic	52.2	50.4	52.8	51.1	42.7	44.0
Other races/ethnicities	2.4	2.4	2.9	2.6	2.1	2.4
White	27.0	29.3	27.0	28.4	36.1*	24.1
Economically disadvantaged status						
Not economically disadvantaged	na	na	44.2*	51.3	43.9	46.0
Economically disadvantaged	na	na	55.8*	48.7	56.1	54.0
Special education status						
Not in special education	98.7	99.0	90.1	91.1	88.9	90.3
In special education	1.3	1.0	9.9	8.9	11.1	9.7
English learner status						
Not English learner student	84.2	82.4	89.8	89.6	93.4	89.2
English learner student	15.8	17.6	10.2	10.4	6.6	10.8

* Denotes differences of 5 percentage points or greater between students who completed at least one education and training course and students who did not.
GYO is Grow Your Own; na is not available.
Note: The "other races/ethnicities" category includes American Indian, Alaska Native, Pacific Islander, and two or more races. The study team combined these categories because of small percentages in each category. Data on economically disadvantaged status were not available for year 1 of cycle 1 (2018/19).
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table C7. Percentages of students who completed at least one education and training course in cycle 1 Texas Grow Your Own districts that implemented pathway 1 and comparison districts, by grade and demographic group, 2015/16–2019/20

Characteristic	2015/16		2016/17		2017/18		2018/19		2019/20	
	GYO districts (*N* = 36,519)	Comparison (*N* = 434,245)	GYO districts (*N* = 37,765)	Comparison (*N* = 444,922)	GYO districts (*N* = 38,903)	Comparison (*N* = 453,387)	GYO districts (*N* = 39,417)	Comparison (*N* = 459,475)	GYO districts (*N* = 40,164)	Comparison (*N* = 468,078)
All students	*8.6*	*9.9*	*8.6*	*9.7*	*8.7*	*7.9*	*8.4*	*7.6*	*8.9*	*7.7*
Grade										
Grade 9	6.2	7.7	5.7	7.9	6.1	6.0	6.1	5.5	8.6	5.6
Grade 10	8.3	10.0	8.3	9.6	8.7	8.2	8.7	8.1	8.8	8.2
Grade 11	9.4	10.6	9.9	10.7	9.7	8.5	8.8	8.4	9.2	8.4
Grade 12	11.5	11.7	11.3	10.7	11.1	9.1	10.6	8.7	9.2	9.1
Gender										
Female	12.8	14.5	12.7	14.3	13.2	11.8	13.0	11.3	13.6	11.5
Male	4.5	5.5	4.7	5.2	4.5	4.1	4.0	4.0	4.4	4.1
Race/ethnicity										
Asian	4.8	5.4	3.9	5.4	5.0	4.0	4.5	3.5	4.0	3.5
Black	10.3	11.3	8.9	10.5	10.1	8.1	9.7	7.9	9.9	8.3
Hispanic	9.0	10.4	9.0	10.2	9.3	8.3	8.7	7.9	9.2	7.9
Other races/ethnicities	7.3	9.4	8.5	8.8	8.4	7.8	8.4	6.8	9.8	7.1
White	7.8	9.4	8.3	9.3	7.6	7.9	7.8	7.8	8.5	8.0
Economically disadvantaged status										
Not economically disadvantaged	na	na	na	na	na	na	na	na	7.8	7.0
Economically disadvantaged	na	na	na	na	na	na	na	na	10.1	8.5
Special education status										
Not in special education	8.6	9.9	8.5	9.6	8.7	7.8	8.4	7.6	8.8	7.6
In special education	13.4	12.9	11.7	11.0	13.0	10.4	11.1	8.5	9.9	9.2
English learner status										
Not English learner student	9.0	10.3	9.1	10.1	9.1	8.2	8.6	7.9	8.9	7.8
English learner student	6.6	7.2	5.8	7.0	7.1	5.9	7.6	5.5	8.8	7.0

GYO is Grow Your Own; *N* is the number of students in the districts; na is not available.
Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. The "other races/ethnicities" category includes American Indian, Alaska Native, Pacific Islander, and two or more races. The study team combined these categories because of small percentages in each category.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table C8. Percentages of students who completed at least one education and training course in cycle 2 Texas Grow Your Own districts that implemented pathway 1 and comparison districts, by demographic group, 2015/16–2019/20

Characteristic	2015/16		2016/17		2017/18		2018/19		2019/20	
	GYO districts (*N* = 61,078)	Comparison (*N* = 728,410)	GYO districts (*N* = 62,776)	Comparison (*N* = 746,480)	GYO districts (*N* = 63,917)	Comparison (*N* = 759,780)	GYO districts (*N* = 64,470)	Comparison (*N* = 770,599)	GYO districts (*N* = 65,807)	Comparison (*N* = 784,746)
All students	*8.1*	*9.3*	*8.5*	*9.2*	*8.3*	*8.0*	*7.8*	*7.7*	*8.0*	*7.6*
Grade										
Grade 9	5.4	7.1	5.9	7.1	5.8	6.1	6.1	5.6	5.3	5.5
Grade 10	8.8	9.4	9.0	9.4	9.1	8.3	7.5	8.2	8.3	8.2
Grade 11	8.8	10.1	9.9	10.3	9.9	8.6	9.0	8.4	9.3	8.5
Grade 12	10.3	11.1	9.9	10.6	8.6	9.4	8.9	8.9	9.8	8.6
Gender										
Female	12.0	13.4	12.4	13.5	12.4	11.7	11.3	11.3	11.6	11.2
Male	4.4	5.4	4.8	5.2	4.4	4.5	4.5	4.2	4.7	4.2
Race/ethnicity										
Asian	3.7	5.8	3.2	5.8	2.2	4.3	2.6	4.0	2.3	3.9
Black	9.8	11.2	10.0	10.7	8.7	8.9	8.3	8.4	7.2	8.5
Hispanic	7.7	9.1	8.6	9.2	8.4	8.1	7.8	7.7	7.8	7.6
Other races/ethnicities	8.6	8.8	7.4	9.4	7.6	7.9	7.6	7.5	7.1	7.5
White	9.2	9.2	9.6	9.0	10.4	8.1	9.6	8.1	11.6	7.9
Economically disadvantaged status										
Not economically disadvantaged	na	na	na	na	na	na	na	na	7.7	7.2
Economically disadvantaged	na	na	na	na	na	na	na	na	8.3	8.0
Special education status										
Not in special education	8.1	9.3	8.5	9.2	8.3	8.0	7.8	7.7	7.9	7.5
In special education	7.2	10.1	9.8	10.0	6.7	9.9	6.8	7.9	9.0	9.1
English learner status										
Not English learner student	8.9	9.8	9.3	9.8	9.0	8.4	8.6	8.2	8.4	7.7
English learner student	4.4	6.8	4.8	6.7	4.9	6.1	4.4	5.7	5.0	6.5

GYO is Grow Your Own; *N* is the number of students in the districts; na is not available.
Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. The "other races/ethnicities" category includes American Indian, Alaska Native, Pacific Islander, and two or more races. The study team combined these categories because of small percentages in each category.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Reference

Texas Education Agency. (n.d.). *Snapshot 2019: Item definitions*. https://rptsvr1.tea.texas.gov/perfreport/snapshot/ 2019/itemdef.html

Appendix D. Supplemental analyses

This appendix presents results for supplemental analyses addressing research questions 6–8.

Supplemental research questions related to pathway 2 (paraprofessionals)

1. Were there differences in the characteristics of paraprofessionals in Grow Your Own (GYO) districts and districts in the same region with the same locale type that did not participate in the GYO grant program before and after the grant awards (between 2015/16 and 2020/21)?
2. What percentages of paraprofessionals in GYO districts attained bachelor's degrees, teaching credentials, and teaching positions each year before and after the grant awards (between 2015/16 and 2020/21)? Did attainment of those outcomes among paraprofessionals in GYO districts differ from districts in the same region with the same geographic locale type that did not participate in the GYO grant program?

Supplemental research question related to students' career plans

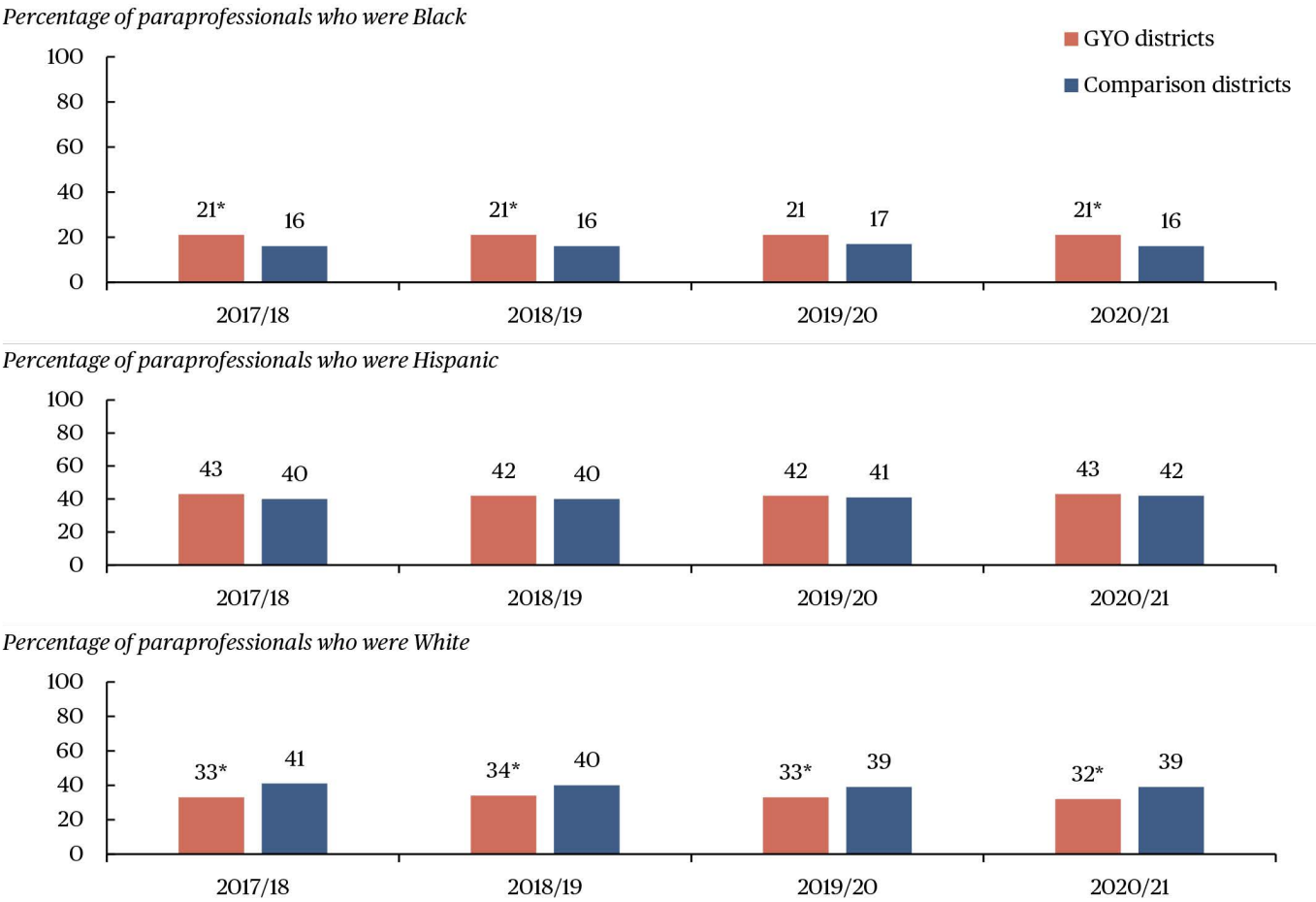
3. To what extent did students who completed education and training courses in GYO districts and non-GYO districts report plans to become a teacher?

Findings related to pathway 2 (paraprofessionals)

Sixty-one GYO districts implemented pathway 2, which focused on supporting paraprofessionals (including instructional aides and long-term substitute teachers) to pursue certification and full-time teaching positions.

GYO districts had a higher percentage of paraprofessionals who were Black and a lower percentage of paraprofessionals who were White than comparison districts both before and after the grant awards. The percentage of paraprofessionals who were Black was 4–6 percentage points higher in GYO districts than in comparison districts, whereas the percentage of paraprofessionals who were White was 6–8 percentage points lower in GYO districts than in comparison districts (figure D1). Paraprofessionals in GYO districts and comparison districts were similar across other characteristics (table D1).

Figure D1. Texas Grow Your Own districts had a higher percentage of paraprofessionals who were Black and a lower percentage of paraprofessionals who were White than comparison districts both before and after the grant awards, 2017/18–2020/21



* Denotes differences of 5 percentage points or greater between paraprofessionals in GYO districts and paraprofessionals in comparison districts.

GYO is Grow Your Own.

Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. The district sample included 61 GYO districts and 585 comparison districts. For GYO districts, the sample included 6,387 paraprofessionals for 2017/18, 6,574 paraprofessionals for 2018/19, 7,143 paraprofessionals for 2019/20, and 7,328 paraprofessionals for 2020/21. For comparison districts, the sample included 38,415 paraprofessionals for 2017/18, 40,356 paraprofessionals for 2018/19, 42,255 paraprofessionals for 2019/20, and 42,852 paraprofessionals for 2020/21. The "other races/ethnicities" category, including Asian, American Indian, Alaska Native, Pacific Islander, and two or more races combined, is not shown on these charts because the percentages were small (3 percent to 4 percent), and there were no meaningful differences between GYO districts and comparison districts on this category.

Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table D1. Characteristics of paraprofessionals in Texas Grow Your Own districts and comparison districts, 2015/16–2020/21

Characteristic	2015/16		2016/17		2017/18		2018/19		2019/20		2020/21	
	GYO districts	Comparison districts	GYO districts	Comparison districts	GYO districts	Comparison districts	GYO districts	Comparison districts	GYO districts	Comparison districts	GYO districts	Comparison districts
Number of paraprofessionals	*5,560*	*35,548*	*5,765*	*36,514*	*6,387*	*38,415*	*6,574*	*40,356*	*7,143*	*42,255*	*7,328*	*42,852*
Gender (percentage)												
Female	87	90	88	90	87	90	87	89	88	89	88	90
Male	13	10	12	10	13	10	13	11	12	11	12	10
Race/ethnicity (percentage)												
Black	21*	15	22*	16	21*	16	21*	16	21	17	21*	16
Hispanic	38	39	39	39	43	40	42	40	42	41	43	42
White	37*	43	36*	42	33*	41	34*	40	33*	39	32*	39
Other races/ ethnicities	4	3	3	3	3	3	3	4	4	3	4	3
Instructional role (percentage)												
Certified interpreter	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤1
Educational aide	96	98	96	99	97	99	97	98	96	98	97	98
Substitute teacher	≤4	≤2	≤4	≤1	≤3	≤1	≤3	≤2	≤4	≤2	≤3	≤2
Education and certification (percentage)												
Bachelor's degree or higher	20	16	19	16	19	17	20	18	21	18	23	18
Standard certificate	≤1	≤1	≤1	≤1	≤1	≤1	≤1	≤2	≤1	≤2	≤2	≤1

* Denotes differences of 5 percentage points or greater between paraprofessionals in GYO districts and paraprofessionals in comparison districts.
GYO is Grow Your Own.
Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. The "other races/ethnicities" category includes Asian, American Indian, Alaska Native, Pacific Islander, and two or more races. The study team combined these categories because of small percentages in each category. The sample included 61 GYO districts and 585 comparison districts. Some cells are reported as "≤X" following the masking guidelines required by the Texas Education Research Center.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

The percentages of paraprofessionals who attained a bachelor's degree or higher, a standard certificate, and a teaching position in a Texas public school were small each year before and after the grant awards and similar in both GYO districts and comparison districts. The percentages of paraprofessionals in GYO districts who attained a bachelor's degree or higher, a standard certificate, and a teaching position in a Texas public school in these GYO districts were small (no more than 3 percent) and similar to the percentages of paraprofessionals who attained each career-related outcome in comparison districts (tables D2–D4). The percentage of paraprofessionals who attained a bachelor's degree increased by 1–2 percentage points in GYO districts since 2018/19, whereas the percentage in comparison districts remained at 1 percent or lower during the same period. However, it is not known to what extent the GYO grant program contributed to this upward trend in the percentage of paraprofessionals attaining a bachelor's degree in GYO districts because the study team was not able to identify paraprofessionals who directly participated in pathway 2 (that is, paraprofessionals supported by the GYO grant).

Table D2. Percentages of paraprofessionals who attained a bachelor's degree in Texas Grow Your Own districts that implemented pathway 2 and comparison districts, 2015/16–2020/21

Year	GYO districts (*N* = 61 districts)		Comparison districts (*N* = 585 districts)	
	Number of paraprofessionals without a bachelor's degree in the prior year	Percentage of paraprofessionals with a bachelor's degree or higher in the current year	Number of paraprofessionals without a bachelor's degree in the prior year	Percentage of paraprofessionals with a bachelor's degree or higher in the current year
2015/16	3,581	1	23,432	≤ 1
2016/17	3,692	1	23,503	≤ 1
2017/18	3,800	1	24,170	1
2018/19	4,163	3	25,281	≤ 1
2019/20	4,247	2	25,763	1
2020/21	4,518	2	27,110	≤ 1

GYO is Grow Your Own.
Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. Some cells are reported as "≤X" following the masking guidelines required by the Texas Education Research Center.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table D3. Percentages of paraprofessionals who attained a standard certificate in Texas Grow Your Own districts that implemented pathway 2 and comparison districts, 2015/16–2020/21

Year	GYO districts (*N* = 61 districts)		Comparison districts (*N* = 585 districts)	
	Number of paraprofessionals without a standard teaching certificate in the prior year	Percentage of paraprofessionals attaining a standard teaching certificate in the current year	Number of paraprofessionals without a standard teaching certificate in the prior year	Percentage of paraprofessionals attaining a standard teaching certificate in the current year
2015/16	5,560	≤1	35,548	≤1
2016/17	5,765	1	36,514	≤1
2017/18	6,387	≤1	38,415	≤1
2018/19	6,574	2	40,356	1
2019/20	7,143	2	42,255	1
2020/21	7,328	≤1	42,852	≤1

GYO is Grow Your Own.
Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. Some cells are reported as "≤X" following the masking guidelines required by the Texas Education Research Center.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Table D4. Percentages of paraprofessionals in Texas Grow Your Own districts that implemented pathway 2 and comparison districts who attained a teaching position in any Texas district the following year, 2015/16–2019/20

Year	GYO districts (*N* = 61 districts)		Comparison districts (*N* = 585 districts)	
	Number of paraprofessionals employed in the current year	Percentage of paraprofessionals attaining a teaching position in the following year	Number of paraprofessionals employed in the current year	Percentage of paraprofessionals attaining a teaching position in the following year
2015/16	4,180	≤1	26,751	1
2016/17	4,250	≤1	27,588	≤1
2017/18	4,736	1	29,224	≤1
2018/19	4,861	≤1	29,991	≤1
2019/20	5,313	≤1	31,992	≤1

GYO is Grow Your Own.
Note: Comparison districts are those in the same region with the same locale type as GYO districts and did not participate in either cycle of the GYO grant program. Some cells are reported as "≤X" following the masking guidelines required by the Texas Education Research Center.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.

Findings related to students' career plans

Slightly more than one third of the students in GYO districts who responded to the survey in fall 2019 and fall 2020 indicated that they had decided to become a teacher; the percentage dropped to 22 percent in spring 2021 (table D5). The percentage of students who reported deciding to become a teacher was higher in non-GYO districts, ranging from 35 percent in spring 2021 to 66 percent in fall 2019. More than one third of the respondents in GYO districts (37 percent to 39 percent) indicated they were not sure whether to become a teacher, whereas between 20 percent and 35 percent of respondents in non-GYO districts indicated so.

When asked about the reason for enrolling in an education and training course, between 14 percent (in fall 2020) and 22 percent (in fall 2019) of students in GYO districts reported that they enrolled in the course because they knew they wanted to become a teacher. The percentage of students in non-GYO districts who selected this response option ranged from 12 percent in fall 2019 to 21 percent in spring 2021. About one third of the students (28 percent to 35 percent) in GYO districts indicated that they enrolled in the course because they were interested in becoming a teacher but were not sure. The percentage of students in non-GYO districts who selected this response option ranged from 14 percent in fall 2019 to 29 percent in spring 2021.

The study team urges interpreting these results with caution. The overall survey response rates (albeit unknown) were likely to be particularly low (less than 30 percent), and the differential response rates between GYO districts and non-GYO districts were likely to be large (see discussions in appendix B). It is unknown to what extent the survey respondents were representative of all students who enrolled in education and training courses each year in GYO districts and non-GYO districts.

Table D5. Texas students' responses to relevant items in the Factors Influencing Teaching Choice Survey, 2019–2021

Percentage of students	Fall 2019		Fall 2020		Spring 2021	
	GYO districts	Non-GYO districts	GYO districts	Non-GYO districts	GYO districts	Non-GYO districts
Number of student respondents	*2,717*	*1,978*	*1,111*	*508*	*604*	*269*
Have you decided to become a teacher? (Percentage who responded yes)						
I have decided to become a teacher.	37*	66	36*	45	22*	35
I have decided NOT to become a teacher.	25*	14	27*	19	39*	32
I am not sure.	38*	20	37	35	39*	33
Why did you choose to enroll in this course? (Percentage who responded yes)						
I am interested in becoming a teacher, but I am not sure.	30*	14	28*	24	35*	29
I heard this is a challenging course.	4	2	4	4	5	6
I heard this is a fun course.	24*	10	25*	19	39*	28
I heard this is a rewarding course.	17*	8	16	12	24*	15
I heard this is an easy course.	10*	4	11	8	17	14
I know I want to become a teacher.	22*	12	14	16	19	21
I want to be able to leave campus during the day.	6	3	4	5	5	12
I want to travel and compete in TAFE or FCCLA events.	8	5	6	6	5	7
My friends are in this course.	7	3	7	4	11	9
Other.	12*	5	14*	6	16	12

* Denotes differences of 5 percentage points or greater between respondents in GYO districts and in non-GYO districts.
FCCLA is Family, Career, and Community Leaders of America; GYO is Grow Your Own; TAFE is Texas Association of Future Educators.
Note: Non-GYO districts are those that did not participate in cycle 1 or cycle 2 of the GYO grant program. The data in this table provide a snapshot of student intentions and career plans at each time of survey administration, based on the responses of the individuals who participated. The study team did not have information on the number of students eligible to participate in the survey or characteristics of students who did not participate. Thus, the study team could not calculate the response rate or the relative bias for the survey results. It is unknown to what extent the survey results reflect the intentions and career plans of all students who enrolled in education and training courses each year in GYO districts or non-GYO districts.
Source: Authors' analysis of data provided by the Texas Education Agency and the Texas Education Research Center.