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Southwest Region

Identification of gifted and talented English learner students in grades K–5 in Texas

Lessons from student-level data

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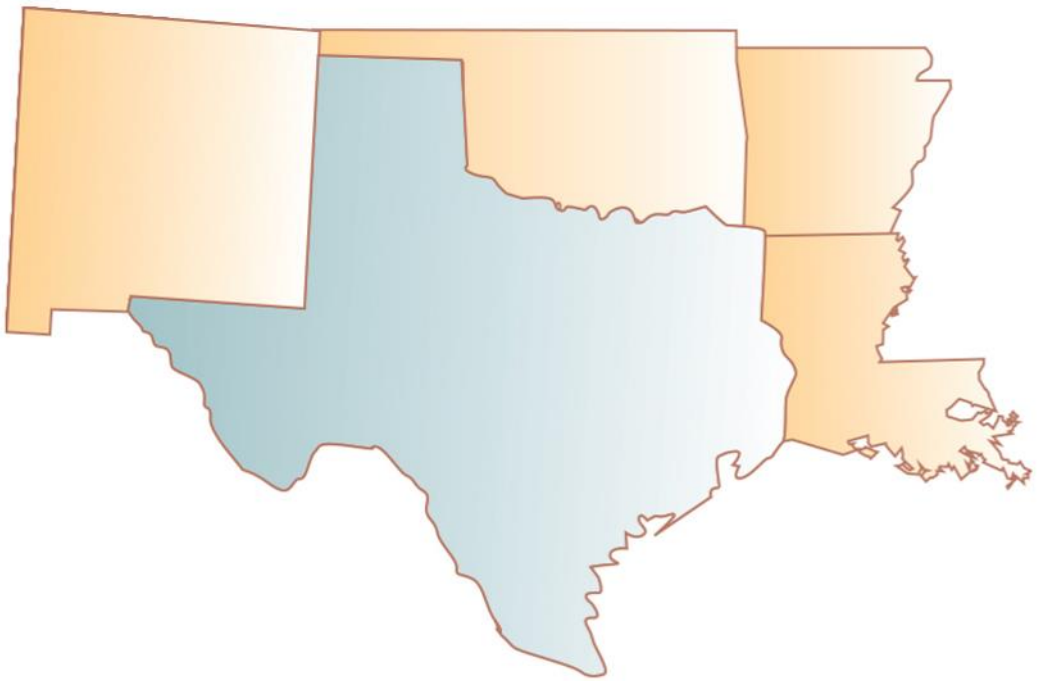

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Limited Distribution Report

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Acknowledgments

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The representation of grade K–5 English learner students in gifted and talented programs in Texas

The members of Regional Educational Laboratory (REL) Southwest's Texas English Learners Research Alliance requested this project because they were interested in learning more about the participation of current English learner students in gifted and talented (GT) programs in Texas, and how their participation compared with that of former English learner students and students who were never English learner students (See box 1 for key definitions).

A series of studies have been conducted to find out more about GT participation rates of current and former English learner students and students who were never English learner students. Existing research indicates that English learner students have historically been underrepresented in GT programs. According to data from the Office for Civil Rights at the U.S. Department of Education, English learner students make up 9.6 percent of public school student enrollment in prekindergarten through grade 12 in the United States but account for only 2.7 percent of students enrolled in GT programs (U.S. Department of Education, Office for Civil Rights, 2014). This underrepresentation of English learner students in GT programs was evident in 48 states, including Texas. Moreover, in a recent national survey of a sample of elementary GT programs commissioned by the U.S. Department of Education (Callahan, Moon, & Oh, 2013), only half of elementary school districts reported having strategies to identify as gifted historically underrepresented populations.[1] Please see appendix A for a brief review of recent literature on participation of English learner students in GT programs.

In Texas, the State Plan for the Education of Gifted/Talented Students (Texas Education Agency [TEA], 2009), adopted in 1996 and revised most recently in 2009, is the basic guide for Texas school districts in designing and improving their services for GT students. The plan covers five aspects: student assessment, service design, curriculum and instruction, professional development, and family-community involvement. For each of the five aspects, "the 'In Compliance' column of the State Plan displays required standards of service per Texas laws and rules. The Recommended and Exemplary standards are the standards of services that districts should aim for beyond the compliance with law and rule. Currently, the responsibility for implementing GT services aligned with these standards is the responsibility of the local school board. However, TEA does conduct financial audits of the gifted/talented allotment per the standards of the State Plan."[2]

[1] The national survey did not gather information specific to English learner students enrolled in GT programs.

[2] Information obtained on July 26, 2017, through electronic communication from the statewide coordinator, Gifted/Talented Education, Special Populations Division, Texas Education Agency.

Box 1. Key terms

Current English learner student. A student who is in the process of acquiring English and whose native language is another language.

Former English learner student. A student who has met the criteria to exit the English learner status and, therefore, is no longer classified as an English learner student.

Ever English learner student. A student who is currently identified as an English learner student (current English learner student) or one who used to be identified as an English learner but has exited the program (former English learner student).

Never English learner student. A student who has *never* been identified as an English learner student.

Schools with proportional representation. Schools in which the percentage of ever English learner students in the GT program is the same or at most one standard deviation greater than the percentage of English learner students in the school population.

Underrepresenter Schools. Schools in which the percentage of ever-English learner students in the GT program is less than the percentage of English learner students in the school's general population.

One of the standards for selected services under the student assessment aspect of the state plan is presented in table 1: To qualify as an "exemplary" gifted/talented program, the population of the total district needs to be reflected in the population of the gifted/talented services program. Populations of the gifted and talented program can be defined by race/ethnicity, economic status, English learner status, homeless status, military status, and twice-exceptional children (i.e., students identified as both special education and EL). Specific populations considered could vary from district to district.

Table 1. Standards for selected services under the student assessment aspect of the Texas State Plan

In Compliance (C)	Recommended (R)	Exemplary (E)
1.6C	**1.6R**	**1.6E**
Access to assessment and, if needed, GT services is available to all populations of the district (19 TAC §89.1(3)).	Over the past two (2) years, the population of the GT services program has become more closely reflective of the population of the total district.	The population of the total district is reflected in the population of the GT services program or has been for two (2) of the past three (3) years.

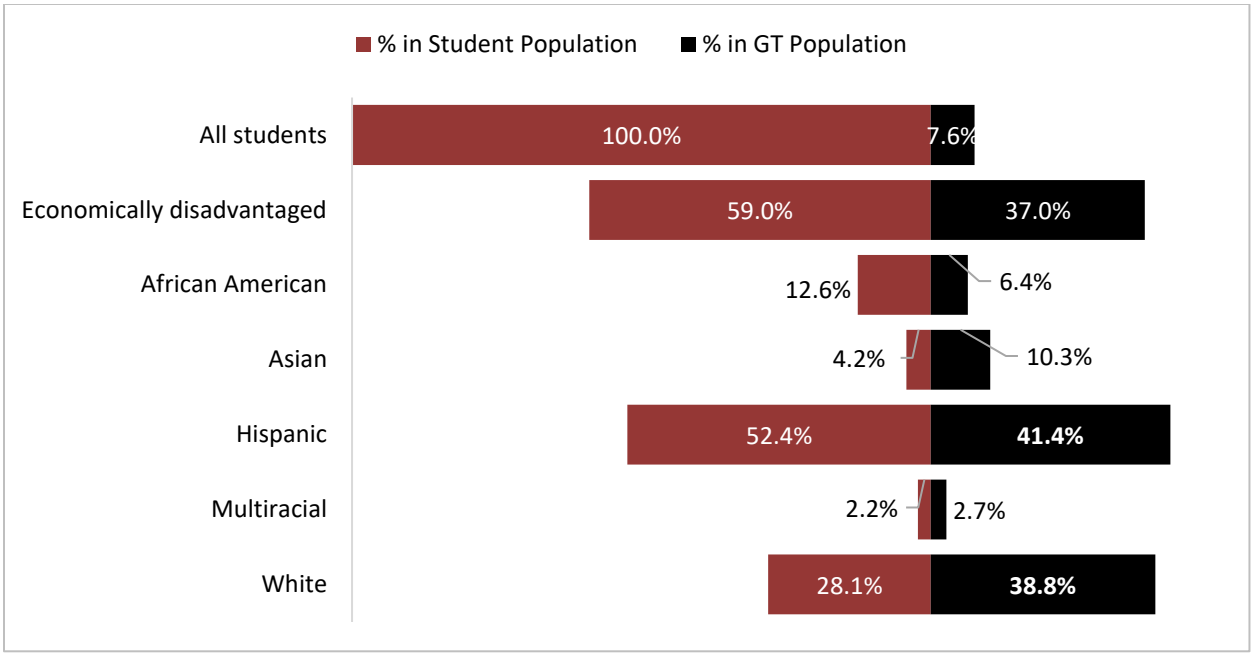
Source: Texas State Plan for the Education of Gifted/Talented Students (2009), Texas Education Agency.

The most recent enrollment data available for the state indicate that 7.8 percent of grade K–12 students enrolled in Texas public schools participated in GT programs in the 2016/17 school year (TEA, 2017a). TEA publishes participation[3] of students in GT programs by race/ethnicity and economically disadvantaged status, but not by English learner status. According to the numbers for 2016/17, African American and Hispanic representation was smaller in GT programs than in the overall student population (see figure 1). Conversely, Asian, White, and

[3] In Texas, the only gifted and talented indicator code indicates whether the student is participating in a state-approved gifted and talented program, as defined in 19 TAC §89.1. There is no gifted and talented indicator for a student who is identified as gifted and talented but is not participating in a gifted and talented program. Therefore, the language used throughout the report refers to participation as opposed to identification.

multiracial representation was larger in GT programs than in the overall student population (figure 1). Compared with their representation in overall student enrollment in 2016/17, students identified as economically disadvantaged made up a smaller percentage of students participating in GT programs (figure 1).

Figure 1. Economically disadvantaged, African American, and Hispanic students are underrepresented in GT programs in Texas public schools, 2016/17



Source: Authors' compilation based on data from the Texas Education Agency (2017a).

Project Description

This project consists of three components. The first component of the project, summarized in this limited distribution memo (LDM), focused on the participation of current and former English learner students in GT programs in Texas public schools. The second component of the project, summarized in a second LDM and presented in an Alliance meeting in October, focused on the analyses of qualitative data from a small sample of districts and schools to learn about the identification of gifted English learner students. The third and last component of this project is a set of presentation materials to be shared with all alliance members; its content will focus on the findings reported in the two LDMs and will include a capacity-building activity designed specifically for alliance members and tailored to their needs.

To find out more about the participation of English learner students in GT programs in Texas public schools, this first component of the project proposed to answer three primary research questions:

1. How does the participation of current English learner students in GT programs compare with their participation in the total student population in Texas public schools?

2. What percentage of Texas schools serving grades K–5 have proportional representation of current and former English learner students in their general student population and in their GT population?
    a. How do the demographic characteristics of schools with proportional representation compare with those of underrepresenter schools?
3. In what elementary grades are current, former, and never English learner students first identified as gifted?
4. How do the rates of GT participation at each grade level compare among current, former, and never English learner students?

Methods

This section describes the sources and samples used and outlines the methodology used to answer the research questions.

Sources

To answer research question 1, REL Southwest researchers used school-level data corresponding to the 2014/15 school year provided by TEA. The data included the total number of students enrolled in the school and the total participating in GT programs, as well as total number of current English learner students enrolled in the school and the total number of current English learner students participating in GT programs.

The student-level data used for questions 2 and 3 were obtained from the University of Texas Education Research Center (ERC). The data included records of every student in the Texas public K–12 education system. To answer research question 2, cross-sectional student-level data for students in kindergarten through grade 5 from 2011/12 through 2014/15 were used. To answer research question 3, longitudinal student-level data from students in grades K–5 for four cohorts of kindergarten enrollees for the 2006/07 through 2009/10 school years were examined. Not included in the sample were students who enrolled after kindergarten, students who left Texas public schools between grades 1 and 5, and retained students.

Sample

The sample for question 1 consisted of school-level data for all Texas public schools serving children in early education through grade 12. Given that 66 percent of current English learner students in Texas public schools were enrolled in grades K–5 (TEA, 2017b), the calculations to answer question 1 were replicated using data only from schools serving students in grades K–5, had English learner students in their student population, had GT programs and were not missing data (n = 2,643 schools).[4]

[4] The sample originally included 4,652 schools that served current English learner students in grades K–5, of which 3,920 had GT programs. From these, 1,277 schools were excluded because of masked counts due to serving fewer than five total students, fewer than five current English learner students, or fewer than five gifted students; these exclusions reduced the sample to 2,643 schools.

The sample used to answer research question 2 consisted of student-level data for all students in Texas schools in grades K–5 from 2011/12 through 2014/15 (see table 2). It should be noted that the sample was limited to students in grades K–5 even in schools that served other grades. Because the analysis used the data from all students enrolled in grades K–5 each year, it is referred to as cross-sectional data. The student-level data was used to generate school-level values for grades K–5 each school year (*n* = 4,140 schools). This sample is larger than the sample of schools used in question 1 mainly because schools excluded due to masked data in question 1 could be included in research question 2. Schools with no GT programs, schools that did not serve English learner students, and schools with a larger percentage of ever English learner students in their GT programs than in their student population were not included in this sample. The latter set of schools was excluded because the goal of the study was to examine schools that had proportional representation or underrepresentation rather than overrepresentation.

Table 2. The cross-sectional sample to answer research question 2 included all students in grades K–5 in Texas public schools

Grade	2011–12	2012–13	2013–14	2014–15
K	379,431	390,619	391,711	390,550
1	392,276	396,885	409,433	412,338
2	383,400	389,203	394,431	408,139
3	379,400	382,968	389,998	396,320
4	375,729	378,716	383,561	390,543
5	377,701	376,396	382,914	388,299
Total by year	2,287,937	2,314,787	2,352,048	2,386,189

Source: Authors' calculations based on a cross-sectional sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

The sample used to answer research questions 3 and 4 was a subset of the sample used to answer research question 2. Specifically, the subset was limited to students who enrolled in kindergarten for the first time between 2006/07 and 2009/10 and for whom data was available in every grade from K to 5. The number of students included in each grade for these four cohorts of students is reported in table 3. Because the data used to answer this question included only students who enrolled in kindergarten and for whom data was available for grades K–5, it is referred to as the longitudinal sample. Not included in this longitudinal sample were students who enrolled after kindergarten, students who left Texas public schools between grades 1 and 5, and retained students.

Table 3. The longitudinal sample included all students who started kindergarten between 2006/07 and 2009/10 and stayed in school through grade 5

	Number of students by EL status in each grade				Percentage of students by EL status in each grade			
Grade	Current EL	Former EL	Never EL	Total	Current EL	Former EL	Never EL	Total
K	299,634	0	732,346	1,031,980	29.0	0.0	71.0	100
1	291,856	7,778	732,346	1,031,980	28.3	0.8	71.0	100
2	280,829	18,805	732,346	1,031,980	27.2	1.8	71.0	100
3	264,854	34,780	732,346	1,031,980	25.7	3.4	71.0	100
4	215,593	84,041	732,346	1,031,980	20.9	8.1	71.0	100
5	166,644	132,990	732,346	1,031,980	16.1	12.9	71.0	100

Note: EL is English learner student. GT is gifted and talented student.

Source: Authors' calculations based on a longitudinal sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

To answer research questions 3 and 4, only those students identified as gifted and talented between grades kindergarten and 5 (see table 4) were included. The resulting sample comprised 144,585 students who were first identified as gifted and talented between kindergarten and grade 5: 29,659 students identified while current English learner students, 8,598 identified while former English learner students, and 106,328 identified as never English learner students (table 4).

See appendix B for additional details on the samples.

Table 4. One in four GT students identified in the longitudinal sample was an ever English learner student

	Numbers of GT students first identified at each grade, by EL status			
Grade	Current EL	Former EL	Never EL	Total
K	516	0	2,466	2,982
1	11,702	162	32,878	44,742
2	6,549	913	22,199	29,661
3	5,688	1,322	19,130	26,140
4	3,271	2,738	16,098	22,107
5	1,933	3,463	13,557	18,953
Total	29,659	8,598	106,328	144,585

Note: EL is English learner student. GT is gifted and talented student.

Source: Authors' calculations based on a longitudinal sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Methodology

To answer research question 1, first, the total student population, total current English learner students in the student population, total students in GT programs, and total current English learner students in GT programs were calculating by adding up the school totals for each of these variables. Next, the analysis used these totals to calculate the percentage of current English learner students in the total student population, the percentage of all students in GT programs, and the percentage of current English learner students in GT programs. The first two percentages are published by TEA in its annual report on enrollment in Texas public schools, but the third one (percentage of current English learner students in GT programs) is not. As explained in the Sample section, these calculations were replicated using totals from the subset of schools that covered at least one of grades K–5, served current English learner students, and did not have any of the needed data masked. It is important to remember that, as mentioned in the Sample section, these calculations are based on school-level data, so data for schools serving students in at least one grade in the K–5 range include all grades served and not just data for K–5.

To answer research question 2, the analysis used student-level data to determine if English learner students in grades K–5 were proportionally represented in GT programs at schools that served grades that included at least one grade in the K–5 grade span. The definition of schools with proportional representation used in this project is based on the E-formula (Roy, 2012) (see appendix B for a detailed explanation of the E-formula). Next, to identify any significant differences in demographic characteristics between schools identified as schools with proportional representation and schools with underrepresentation, the student-level data were used to calculate school-level means for demographic characteristics. Finally *t*-tests were used to determine whether the means of the two groups were significantly different (see tables C1 and C2).

It should be noted that while the analysis to answer research question 1 used school-level data to determine representation of English learner students in GT programs in schools serving grades K–5, the analysis to answer research question 2 used student-level data to determine representation of English learner students in GT programs in grades K–5. The use of student-level data enabled the research team to examine differences between current and former English learner students. Another advantage of using student-level data was that it allowed the analysis to look at representation just within the study's grade range of interest, K–5, even though some schools served other grades. This was not possible when the analysis used school-level data to answer question 1.

To answer research question 3, researchers analyzed data from the longitudinal sample to determine the grade in which each GT student was first identified as gifted and their English learner status at the time of identification. Step 1 determined the number of students first identified as gifted in each grade by English learner status (current English learner, former English learner, never English learner). Step 2 added up these numbers across grades to obtain a total by English learner status for grades K–5. Step 3 calculated the percentage of students identified as gifted by English learner status in each grade using the count by English learner status in each grade (from step 1) as the numerator and using the total count of students identified as gifted in grades K–5 by English learner status (from

step 2) as the denominator. Steps 1–3 were done for each cohort separately. Given that there were similar results for the four cohorts, the analysis was replicated with the pooled data (all four cohorts together).

To answer research question 4, for each cohort, the REL Southwest research team determined the number of students participating in GT programs in each grade by English learner status in the grade (step 4). For each cohort, the research team also determined the number of students in each grade by English learner status (step 5). Both of these counts used the students' English learner status in that grade. As step 6, the research team used the totals, by English learner status, from step 4 as numerator and the totals, by English learner status, from step 5 as the denominator to calculate the percentage of students participating in GT programs in each grade by English learner status. The totals in steps 4 and 5 and the resulting percentages in step 6 were very similar across cohorts, so the data from the 4 cohorts was pooled, and steps 4–6 were replicated using the pooled dataset (see table 8). The analysis compared the participation of students by English learner status in the student population and in the GT population in each grade, and *t*-tests were used to determine whether the difference between participation in the student population and in the GT population by EL status at each grade was significantly different from 0.

For additional details on the analyses, see appendix B.

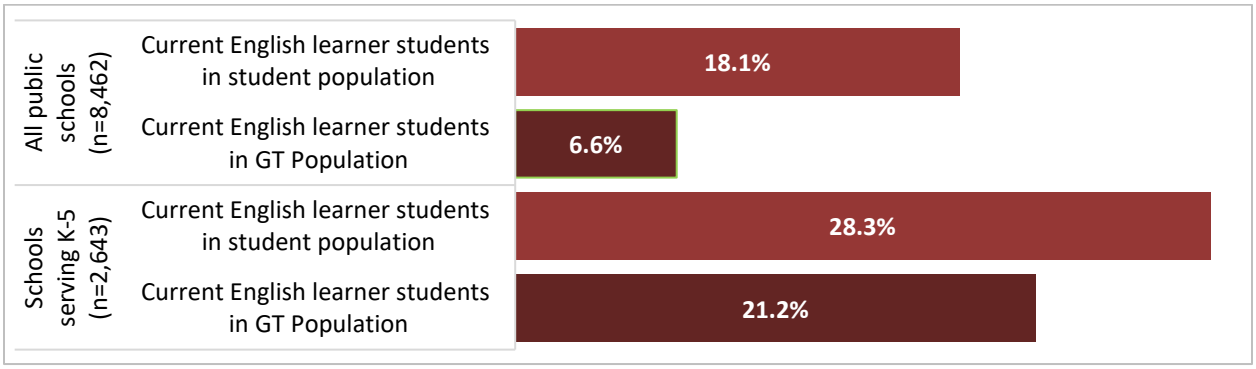
Findings

Research question 1: How does the participation of current English learner students in GT programs compare with their participation in the total student population in Texas public schools?

Current English learner student representation was smaller in GT programs than in the overall student population.

Current English learner students in Texas public schools represented 6.6 percent of the GT population and 18.1 percent of the overall student population in 2014/15. The calculations using data only from schools serving students in kindergarten through grade 5 revealed a similar finding; that is, that current English learner student representation was smaller in GT programs (21.2 percent) than in the overall student population (28.3 percent) (figure 2). Next, results from using student-level data to answer questions 2-4 are presented.

Figure 2. Current English learner students are underrepresented in gifted and talented programs in Texas public schools, 2014/15



Note: The sample of schools serving grades K–5 include elementary schools and middle schools that served current English learner students in grades K–5, and exclude schools with masked counts due to serving fewer than five total students, fewer than five current English learner students, or fewer than five gifted students.

Source: Authors' calculations using school-level data provided by the Texas Education Agency.

The analysis of the school-level data for those 2,643 schools revealed that 54.1 percent did not serve any current English learner students in their GT programs, even though current English learner students represented on average 9.5 percent of their student population. Additionally , 30.2 percent of schools served a lower percentage of current English learner students in their GT programs compared with their overall student population, while 15.6 percent served an equal or greater percentage of current English learner students in their GT programs compared with their overall student population.

Research question 2: What percentage of Texas schools serving grades K–5 have the same representation of current and former English learner students in their general student population and in their GT population?

One in three schools in Texas had a proportional representation of ever English learner students in their gifted and talented programs in grades kindergarten to 5.

Of this sample of 4,140 schools, 31.8 percent had proportional representation of ever English learner students at in the period 2011/12 to 2014/15 4-year period analyzed and 68.2 percent were underrepresenter schools (see table 5).

Table 5. Most schools serving ever English learner students in grades K–5 have underrepresentation of these students in gifted and talented programs in 2011/12 to 2014/15

Percentage of ever English learner students in GT population…	Number of schools	Percentage of schools
was less than proportional to the percentage of ever English learner students in the total student population	2,824	68.2%
was proportional to the percentage of ever English learner students in the total student population[1]	1,316	31.8%
Total	**4,140**	100.0%

Note: Uses the E-formula to define schools with proportional representation.

Source: Authors' calculations using data provided by the Texas Education Agency and accessed at the Texas ERC.

Research question 2a: How do the demographic characteristics of schools with proportional representation compare with those of underrepresenter schools?

The analyses revealed a few significant differences between schools with proportional representation and underrepresenters.[5] Specifically, schools with proportional representation and underrepresenters were significantly different in the demographic makeup of their student population; for example, schools with proportional representation had on average higher percentages of African American and Hispanic students and a smaller percentage of White students in their student population compared to underrepresenter schools (see table B1). These schools also differed in the percent of students who spoke Spanish or Vietnamese at home: significantly higher percentages of English learner students spoke Spanish or Vietnamese at schools with proportional representation than at underrepresenter schools (table B1). Also, the average percentage of economically disadvantaged students in schools with proportional representation was higher than the corresponding percentage for underrepresenter schools (table B1). Enrollment in grades K–5 at schools with proportional representation was larger than at underrepresenter schools (table B1). It is important to point out that that the size of the GT program was similar in schools with proportional representation and in underrepresenter schools (that is, the average percentage of students participating in GT programs was the same at both types of schools).

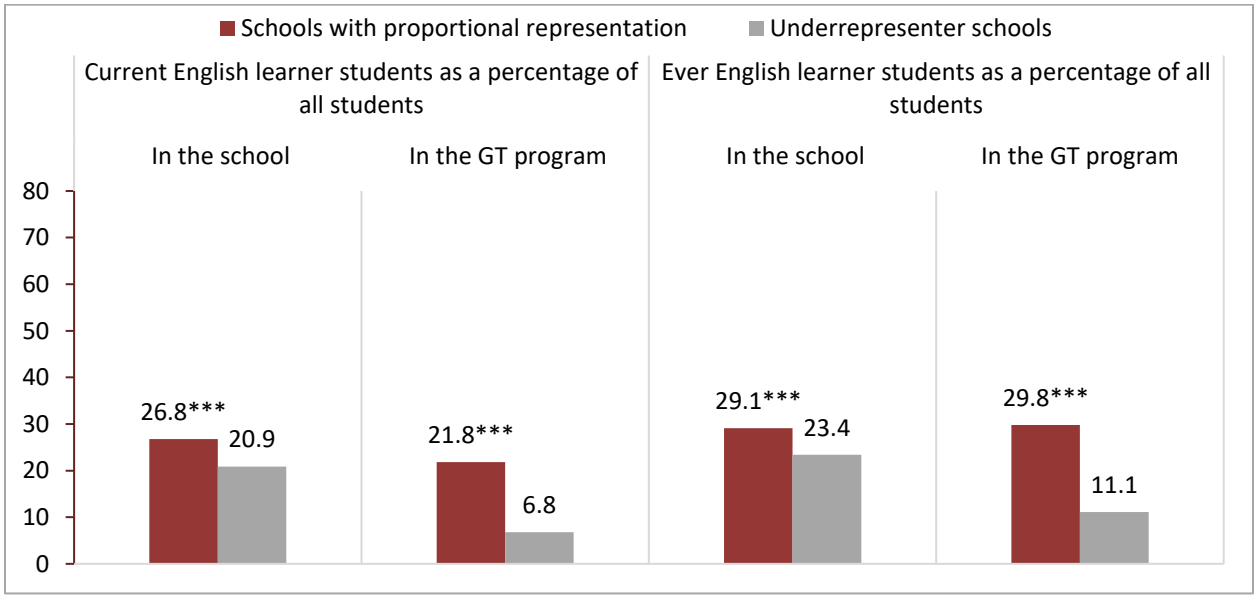
[5] See tables B1 and B2 in appendix B for additional comparisons of mean values for demographic characteristics of schools with proportional representation and underepresenters, and the *t*-statistics for these comparisons to determine whether the mean values between these two groups are significantly different.

Current and ever English learner students represented significantly greater percentages of the school population than they did at schools without proportional representation.

In schools with proportional representation, current English learner students represented 26.8 percent of the overall student population in grades K–5, versus 20.9 percent at underrepresenter schools (see figure 3, first pair of bars). When looking at the participation of current English learner students in their GT programs, at schools with proportional representation, current English learner students represented 21.8 percent of the GT student population in grades K–5, versus only 6.8 percent at underrepresenter schools (figure 3, second pair of bars).

Ever English learner students represented 29.1 percent of the overall population at schools with proportional representation and 23.4 percent at underrepresenter schools (figure 3, third pair of bars). When looking at the participation of ever English learner students in their GT programs, at schools with proportional representation ever English learner students represented 29.1 percent of the GT student population in grades K–5, versus only 11.1 percent at underrepresenter schools (figure 3, last pair of bars).

Figure 3. Percentage of current and ever English learner students in GT programs at schools with proportional representation is three times the percentage at underrepresenter schools



*** $p < .001$.

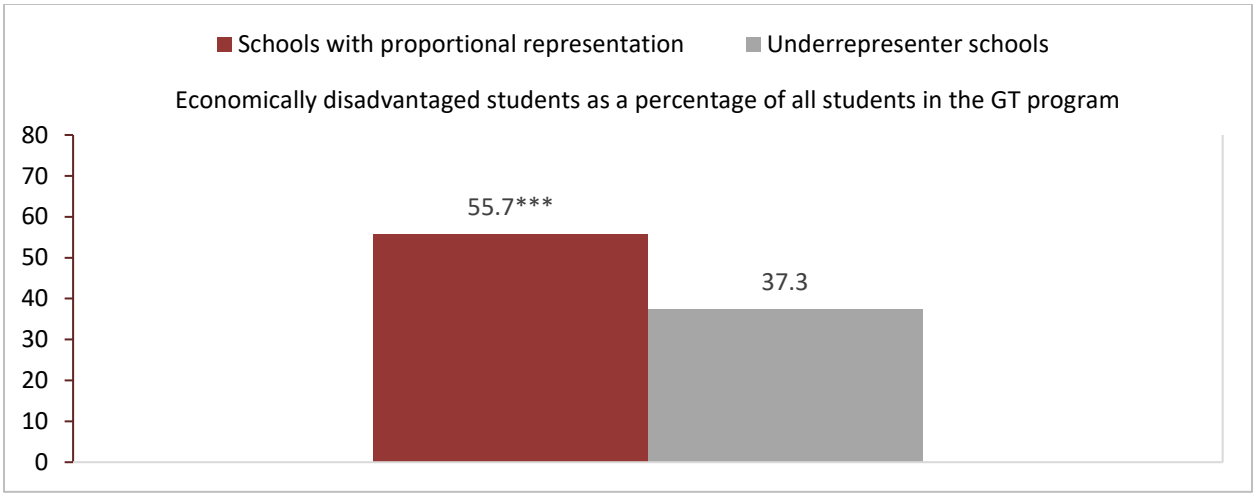
Note: GT is gifted and talented.

Source: Authors' analyses of cross-sectional time-series sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Schools with proportional representation served, on average, a higher percentage of economically disadvantaged students in their GT programs compared with underrepresenters.

At schools with proportional representation, economically disadvantaged students represent 55.7 percent of the GT population versus 37.3 percent at underrepresenter schools (see figure 4).

Figure 4. Schools with proportional representation serve a greater percentage of economically disadvantaged students in their GT program



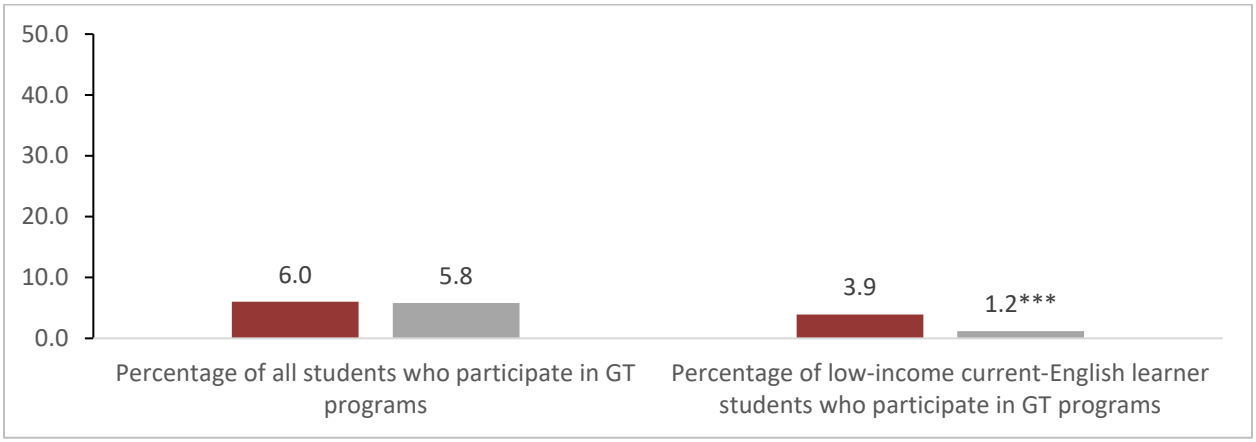
*** p < .001.

Note: GT is gifted and talented.

Source: Authors' analyses of cross-sectional time-series sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Moreover, schools with proportional representation have, on average, more than three times the percentage of their economically disadvantaged current English learner students participating in GT programs (3.9 percent) than underrepresenter schools (1.2 percent) (This is the case even when there was no significant difference in the average percentage of K–5 students served in GT programs at these two sets of schools—6 percent in schools with proportional representation and 5.8 percent in schools with underrepresentation (see figure 5 and table C3).

Figure 5. GT programs at both schools are the same size, but schools with proportional representation have more than three times the percentage of their economically disadvantaged English learner students participating



*** $p < .001$.

Note: GT is gifted and talented.

Source: Authors' analyses of cross-sectional time-series sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Research question 3: In what elementary grades are current, former, and never English learner students first identified as gifted?

Current and never English learner GT students were most frequently first identified as GT in grade 1.

For both current and never English learner GT students, the percentages of GT students identified in each grade after grade 1 fell as students moved from grade 1 to grade 5. At grade 5, 6.5 percent of current English learner GT students and 12.8 percent of never English learner GT students were identified (see table 6).

Table 6. Most current and never English learner students first identified as GT in grade 1

	Number of students first identified GT at each grade by EL status at time of identification			Percentage of students first identified GT at each grade by EL status at time of identification		
Grade	**Current EL**	**Former EL**	**Never EL**	**Current EL**	**Former EL**	**Never EL**
K	516	0	2,466	1.7	0.0	2.3
1	11,702	162	32,878	39.5	1.9	30.9
2	6,549	913	22,199	22.1	10.6	20.9
3	5,688	1,322	19,130	19.2	15.4	18.0
4	3,271	2,738	16,098	11.0	31.8	15.1
5	1,933	3,463	13,557	6.5	40.3	12.8
Total	**29,659**	**8,598**	**106,328**	**100.0**	**100.0**	**100.0**

Note: EL is English learner student. GT is gifted and talented student. Percentages add up to 100 in each column, EL status, and indicate the percentage of GT students first identified in each grade.

Source: Authors' calculations based on a longitudinal sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Former English learner students were first identified most frequently as GT in grade 5

As more current English learner students are reclassified as former English learner students as they move up the grades, the percentage of former ELs who are identified as GT in each grade also increases (table 6). Specifically, of all former English learner students identified as GT between grades K and 5, 1.9 percent of them were identified in grade 1, 10.6 percent were identified in grade 2, 15.4 percent were identified in grade 3, 31.8 percent were identified in grade 4, and 40.3 percent of them were identified in grade 5 (table 6). Former English learner students became a higher percentage of GT students identified in each grade (see table 7). For example, in grade 3, 3.4 percent of students in the sample were former English learner students (table 3) and 5.1 percent of students first identified as GT in grade 3 were former English learner students (table 7). In grade 5, 12.9 percent of students in the sample were former English learner students (table 3), and 18.3 percent of students identified as GT in grade 5 were former English learner students (table 7). These data trends suggest that English learner students are being identified as GT once they become English proficient rather than before reaching proficiency. This is also consistent with analysis that determined that former English learner students in Texas had a higher probability of being identified as GT in grades 4 and 5 compared to current and never English learner students with similar achievement levels (Ruiz de Castilla, 2017).

Table 7. Participation of former English learner students first identified for GT programs increases in each grade

	Percentages of GT students first identified in each grade by EL status			
Grade	**Current EL**	**Former EL**	**Never EL**	**Total**
K	17.3	0	82.7	100
1	26.2	0.4	73.5	100
2	22.1	3.1	74.8	100
3	21.8	5.1	73.2	100
4	14.8	12.4	72.8	100
5	10.2	18.3	71.5	100
Total	20.5	5.9	73.5	

Note: EL is English learner student. GT is gifted and talented student. Percentages add up to 100 in each row, grade level, and correspond to the percentages of GT students first identified in that grade by EL status.

Source: Authors' calculations based on a longitudinal sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Research question 4: How do the rates of GT participation at each grade level compare among these groups?

The percentage of ever English learner students participating in GT programs was significantly smaller than the percentage of ever English learner students in the student population.

Throughout grades K–5, ever English learner students (that is, current and former English learner students combined) represented a smaller percentage of students in GT programs compared with their percentage in the student population, though the gap tended to get smaller as students moved from kindergarten to grade 5 (table 8). Conversely, the participation of never English learner students in the GT population was always significantly greater than their participation in the student population, though it tended to get smaller as students moved from kindergarten to grade 5 (table 8). Current English learner students were underrepresented at every grade level. That is at every grade level their GT participation rates were lower than their percentage of the student population (e.g. 27.2 percent of the student population at grade 2, but 22.8 percent identified as GT) (table 8 and figure 6). However, former English learner students increased their participation rates in the GT program in each grade (table 8). By grade 2, they were overrepresented in the GT population (table 8).

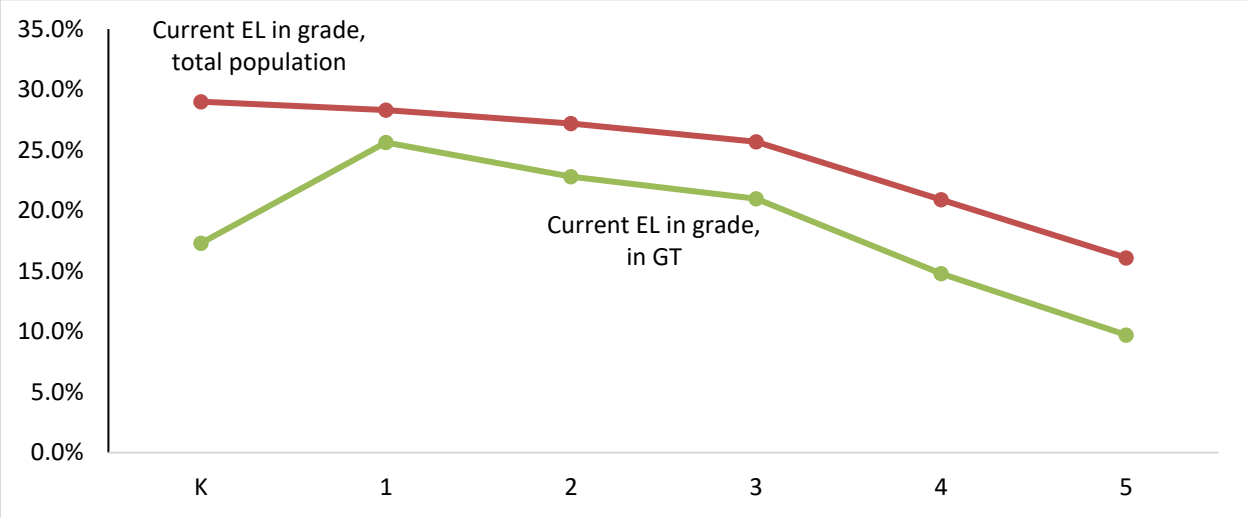
Table 8. In GT programs, current English learner students are underrepresented in grades K–5 but former English learner students are overrepresented in grades 2–5

	Percentage of students by EL Status each grade level			Percentage of GT students by EL status at each grade		
Grade	Current EL	Former EL	Never EL	Current EL	Former EL	Never EL
K	29.0	0.0	71.0	17.3	0.0	82.7
1	28.3	0.8	71.0	25.6	0.4	74.0
2	27.2	1.8	71.0	22.8	2.8	74.4
3	25.7	3.4	71.0	21.0	5.3	73.7
4	20.9	8.1	71.0	14.8	11.7	73.5
5	16.1	12.9	71.0	9.7	17.0	73.3

Note: EL is English learner student. GT is gifted and talented student.

Source: Authors' calculations based on a longitudinal sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Figure 6. Current English learner students in the longitudinal sample were underrepresented in gifted and talented programs in grades K–5



Note: EL is English learner student. GT is gifted and talented student. The counts used to calculate these percentages are based on total number of students in the longitudinal sample participating in GT programs in each grade using the EL status of the students when first identified (green line) and in the current grade (red line).

Source: Authors' calculations based on a longitudinal sample using data provided by the Texas Education Research Center at the University of Texas at Austin.

Implications

The purpose of this first component of the project was to use descriptive, nonexperimental analyses to find out if current English learner students were underrepresented in GT programs in Texas public schools, and to further explore data on current and former English learner students in schools serving grades K–5.

Findings related to research question 1 indicated that current English learner students were underrepresented in GT programs in Texas public schools; they make up 18.1 percent of the student population but only 6.6 percent of the GT population. Looking at the sample of schools that serve any grade in the K–5 range, current English learner students make up 28.3 percent of the student population but only 21.2 percent of the GT population.

Using student-level data, the project then compared characteristics of schools with proportional representation of English learner students in GT programs to underrepresenter schools where EL GT participation was less than proportional.

Findings related to question 2 indicate that in schools identified with proportional representation, both current and ever English learner students represented significantly greater percentages of the school population than at underrepresenter schools. Additionally, the percentage of economically disadvantaged current English learner students participating in GT programs was more than three times the percentage participating at underrepresenter schools.

Findings related to question 3 indicate that current and never English learner students were most frequently first identified as GT in grade 1, whereas former English learner students were most frequently first identified as GT in grade 5.

Findings related to question 4 indicate current English learner students were underrepresented as GT in each grade in kindergarten through grade 5. However, starting in grade 2, former English learner students are overrepresented in GT programs. This trend suggests that schools are not well equipped to identify some gifted English learner students before they are fully proficient in English. Districts and schools serving English learner students could explore their own procedures related to GT referral and identification to determine whether they could be more effectively referring and identifying English learner students for GT services before they become proficient in English.

The list of schools with proportional representation generated through this work will inform the qualitative component to complement the quantitative component of the project. It should be added that the ability to monitor former English learner students beyond their second year after exiting EL status enhances the ability to learn about the trajectories and academic progress of these students. Therefore, if the Texas Education Agency could enable this extended monitoring, it would greatly enhance what can be learned from these data to improve the outcomes of English learner students, a growing segment of the Texas student population.

Limitations

The quantitative component of the project has one main limitation. The first one is the analyses used a longitudinal sample that included only students who were enrolled in Texas public schools in kindergarten, remained enrolled in a Texas public school every year through grade 5, and were not held back. The dataset did not include students who enrolled in school after kindergarten or those who interrupted their enrollment in Texas public schools for at least a year between kindergarten and grade 5. Because the sample used is not reflective of the whole student population in kindergarten to grade 5 in Texas public schools, the trends observed are sensitive to this limitation.

Appendix A. Literature Review

A series of studies has examined reasons for the underrepresentation of current English learner students in GT programs (e.g., Bernal, 2002; Callahan, 2005; Callahan, Moon, & Oh, 2013; Card & Giuliano, 2015; Cohen, 1988; Frasier, Garcia, & Passow, 1995; Fultz, Lara-Alecio, Irby, & Tong, 2013; Grissom & Redding, 2016; National Academies of Sciences, Engineering, and Medicine, 2017; U.S. Department of Education, 2015; Wyner, Bridgeland, & Diiulio, 2007). Across these studies, reasons for underrepresentation include the following: lack of clear guidance from state education agencies on identifying students from underrepresented populations, lack of professional development for general education teachers related to identifying English learner students who may be gifted and talented, inadequate opportunities for talent development, issues with assessment that include test bias, a narrow definition of what constitutes giftedness, and a reliance on selective referrals.

Proposals to enhance the representation of current English learner students in GT programs have focused mostly on talent development and assessment. To foster talent development, recommendations include ensuring that, early on, poor minority students have access to high-quality preschool programing (National Academies of Sciences, Engineering, and Medicine, 2017) and that throughout their education they have equitable access to rigorous academic content (Callahan & Shifrer, 2016; Wyner et al., 2007), including college preparatory coursework. Other suggestions (Bernal, 2002) include using a multicultural curriculum or bilingual programming, with a goal of full proficiency in two or more languages, and recruiting more high-quality minority teachers who are less likely to set low expectations for English learner students and whose teaching styles are more congruent with their students' home cultures (Grissom & Redding, 2016).

To address issues related to assessment, researchers have proposed measuring the same aptitude variables for all students, but comparing English learner students with a norming sample that includes current English learner students rather than all students (Lohman, Korb, & Lakin, 2008); broadening the definition of academic giftedness to include high scores on content area assessments and teacher ratings as well as intelligence quotient tests (Card & Giuliano, 2014; Lohman et al., 2008); and using universal screening procedures in addition to parent and teacher referrals designed for students from Hispanic bilingual backgrounds (Card & Giuliano, 2015). In the Card and Giuliano study, universal screening consisted of having all second graders complete a nonverbal ability test; those scoring at or above a designated threshold were automatically referred to a district psychologist for further testing. Universal screening supplemented the traditional referral process in which students could be nominated by parents and teachers and families could have children screened privately.

Appendix B. Data, samples, and methodology

The sample used to answer research question 1 comprised school-level data for all Texas public schools for the 2014/15 school year. These school-level data received from the Texas Education Agency (TEA) to answer research question 1 included total counts of student groups and subgroups (see table B1). These counts were used as numerators and denominators by the Regional Educational Laboratory (REL) Southwest team to calculate the participation of current English learner students in the total school population and in gifted and talented (GT) programs.

Table B1. Variables received from the Texas Education Agency, 2014/15

School-level variables
School ID
Total students in the school
Total students in gifted and talented program
Total current English learner students
Total current English learner students in gifted and talented program

Source: Authors' compilation based on information provided by the Texas Education Agency.

The variables from the Texas Education Research Center (ERC) dataset used to answer research questions 2 and 3 are listed in table B2.

The sample used to answer research question 2 was comprised of student-level data for all students in Texas public schools in grades kindergarten to 5 from 2011/12 to 2014/15, which was added up to generate school-level values. To answer research question 3, the analysis used student-level data from 2006/07 to 2014/15, which provided data from kindergarten to grade 5 for four cohorts of students. These included variables to indicate when a student has been identified to receive GT services, whether they are classified as an English learner, and when they have been reclassified as English proficient. In answering research question 2a, the demographic variables considered are economically disadvantaged status, ethnicity, English learner status, and home language of English learner students. These student-level data was aggregated to obtain school-level values.

Table B2. Variables accessed through the University of Texas Education Research Center

Student-level variables	Code	Used to calculate school-level values (research question 2)	Used in the cohort analysis (research question 3)
Grade	Grade of enrollment (K–5)	✓	✓
Gifted and talented indicator code	GT = 1	✓	✓
English learner indicator code	Never English learner if LEP = 0 since kindergarten	✓	✓
	Current English learner = 1	✓	✓
	If LEP = F or LEP = S, former English learner in current or previous year = 1	✓	✓
Economic disadvantage indicator code	Student participates in free or reduced-price lunch = 1	✓	
Home language code	Spanish	✓	
	Vietnamese	✓	
	Arabic	✓	
	Other language	✓	
Race/ethnicity	Hispanic	✓	
	White	✓	
	Black	✓	
	Asian	✓	
	Other ethnicity	✓	

Source: Authors' compilation based on information provided by the Texas Education Research Center at the University of Texas at Austin.

The longitudinal sample built to answer research question 3 (table B2, last column) resulted from combining the four cohorts of students who entered Texas public schools as kindergarteners in 2006–09 and remained in Texas public schools until they reached grade 5 on time in 2011–14, respectively. Each cohort has approximately 250,000 students who remained in the sample through fifth grade (*stayer students*). The resulting longitudinal sample, including the stayers in the four cohorts, has a little more than one million students (see table B3). After exiting English learner status, the student is monitored for two years, and his or her English learner status is set to "F" the first year, "S" the second year, and "0" afterward. Therefore, after the second year, there is no way of differentiating between a former English learner student and a never English learner student in the Texas ERC dataset without accessing data from previous years (that is, longitudinal data).

Table B3. Number and percent of students in the longitudinal sample, by English learner status at each grade (four cohorts)

	Number of students by EL status at each grade				Percentage of students by EL status at each grade			
Grade	Current EL	Former EL	Never EL	Total	Current EL	Former EL	Never EL	Total
K	299,634	0	732,346	1,031,980	29.0%	0.0%	71.0%	100%
1	291,856	7,778	732,346	1,031,980	28.3%	0.8%	71.0%	100%
2	280,829	18,805	732,346	1,031,980	27.2%	1.8%	71.0%	100%
3	264,854	34,780	732,346	1,031,980	25.7%	3.4%	71.0%	100%
4	215,593	84,041	732,346	1,031,980	20.9%	8.1%	71.0%	100%
5	166,644	132,990	732,346	1,031,980	16.1%	12.9%	71.0%	100%

Note: EL stands for English learner. Counts include the four cohorts in the longitudinal sample.

Source: Authors' analyses of the longitudinal sample, subset of students in grades K–5, from data provided by the Texas Education Research Center at the University of Texas at Austin.

Quantitative analyses methods

To answer research question 1, the analysis first added up the following school-level counts for all Texas public schools: total students enrolled in the school, total students participating in GT programs in the school, total current English learner students enrolled in the school, and total current English learner students participating in GT programs in the school. Next, the analysis used these totals to calculate the percentage of current English learner students in the total student population, the percentage of all students in GT programs, and the percentage of current English learner students in GT programs. These calculations were replicated using totals from the subset of schools that covered at least one of the grades in K–5, served current English learner students, and did not have any of the needed data masked. It is important to remember that these calculations are based on school-level data, so data for schools serving students in at least one grade in the K–5 range include all grades served and not just data for K–5.

To answer research question 2, the annual *school-level* rates of former English learner and current English learner student participation in GT programs were calculated for students in kindergarten through grade 5 in Texas from 2011/12 to 2014/15. Unlike what was done to answer research question 1, these calculations are based on student-level data, so calculations include only students in grades K–5 even for schools serving students in other grades besides K–5. The following was calculated *for each school* with at least one grade in K–5, and *year:*

Percentage of ever English learner students in the student population (1) =

$$\frac{\text{number of ever English learner students in the overall population}}{\text{total number of students in the overall population}}$$

Percentage of ever English learner students in the GT population (ELGT) (2) =

$$\frac{\text{number of ever English learner GT students in the overall population}}{\text{total number of GT students in the overall population}}$$

The resulting school-level data file held the annual values calculated as described for each school from 2011/12 through 2014/15. These data was combined across years (as explained later) to identify the schools in which the participation of ever English learner students in their GT programs closely matches the participation of ever English learner students in the general school population. The methodology used to identify these schools in this project, called *schools with proportional representation*, is explained next.

Identifying schools with proportional representation

To identify schools where the proportion of ever English learner students in GT programs reflects the proportion of ever English learners in the general school population, the E-formula for each school and year was applied.

The E-formula has been found to be an effective measure to determine racial/ethnic disproportionality in special education (Roy, 2012); in this project, it was used to determine English learner student disproportionality in GT programs. English learner student disproportionality in GT programs is defined as the difference between the proportion of English learner students among all students identified as gifted and the proportion of English learner students in the general population. The mathematical expression of the E-formula is defined as follows:

$$E1H = A + \sqrt{\frac{A(100 - A)}{N}}$$

Where:

A = Percentage of the same subgroup—in this case, ever English learner students—in the school.

N = The total gifted program enrollment in the school.

E1H = Maximum percentage of the total gifted program representation in a school allowed for a specific subgroup (ceiling). In our case, the specific subgroup on which we are focusing is ever English learner students.

In statistical terms, the second component in the E-formula, $\sqrt{\frac{A(100-A)}{N}}$, is the standard error of A—In this case, the percentage of ever English learner students in GT programs.

The project used the E-formula to determine the upper limit to detect schools with proportional representation. The E-formula is less sensitive to small enrollments, small cell sizes, and their fluctuations than other alternative measurements of disproportionality (for

example, risk ratio), and it allows proportionately more flexibility for smaller schools than for larger schools. For these reasons, the procedure for identifying schools with proportional representation does not include additional requirements in terms of minimum school size, number of English learner students, or percentage of English learner students in the general school population or the GT population.

Procedure to identify schools with proportional representation

1. For each school, compare the actual participation of ever English learner students in the school's GT program with the upper bound calculated using the E-formula.

   Specifically, if

   A <= percentage of ever English learner students in the school's GT program <=E1H,

   then the school is identified as a school with proportional representation that year.

   If

   A > percentage of ever English learner students in the school's GT program,

   then the school is identified as an underrepresenter as there is underrepresentation of English learner students in the school's GT program.

   If

   E1H < A,

   this indicates overrepresentation of ever English learner students in the school's GT program.

2. Compile a listing of schools with proportional representation from 2011/12 through 2014/15, and indicate the number of years the school was identified as a school with proportional representation (value ranging between 1 and 4). The process identified 1,316 schools with proportional representation at least once in that timeframe.

To illustrate the process, an example is provided. As already explained, the E-formula was used in this project to identify schools with proportional representation: those schools in which the participation rate of ever English learner students in their GT programs is equivalent to the participation rate of ever English learner students in the general population, or up to one standard error greater (E1H). Schools were selected in which the value of ELGT is between A and E1H. For example, if a school enrolls 600 students, 240 of these students are identified as ever English learner students. If the school serves 20 students in the GT program, 9 are ever English learner students.

N = total gifted enrollment in the school = 20

A = percentage of ever English learner students in the general population = 240/600 = 40 percent

ELGT = Percentage of ever English learner students in the GT population = 9/20 = 45 percent

The formula, again, is

$$E - formula = E1H = A + \sqrt{\frac{A(100 - A)}{N}}$$

Therefore, replacing values:

$$E1H = 40 + \sqrt{\frac{40(100-40)}{20}} = 40 + \sqrt{120} = 40+10.95=50.95$$

The process would identify this school as a school with proportional representation if A <= ELGT <= E1H.

In this case, ELGT = 45, A = 40, and E1H = 50.95. Because 40 <= 45 <= 50.95, this school is a school with proportional representation. Ever English learner students make up 45 percent of the students in the GT program, which is greater than the percentage of ever English learner students in the school's total population, 40 percent, but less than the ceiling of 50.95 percent determined by the E-formula.

The listing of schools generated in step 2 was used to answer research question 2a because it allowed the research team to identify schools with proportional representation of English learner students in their GT program.[6] To answer research question 2a (identifying the demographic characteristics of these schools and their GT ever English learner students, and examining how these schools compare with schools in which these percentages are not comparable), school-level means for the following demographic indicators were calculated: percentage of economically disadvantaged students in the school and in the GT program, percentage of current and former English learner students in the school and in the GT program, percentage of students by racial/ethnic group, and home language of current English learner students. Using the listing generated in step 2, two groups of schools were identified: schools with proportional representation (1,316 schools) and schools with underrepresentation (2,824 schools). The school means from the schools in each group were used to calculate means for each of the two groups of schools.[7] Annual, school-level means from 2011/12 through 2014/15 were calculated first, and then the four-year mean for each demographic indicator by school group was calculated. Finally, *t*-tests were used to determine whether the means of the two groups were significantly different (see tables C1 and C2).

To answer research question 3, the first step was to subset only students who were identified as gifted at some point in grades K–5. The analytic sample used to answer this research question had 144,585 students identified as gifted at some point in grades K–5; 20.5 percent of them were current English learner students when identified, 5.9 percent were former English learner students when identified, and 73.5 percent of gifted students identified were never English learner students (table 7 in the main body of the report).

[6] Schools with an overrepresentation of English learner students in their gifted programs (ELGT > E1H), according to the E-formula, will not be included in the list of schools generated in step 5. The alliance's interest is specific to the demographics, instruments, procedures, and protocols in use by schools that have a proportional representation of English learner students in their gifted programs.

[7] The analysis identified 176 schools that had more than proportional representation of English learner students in their GT programs; these schools were not included in either group.

Next, for each cohort, the research team calculated the counts of students first identified as gifted in each grade (numerator) and the total across grades K–5 (denominator) in each of the three categories: current, former, and never English learner students. Using these counts, the percentage of current, former, and never English learner GT students first identified as gifted in each grade was calculated. For example, to calculate the percentage of current English learner students first identified as gifted in grade 2 in cohort 1, the number of current English learner students identified as gifted in grade 2 was used as the numerator and the total number of current English learner students identified as gifted in grades K–5 in cohort 1 was used as the denominator. After confirming that all four cohorts had the same pattern in terms of percentage of students identified as gifted in each grade by English learner status, the counts across the four cohorts were pooled and the percentages were calculated by grade and English learner status in the same way (see table 6).[8] By looking at the percentages identified in each grade by English learner status, it was possible to ascertain the grade in which the highest percentage for each English learner status (current, former, and never English learner) was first identified (table 6).

To answer research question 4, for each cohort, counts of total students by grade and total students participating in GT programs by grade were generated by English learner status in that grade. These counts used the students' English learner status in the grade, and allowed the calculation of the percentage of students participating in GT programs in each grade by English learner status. These counts and resulting percentages were very similar across cohorts, so the data from the four cohorts was pooled, and GT student totals and percentages by English learner status in each grade were generated using these pooled dataset (table 8). The analysis compared the participation of students by English learner status in the student population and in the GT population in each grade, and *t*-tests were used to determine whether the difference between participation in the student population and in the GT population by EL status at each grade was significantly different from 0. *T*-tests indicated that the percentage of current English learner students in the student population and in the GT population in each grade (K–5) were statistically different. Similarly, *t*-tests indicated that the percentage of never English learner students in the student population and in the GT population in each grade (K–5) were statistically different.

[8] Chi-square tests concluded that there were no significant differences in the total number or composition of gifted and talented students by English learner status by cohort.

Appendix C. Detailed results

This section presents detailed calculations to support the results provided for research questions 2a and 3 in the main body of the report.

Schools with proportional representation and underrepresentation were significantly different in the demographic makeup of their student population; for example, the average percentage of economically disadvantaged students in schools with proportional representation was higher than the corresponding percentage for underrepresenter schools (table C1).

Table C1. Schools with proportional representation serve more Hispanic students in their general school population than schools with less than proportional representation

		Representation of ever ELs in schools' GT program					
		Proportional		Underrepresenters		*t* statistic	
		Mean[1]	SD	Mean[1]	SD	*t* value	
Total enrollment		543.1	183.5	467.1	211.0	-11.81	***
Overall student ethnicity (percentage)	Hispanic	55.6	29.1	48.9	30.4	-6.77	***
	White	23.9	24.7	36.1	27.3	14.29	***
	Asian	3.1	5.8	3.1	7.5	0.16	
	African American	14.9	18.1	9.2	13.4	-10.23	***
Home language of ever ELs (percentage)	Spanish	82.4	23.6	80.4	24.8	-2.44	*
	Vietnamese	3.5	7.9	2.3	6.1	-4.75	***
	Arabic	1.5	3.8	1.4	4.4	-0.31	
	Other	12.7	18.4	15.8	21.1	4.92	***
Current ELs as a percentage of all students	In the school	26.8	22	20.9	20.2	-8.21	***
Current and former ELs as a percentage of all students	In the school	29.1	22.9	23.4	21.8	-7.49	***
Economically disadvantaged (FRPL) students as a percentage of all students	In the school	68.7	26.5	60.5	25.7	-9.38	***
Count of schools			**1,316**		**2,824**		

* $p < .05$ *** $p < .001$.

Note: EL is English learner. FRPL is free or reduced-price lunch. GT is gifted and talented. SD is standard deviation.

Means using school-level values from school years 2011/12 through 2014/15.

Schools with a proportional representation are those in which the percentage of English learner students in the GT program is the same or, at most, one standard deviation of the percentage of English learner students in the school population. Schools with underrepresentation are those in which the percentage of English learner students in the GT program is less than the percentage of English learner students in the school population. The sample includes 4,140 schools and excludes 176 schools in which the percentage of English learner students in the GT program is greater than the percentage of English learner students in the school population by more than one standard deviation.

Source: Authors' calculations based on a cross-sectional time-series sample using data for students in grades K–5 from 2011/12 to 2014/15 provided by the Texas Education Research Center at the University of Texas at Austin.

These two groups of schools differ not only in the participation of English learner students in their GT programs but also in the percentage of Hispanic students and economically disadvantaged English learner students who participate in their GT program (table C2).

Table C2. Mean values of demographic indicators of students in grades K to 5, schools with proportional representation and underrepresenter schools, 2001/12 to 2014/15

		Representation of ever ELs in schools' GT program:					
		Proportional		Underrepresenters		*t* statistic	
		Mean[1]	SD	Mean[1]	SD	*t* value	
Percentage of students in GT program		6	6.6	5.8	5.8	-0.95	
GT student ethnicity (percent)	Hispanic	51.2	32.1	34.9	33.4	-14.86	***
	White	30.2	28.7	51.3	32.7	20.75	***
	Asian	6.2	11.3	5.4	11.3	-1.96	
	African American	9.7	16.3	5.3	12	-8.63	***
Current ELs as a percentage of all students	In the GT program	21.8	21.9	6.8	12.1	-23.12	***
Current and former ELs as a percentage of all students	In the GT program	29.8	25.1	11.1	16.7	-24.32	***
Economically disadvantaged (FRPL) students as a percentage of all students	In the GT program	55.7	31.3	37.3	28.7	-17.84	***
Current ELs who are FRPL and GT as a percentage of all FRPL current ELs		3.9	6.8	1.2	2.8	-13.75	***
Count of schools			**1,316**		**2,824**		

*** $p < .001$.

Note: EL is English learner. FRPL is free or reduced-price lunch. GT is gifted and talented. SD is standard deviation.

Means using school-level values from school years 2011/12 through 2014/15.

Schools with a proportional representation are those in which the percentage of English learner students in the GT program is the same or, at most, one standard deviation of the percentage of English learner students in the school population. Schools with underrepresentation are those in which the percentage of English learner students in the GT program is less than the percentage of English learner students in the school population. The sample includes 4,140 schools and excludes 176 schools in which the percentage of English learner students in the GT program is greater than the percentage of English learner students in the school population by more than one standard deviation.

Source: Authors' calculations based on a cross-sectional time-series sample using data for students in grades K–5 from 2011/12 to 2014/15 provided by the Texas Education Research Center at the University of Texas at Austin.

The project determined the grade in which each gifted student in the longitudinal sample was first identified as such, and the student's English learner status at the time of identification. With this information, the analysis was able to calculate the number of students by English learner status identified as gifted in each grade, and to identify the grade at which the largest number of students from each subgroup was first identified as gifted. The calculations were done for each cohort (see table C3) and then added up across cohorts to answer research question 3.

Table C3. Number and percentage of students first identified as gifted in each grade in the longitudinal sample, by English learner status (four cohorts)

Cohort 1—First identified as GT						
Grade	Current EL	Former EL	Never EL	Current EL	Former EL	Never EL
K	104	0	496	1.5	0.0	1.9
1	2,169	39	7,515	31.5	1.7	28.9
2	1,667	188	5,251	24.2	8.4	20.2
3	1,513	343	4,678	22.0	15.3	18.0
4	929	689	4,313	13.5	30.6	16.6
5	494	990	3,768	7.2	44.0	14.5
	6,876	2,249	26,021	100.0	100.0	100.0
Cohort 2—First identified as GT						
Grade	Current EL	Former EL	Never EL	Current EL	Former EL	Never EL
K	117	0	603	1.6	0.0	2.3
1	2,649	39	7,866	37.2	1.9	30.3
2	1,556	210	5,479	21.9	10.4	21.1
3	1,476	281	4,687	20.7	13.9	18.0
4	906	668	4,129	12.7	33.1	15.9
5	413	821	3,239	5.8	40.7	12.5
	7,117	2,019	26,003	100.0	100.0	100.0
Cohort 3—First identified as GT						
Grade	Current EL	Former EL	Never EL	Current EL	Former EL	Never EL
K	156	0	679	2.1	0.0	2.5
1	3,228	36	8,261	42.8	1.7	31.0
2	1,625	247	5,744	21.5	11.6	21.6
3	1,461	354	4,923	19.4	16.6	18.5
4	629	691	3,789	8.3	32.3	14.2
5	448	810	3,254	5.9	37.9	12.2
	7,547	2,138	26,650	100.0	100.0	100.0
Cohort 4—First identified as GT						
Grade	Current EL	Former EL	Never EL	Current EL	Former EL	Never EL
K	139	0	688	1.7	0.0	2.5
1	3,656	48	9,236	45.0	2.2	33.4
2	1,701	268	5,725	21.0	12.2	20.7
3	1,238	344	4,842	15.2	15.7	17.5
4	807	690	3,867	9.9	31.5	14.0
5	578	842	3,296	7.1	38.4	11.9
	8,119	2,192	27,654	100.0	100.0	100.0

Note: EL stands for English learner. Counts correspond to each of the four cohorts in the longitudinal sample.

Source: Authors' analyses of the longitudinal sample, subset of gifted students identified in grades K–5, from data provided by the Texas Education Research Center at the University of Texas at Austin.

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