

Analysis of Essential Programs and Services Components:  
English Language Learners  
Report of Findings

Report to the Maine Department of Education  
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December 2019

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Essential Programs and Services Model: Report of Findings**

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**Background ..... 1**  
    English Learner Funding Component ..... 1  
    English-language Learning in Maine ..... 2  
**Methodology ..... 4**  
**Findings ..... 5**  
    Descriptive Analysis of EL Students in Maine ..... 5  
    District-level Demographic Analysis ..... 12  
    Expenditure Analysis ..... 18  
    Impact of Changing the EL Exit Criteria ..... 29  
    EL Programs in Charter Schools ..... 32  
**Summary of Findings ..... 32**  
**Discussion & policy implications ..... 35**  
**References..... 37**

# Analysis of English Language Learner Component of the Essential Programs and Services Model: Report of Findings

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## Background

### English Learner Funding Component

The Essential Programs and Services (EPS) funding formula allocates additional resources for each student who is identified as needing supplemental English language instruction. The additional funds are calculated using a weighting procedure that adjusts the student count upward by a certain amount in order to increase the district’s allocation. The weight is an estimate of the added cost of educating EL students relative to their non-EL peers.

Reliable evidence as to how much it costs in additional resources to adequately educate EL students is scarce. Most cost studies either fail to include analysis of EL students or combine them with economically disadvantaged and/or special education students to generate an overall “special needs” per pupil funding weight. In addition, EL students are not a homogenous group; students may require different levels of support depending on factors such as the home language or prior level of literacy resulting from interrupted or limited formal education. EL students with a history of trauma, special education needs, or extensive family or other obligations may also face additional barriers that need to be addressed in their education programs (Jimenez-Castellanos and Topper, 2012, The New York Immigration Coalition, 2008).<sup>1</sup>

In the absence of reliable information on the cost of EL education, Maine uses weights estimated by comparing districts’ actual reported EL expenditures per pupil to the cost of regular education. The resulting ratio – per-EL-pupil expenses divided by the state’s average overall per-pupil spending – provides a comparison of how spending on EL students compares to spending on other students, and forms the basis for the EPS funding formula weights.

By Maine statute, each component of the EPS funding model is scheduled to be reviewed on a three-year cycle. The EL student weight, established in statute as the “Limited English Proficient (LEP)” component, was first reviewed in 2006 (Silvernail, 2006). The second review

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<sup>1</sup> [https://www.edweek.org/media/nyic\\_ellbrief\\_final.pdf](https://www.edweek.org/media/nyic_ellbrief_final.pdf)  
<https://journals.sagepub.com/doi/pdf/10.3102/0034654312449872>

was conducted in 2007-08 (Silvernail and Batista, 2008), with an additional supplementary analysis conducted the following year (Silvernail and Batista, 2009) at the request of the Legislature's Joint Standing Committee on Education and Cultural Affairs. A third regularly scheduled review was conducted in 2011 (Silvernail and Batista, 2011) and a fourth in 2016 (Johnson and Stump, 2016). This report provides the fifth iterative cycle of analyzing the LEP cost component.

In this report we analyze administrative data from the Maine Department of Education (MDOE) to summarize and describe the most recent school year's expenditures supporting EL students and update the EL weight calculations using the same methodology used in previous reviews. We also describe Maine EL student population and where they attend school, analyze EL education expenditures by district type, and assess the funding impacts of a recent policy change in the way EL students are designated.

### **English-language Learning in Maine**

In 1974 the landmark legal case *Lau vs Nichols* the U.S. Supreme Court unanimously decided that the lack of supplemental language instruction for public school students with limited English proficiency violated their civil rights. As a result of the *Lau* decision Maine requires all districts, even those who currently have no ELs in attendance, to have a board-approved *Lau* plan. A *Lau* plan is a detailed description of how the SAU will provide services to ELs. A district's *Lau* plan requires a Language Acquisition Committee (LAC) to oversee student placement, ESOL services and programs, and student assessment.

While Maine gives districts control over specifics of the design of EL programming and the authority to design ESOL programs to suit the needs of their EL students the MDOE's *Serving English Language Learners: Policy and Resource Guide*<sup>2</sup> stipulates broad requirements and provides recommendations and resources. All students identified as EL must have an Individual Language Acquisition Plan (ILAP), which is to be updated at least annually. EL students are to be provided comparable quality education and the goal must be to get them caught up to their non-EL peers. EL development and content area knowledge are to be acquired simultaneously. EL support services are to be provided in a way that minimizes isolation of ELs from the general student population and encourages ELs to participate in all aspects of the

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<sup>2</sup> <https://www.maine.gov/doe/learning/englishlearners/resources>

regular school program, including advanced coursework, CTE, G&T programs, and extracurricular activities. ESOL programs and all staff are required to be under the supervision of all 660 ESOL-endorsed teacher, must have adequate staff to implement its chosen program, and all materials and resources as well as facilities must be of comparable quality to those for mainstream students.

The Maine DOE recommends districts utilize the “essential components” outlined by the Education Alliance at Brown University, “a resource dedicated to enhancing the capacity of teachers to work effectively and equitably with English language learners (ELLs).”<sup>3</sup> The Alliance offers guidance in five key areas: literacy (teaching strategies to ensure oral language, reading and writing development); teaching and learning strategies in culturally responsive teaching, sheltered English instruction, and language support for students in class and at home (to promote inclusion and ensure that EL and bilingual students have opportunities to integrate both socially and academically with non-EL students); language learning assessments to measure progress towards English proficiency; policy and best practices for implementing equal access plans; and practices for fostering school-family relationships, encouraging family involvement, and enhancing cultural awareness among families and school.

MDOE also recommends that districts address specific and diverse needs EL students may present due to, for example, limited or interrupted formal education prior to enrolling in Maine schools, a history of trauma, a lack of emotional and academic support from family, poverty, significant family or other obligations after school or on weekends, or experiences related to ongoing trauma or bullying.

Federal law requires SAUs to regularly evaluate their ESOL programs to ensure they are effective. Neither federal law nor MDOE require a specific evaluation approach but in its *Serving English Language Learners: Policy and Resource Guide* MDOE does stipulate that evaluations be comprehensive, use data, and that former EL students be tracked for up to two years to see if they are keeping up with their non-EL peers.

Students are initially identified as English-language learners through the Language Use Survey and administration of an English language proficiency screener. Subsequent identification is based on the ACCESS exam, a language proficiency test given annually to all

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<sup>3</sup> <https://www.brown.edu/academics/education-alliance/teaching-diverse-learners/>

EL students.<sup>4</sup> ACCESS scores range from 1.0 to 6.0.<sup>5</sup> All publicly funded students enrolled in Maine public schools, or in a private school approved to receive tuition and enrolls at least 60% publicly funded students, are required to participate in state academic assessment process annually. English language proficiency is assessed using ACCESS for ELLs 2.0 or Alternate ACCESS, designed for ELs with disabilities.

Prior to the 2018-19 academic year, a student was considered proficient and exited from active EL status once they scored a 5.0 or higher on the ACCESS test. Based on growing concerns that students were being held in EL courses too long and therefore were not being given the opportunity to receive the same academic content and meet the same academic standards that other students are expected to meet, the exit criteria have been changed beginning in the fall of 2018. Students are now exited from active EL status with an ACCESS score of 4.5 or higher. This means that more students were exited from EL status in 2018-19, and thus it is expected that there will be fewer students identified as active ELs in the fall 2019 enrollment counts.

### **Methodology**

Using 2017-18 student-level administrative data obtained from the Maine DOE, we describe the Maine EL student population and where they attend school. District level enrollment and expenditure data are used to summarize and describe the 2017-18 school year's expenditures supporting EL students and analyze EL education expenditures by district type. We also update the EL weight calculations using the same methodology used in previous reviews: districts are separated into three groups based on the number of EL students enrolled (1-15, 16-250, 251+) in order to calculate the group average EL per pupil expenditures which is then divided by a statewide per pupil operating cost figure. We then compare actual spending to EL allocations. Lastly, we estimated the potential funding impact of the recent policy change regarding the point at which students are exited from the EL program using 2017-18 data. The EL student population and district spending were analyzed using standard descriptive statistics. Bivariate and

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<sup>4</sup> <https://wida.wisc.edu/assess/access/scores-reports>

<sup>5</sup> ACCESS scores: 1- Entering (knows and uses minimal social language and minimal academic language with visual and graphic support); 2-Emerging (knows and uses some social English and general academic language with visual and graphic support); 3-Developing (knows and uses social English and some specific academic language with visual and graphic support); 4-Expanding (knows and uses social English and some technical academic language); 5-Bridging (knows and uses social English and academic language working with grade level material); and 6-Reaching (knows and uses social and academic language at the highest level measured by this test).

multivariate techniques were used to provide additional confidence that the observed differences are real and not being driven solely by outliers and variable distributions within sub-groups. We focus on regular public schools districts.

Specifically, we addressed the following questions:

1. How many EL students are there in Maine, where do they attend school and what is their demographic profile?
2. How much is spent on EL education and services, and how are funds being spent?
3. How do EL per-pupil expenditure profiles vary by district type?
4. What is the ratio of per EL pupil spending to overall per pupil spending, and has it changed over time?
5. How does reported EL spending compare to the amount allocated in the EPS formula?
6. How will the change in EL exit criteria likely to impact the number of EL students and EPS allocations?

## **Findings**

### **Descriptive Analysis of EL Students in Maine**

In 2017-18, the number of English language learner students enrolled in Maine public PK-12 schools according to data reported to the Maine Department of Education was 5,878 or 3.3% of the 180,650 total enrolled students.<sup>6</sup> The majority of Maine's EL students (96%) attend school in regular public districts. There were 15 EL students who attended a public charter and 166 EL students who attended school in one of the three tribal schools. The descriptive analysis displayed in Table 1 focuses on the 5,655 EL students in regular public districts.

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<sup>6</sup> <https://www.maine.gov/doe/data-reporting/reporting/warehouse/student-enrollment-data> (see tab attending counts by English Language Learner Status)

Table 1: Descriptive analysis of Maine’s EL students attending regular public districts, 2017-18

	#	% of total EL attending enrollment
<b>Grade</b>		
PK-5	2,972	53%
Middle school	1,180	21%
High school	1,503	27%
<b>Gender</b>		
Female	2,681	47%
Male	2,974	53%
<b>Race/ethnicity</b>		
African American/Black	3,115	55%
White	1,092	19%
Asian	740	13%
Hispanic/Latinx	543	10%
American Indian or Native Alaskan	57	1%
Bi/multi-racial	91	2%
Native Hawaiian, Other Pacific Islander	18	0.3%
<b>Special Needs</b>		
Yes	917	16%
No	4,738	84%
<b>Poverty</b>		
Poor (Free or Reduced lunch)	4,854	86%
Very Poor (Free lunch)	4,662	82%
<b>All (regular public school districts)</b>		
	5,655	100%

Grade Level: English-language learner students are split almost evenly between elementary and middle and high schools. 53% of EL students are in pre-K or elementary school while 47% are in middle or high school. This pattern reflects the fact that some ELs are born here in Maine or immigrate to Maine when they are very young while others arrive when they are older and in later grades.

Special needs status: EL students are slightly less likely to be designated as having a disability compared to their non-EL peers. Overall, in 2018 approximately 19% of students in Maine were identified as eligible for special education services compared to 16% of EL students. Whether this is because EL students are under-identified or truly less likely to have an education-related disability is unclear and a possible area for further research. It may be that language and cultural barriers interfere with the ability to identify disabilities in EL children.

Race/Ethnicity: The majority (81%) of EL students are non-white. 55% of EL students are African American or Black, 19% are white, 13% are Asian, 10% are Hispanic/Latin, 1% are American Indian or Native Alaskan, 2% are bi- or multi-racial, and 0.3% are Native Hawaiian or Other Pacific Islander. Overall, almost half (48%) of Maine public school students who are Black or African American are identified as EL, compared to 0.7% of white students and 13% of all other students.

Poverty Status: EL students are almost twice as likely to be living in poor households compared to their non-EL peers. Overall, 44% of students in Maine live in households that are eligible for Free or Reduced-Price Lunch (FRPL), i.e. household income less than 185% of the federal poverty line adjusted for family size, compared to 85% of EL students. Most poor ELs are living in deep poverty with 82% of all ELs from families with incomes less than 130% of the poverty line adjusted for family size. These differences, at least in part, reflect the fact that many EL students live in families who have recently immigrated to the U.S.

Race and Poverty: That EL students are twice as likely to be poor compared to other students also reflects the fact that the majority are non-white, and poverty rates tend to be higher overall among families of color. Even among English-proficient students, black students (72%) are much more likely than white students (41%) and other students of color (52%) to be poor (Chi sq = 231.5,  $p < 0.001$ ). But among EL students, almost all (96%) of black students are poor which is a significantly higher poverty rate than for white EL students, 76% of whom are poor, and other students of color, 73% of whom are poor (Chi sq = 569.1,  $p < 0.001$ ).

Table 2: Percent of 2017-18 Maine Students in Poverty by Race and EL status

	White	Black/ African- American	All Other students of color	All Students
English-proficient students	41%	72%	52%	43%
EL students	75%	95%	72%	85%
All Students	41%	83%	55%	44%

Languages: Statewide there were at least 96 different languages, including English, spoken at home by EL students in Maine. The most common languages spoken by Maine EL students in 2017-18 reflect immigration patterns to the state with most immigrants arriving from Arabic speaking countries including Somalia, Sudan, Iraq, and Syria and French-speaking African countries such as the Democratic Republic of Congo and Burundi.<sup>7</sup> While 79% of Maine’s French-speaking ELs are African/Black, nearly 20% are white reflecting Maine’s sizeable Franco-American population.<sup>8</sup>

Table 3: The Most Common Languages among EL Students in Maine, 2017-18

	Percent of EL student population
Somali	28.5%
Arabic	15.1%
French	9.1%
Spanish	8.4%
English	6.6%
Portuguese	5.6%
Chinese	2.6%
Vietnamese	2.3%
Kinyarwanda	2.2%
Central Khmer	1.8%
North American Indian languages	1.7%
Swahili	1.6%
Passamaquoddy	1.5%

The fourth most common language among Maine’s EL students is Spanish, likely reflecting the fact that the majority of Maine’s migrant farm workers are Mexican or Mexican

<sup>7</sup> <https://www.pressherald.com/2017/02/12/interactive-where-maines-refugees-come-from/>

<sup>8</sup> <https://www.mainememory.net/sitebuilder/site/2122/page/3514/display>

American.<sup>9</sup> Almost 7% of EL students come from homes where English is the primary language, which likely includes students who live in multilingual homes and students who are adopted from other countries by English speaking parents. The 6<sup>th</sup> most common language is Portuguese, which is spoken largely by immigrants arriving from Angola. About 3% of Maine EL students speak native Indian languages including Passamaquoddy and are members of one of Maine’s four Indian tribes known collectively as the Wabanaki. Most (87%) of the 184 EL students whose home language is a native American language attend Beatrice Rafferty school or Indian Township school, two of the three tribal schools in Maine.

ACCESS Scores and English Proficiency rates: As described above students are initially identified as English-language learners through the Language Use Survey and administration of an English language proficiency screener. Subsequent identification is based on the ACCESS exam, a language proficiency test given annually to all EL students. ACCESS scores range from 1.0 to 6.0. Table 4 describes ACCESS scores and the percentage of students within each category.<sup>10</sup>

Table 4: ACCESS scores of public school EL students (n= 5,655)

ACCESS score	Score description	#	% (#)
1	Entering (knows and uses minimal social language and minimal academic language with visual and graphic support)	618	10.9%
2	Emerging (knows and uses some social English and general academic language with visual and graphic support)	880	15.6%
3	Developing (knows and uses social English and some specific academic language with visual and graphic support)	1,724	30.5%
4	Expanding (knows and uses social English and some technical academic language)	1,245	22.0%
5	Bridging (knows and uses social English and academic language working with grade level material)	292	5.2%
6	Reaching (knows and uses social and academic language at the highest level measured by this test)	29	0.5%
A1-A3	Initiating, Exploring, Engaging	28	0.5%
P1-P3	Entering, Emerging, Developing	22	0.4%
Missing	NULL, NA, missing	817	14.4%

<sup>9</sup> [http://www.uniquemainefarms.com/Site/Migrant\\_Workers.html](http://www.uniquemainefarms.com/Site/Migrant_Workers.html)

<sup>10</sup> <https://wida.wisc.edu/assess/access/scores-reports>

Of the 5,655 EL students attending regular public schools in 2017-18, 89 (2%) were missing information for the ACCESS test score and another 728 (13%) were assigned NULL or NA, which according to the MDOE are students who were eligible for the test but did not take the test. Fifty EL students (0.9%) had alternative scores (A1-A3 and P1-P2), which are scores for the Alternate ACCESS test used for EL students with cognitive disabilities.

High school students were significantly ( $\text{Chi sq} = 139.2, p < 0.001$ ) more likely to miss taking the ACCESS exam: 22% of high school EL students missed taking the exam compared to 9% of elementary students and 11% of middle school students. Female students were slightly more likely than male students to miss the ACCESS exam, 14% compared to 12% ( $\text{Chi sq} = 4.3, p = 0.03$ ). Interestingly, EL students who are poor were less likely than non-poor students to miss the exam, 12% compared to 19% ( $\text{Chi sq} = 30.98, p < 0.001$ ).

We also examined whether there were differences by race in the rate of missing the ACCESS exam and found only minor and statistically insignificant differences by race: 12% of Black/African students missed the exam compared to 15% of Hispanic/Latin students, 15% of white students, 8% of Asian students, and 14% of bi-multi-race students. It appears that most native American EL students do not take the ACCESS exam. Of the 57 American Indian/Native Alaskan students attending regular public schools, 41 students (72%) had a missing or NULL score; of the 186 native language speakers (Passamaquoddy, North American Indian languages or Mi'kmaq; Micmac) statewide, only three had a valid ACCESS score; and of the 166 EL students attending school in one of the three tribal districts, none had a valid ACCESS score.

Among the 4,838 EL students with valid ACCESS scores, 67.6% (3,272) are at levels 1-3. For students in grades 2-12 an ACCESS score of 4.5 or higher indicates English-proficient and for kids in younger grades, proficiency status requires a 6.0. Note, however, there were no students in grades 0-1 that have an ACCESS score of 6.0. Among students with valid ACCESS scores, 16.7% ( $n = 809$ ) scored a 4.5 or higher in 2017-18 and thus would progress out of EL status into monitor status.<sup>11</sup>

English-language proficiency and demographics: Female students were a bit more likely to test at ACCESS > 4.5: 22% vs 19% ( $\text{Chi sq} = 4.8, p = 0.03$ ). Female students are slightly more likely than male students to test at 4.5 or higher even when controlling for grade level, although

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<sup>11</sup> <https://www.maine.gov/doe/learning/englishlearners/resources> (see Serving Maine's English Learners, page 15).

the difference in proficiency rate in middle school is smaller (19% vs 18%) and not statistically significant ( $p=0.39$ ).

Table 5: English proficiency (ACCESS 4.5 or higher) and gender, 2017-18

	Female (n=1,844)	Male (n=2,137)
Elementary school	26.6%	21.5%
Middle school	18.5%	17.8%
High school	19.0%	14.6%
Overall	22.2%	18.7%

Table 6: English proficiency (ACCESS 4.5 or higher) and poverty, 2017-18

Income Level	N	% English Proficient
Not poor (income greater than 185% of poverty line)	801	28.6%
Poor (income btw 130-185% of poverty line)	192	28.7%
Very Poor (income less than 130% of poverty line)	4,662	14.5%
Overall EL students	5,655	16.9%

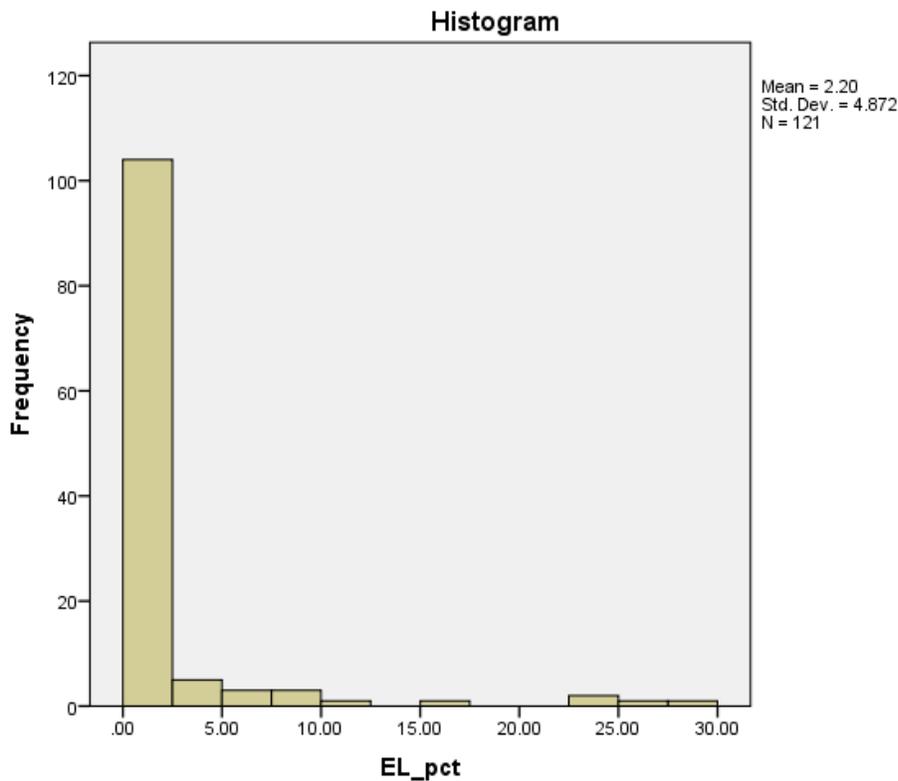
Overall, poor EL students (eligible for free or reduced price lunch) were almost half as likely as non-poor EL students to be English proficient (15% vs 29%),  $\text{Chi sq} = 77.1$ ,  $p < 0.001$ . But when we break students into poor and very poor, we found that EL students living in poor households (incomes 130% to 185% of the poverty line) were as likely as ELs living in non-poor households (incomes above 185% of the poverty line) to score 4.5 or higher on the ACCESS, while EL students living in very poor households (incomes less than 130% of the poverty line) are about half as likely to test as English proficient. However, even though it is significantly and negatively correlated with ACCESS score, poverty status does not explain much of the variation in ACCESS scores (only about 4%). The fact that very poor EL students score lower is consistent with the supposition that they are more recently immigrated to the U.S. and thus in the earlier stages of English language development.

## District-level Demographic Analysis

In this section we describe the districts in which Maine's EL students attend school. Of the 189 regular public school districts with attending students, 36% (n=68) reported no EL students and 121 districts (67%) had at least one attending EL student. Of the 121 districts with at least one attending EL student, there were a total of 5,655 EL students enrolled, representing 3.3% of the total attending enrollment (172,960) in regular public schools in Maine.

Among the 121 regular public school districts with at least one attending EL student, EL students made up anywhere from less than 1% of the total student population to 28%. Most districts had only a few EL students, making up on average only 2% of district total enrollment.

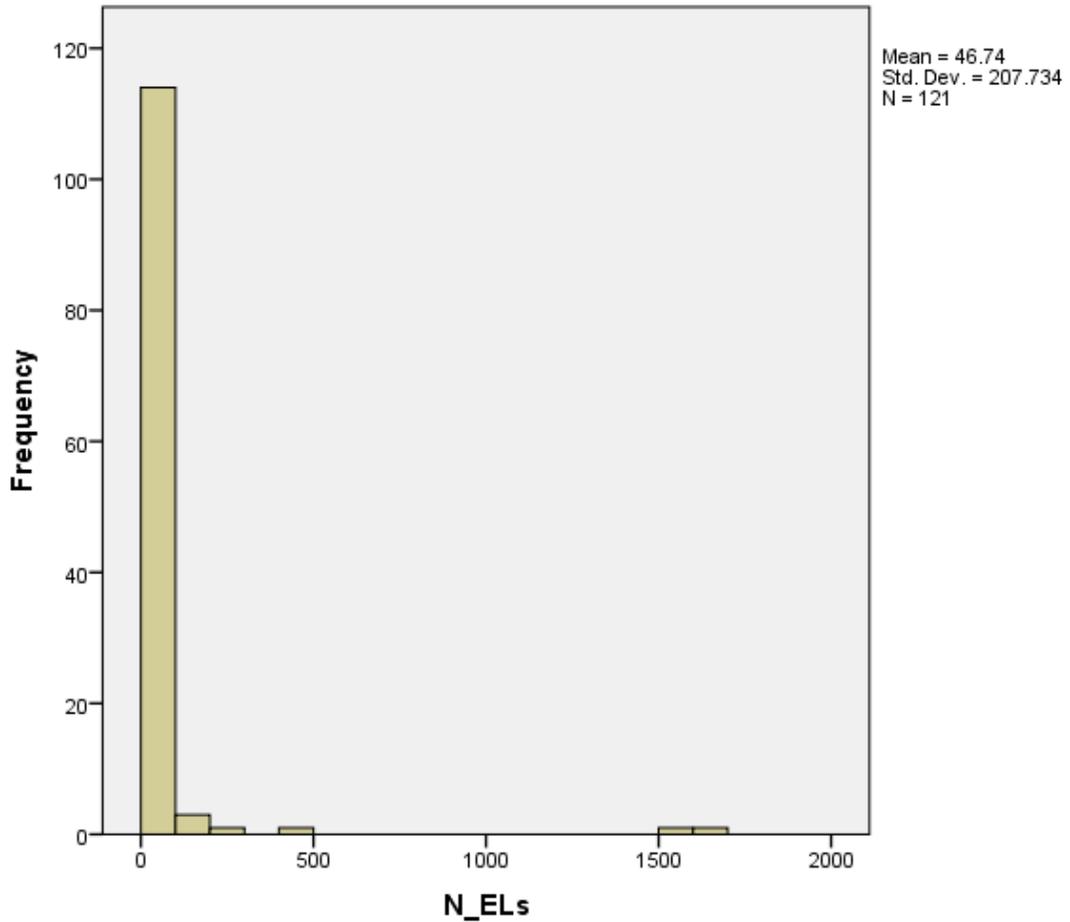
Figure 1. Percentage of Enrolled Students who are ELs in Maine Districts, FY2017-18



Lewiston had the highest percentage of EL students with ELs (n=1,551) making up 28% of its student population. RSU/MSAD 33 (Frenchville, Madawaska) had the next highest percentage of EL students with ELs (n=58) making up 26% of all students, followed by Portland (n=1,636) and RSU 88/MSAD 24 (Van Buren, n=64) where ELs make up 24% of all students. In Westbrook, EL students (n=406) make up 16% of the total student population.

The majority of districts with attending ELs have only a few EL students. The average, 47 EL students, is heavily affected by the outlier districts with large EL enrollments, Portland and Lewiston, as can be seen in the graphic below.

Figure 2. Total EL Student Enrollments in Maine Districts, FY 2017-18



The ten districts with the highest number of EL students are described below in Table 7. These 10 districts had a total of 4,566 EL students, which comprises 81% of the 5,655 EL students attending all regular public school districts.

Table 7: Where the majority of EL students attend school, 2017-18

District name	Pct EL Students	Total EL enrollment	Number of Languages (Languages spoken by 10% or more of ELs)	Est. Poverty Rate	Rurality/ Locale
Saco Public Schools	3%	53	20 (Arabic, Spanish)	8%	Suburb: Midsize
RSU/MSAD 33	26%	58	unclear (most NULL)	15%	Rural: Remote
RSU/MSAD 24	24%	64	unclear (most NULL)	30%	Rural: Remote
Augusta Public Sch	7%	162	14 (Arabic)	18%	Town: Distant
Auburn Public Sch	5%	197	25 (Somali, Arabic)	15%	City: Small
Biddeford Public Sch	8%	199	22 (Arabic)	16%	Suburb: Midsize
So. Portland Public Sch	8%	240	29 (Spanish, Arabic, French)	12%	City: Small
Westbrook Public Sch	16%	406	25 (Arabic, French)	17%	Suburb: Midsize
Lewiston Public Sch	28%	1,551	33 (Somali)	21%	City: Small
Portland Public Sch	24%	1,636	37 (Somali, Arabic, French, Spanish, Portuguese)	16%	City: Small

\*Note: Sample includes regular public districts only. NCES location data were used to identify districts in terms of their rurality. Census median poverty rate estimates for the areas in which the schools are located were used to estimate district level poverty rates.

The total number of ELs among the top ten districts ranged from 53 to 1,636. Portland and Lewiston have the largest EL student populations, with 1,636 and 1,551, respectively. While Portland and Lewiston have the highest number of different home languages – Portland with 37 and Lewiston with 33 - districts with relatively fewer ELs, for example, Westbrook, South Portland, Auburn, and Saco still have a sizeable mix of languages spoken by their EL student population, ranging from 29 languages among 240 EL students in South Portland to 20 languages among 53 EL students in Saco. Arabic and Somali are the most common home languages among students in districts with the largest numbers of EL students. While the data are missing for EL students in RSU/MSAD 33 (Frenchville, Madawaska) and RSU 88/MSAD 24

(Van Buren), most are likely from French-speaking homes in this region where Franco-American cultural ties remain strong and French is commonly used.<sup>12</sup>

We also examined the number of percentage of EL students by district poverty level. We divided SAUs into categories based on the Census median poverty rate estimates for the areas in which the schools are located, with low poverty districts in areas where the poverty rate is one standard deviation below the state average and high poverty districts in areas where the poverty rate was one standard deviation above the average rate (average is 13.5% with a range of 2.2% to 34.3% and the std is 6.4). Variation is high and there is no significant correlation between EL enrollment and district area poverty rate ( $r=0.13$ ,  $p=0.15$ ), although there is a significant positive correlation between the *percentage* of EL students and area poverty rate ( $r=0.25$ ,  $p < 0.001$ ), with districts located in higher poverty areas reporting slightly higher percentages of EL students. However, the district's area poverty rate explains only 5% of the variation in percentage of students who are EL. This mild correlation between percentage of students EL and percentage who are poor likely reflects at least in part the fact that the majority of ELs are poor and living in areas with lower housing costs.

Table 8: EL students by district poverty level, 2017-18

	# of districts	# (%) of districts with ELs	# of ELs mean (median, range)*	% of enrollment ELs mean (median, range)*	Statewide (%)
Low poverty	32	22 (69%)	18 (15, 1-45)	1.4% (1%, 0.08-10%)	396 (7%)
Average poverty	132	85 (64%)	41 (4, 1-1,636)	1.9% (0.7, 0.07-26%)	3,519 (62%)
High poverty	24	13 (54%)	133 (16, 1-1,551)	5.8% (1.7%, 0.16-28%)	1,733 (31%)
Overall	188	120 (64%)	47 (6, 1-1,636)	2.2% (0.8%, 0.1-28%)	5,648 (100%)

Note: Sample includes regular public districts with valid NCES locale data. \*of those with EL students attending.

Finally, we examined the distribution of EL students by location. Not surprisingly, given the immigration patterns in Maine, urban and suburban districts tend to have significantly more EL students, both in terms of number and percentage of total enrollment. A district's location explains nearly 15% of the variation in EL enrollment, with EL enrollment moderately and

<sup>12</sup> <http://acim.umfk.maine.edu/language.html>

negatively correlated with rurality ( $r = - 0.30$ ,  $p < 0.001$ ). While all 24 urban or suburban districts and most town-based districts (19 out of 21) had at least one EL student in attendance, almost half of the 143 rural districts reported no attending EL students.

Table 9: EL students by district locale, 2017-18

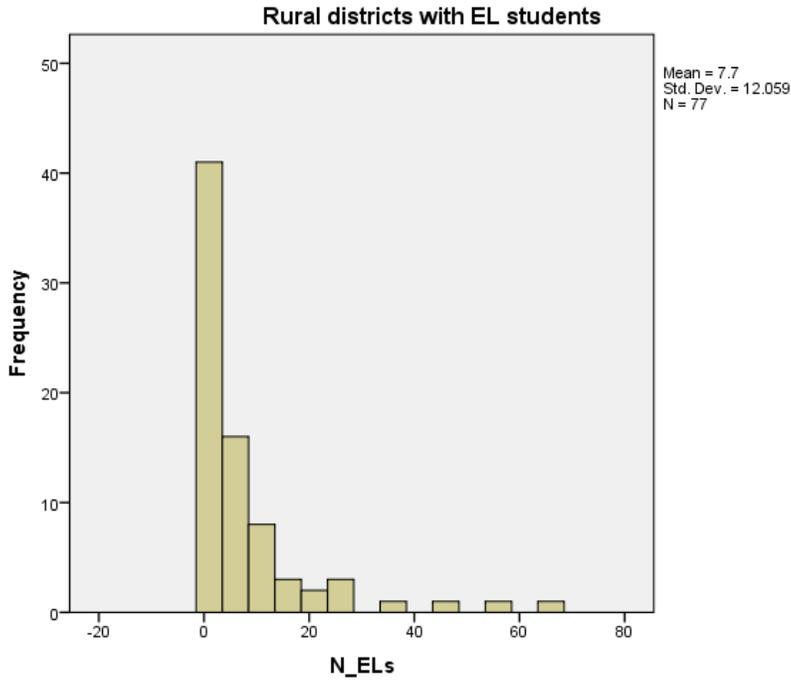
	# of districts	# (%) of districts with ELs	Mean # of ELs (median; range)*	Mean % of ELs (median; range)*	Statewide (%)
City	5	5 (100%)	733 (240; 41-1,636)	13.4% (8.0%; 1-28%)	3,665 (64.9%)
Suburb	19	19 (100%)	50 (19; 2-406)	2.5% (1.3%; 0.3-16%)	961 (17.0%)
Town	21	19 (90%)	23 (17; 2-162)	1.3% (0.8%; 0.1-7%)	429 (7.6%)
Rural	143	77 (54%)	8 (3; 1-64)	1.6% (0.6%; 0.1-26%)	593 (10.5%)
Overall	188	120 (64%)	47 (6; 1-1,636)	2.2% (0.8%; 0.1-28%)	5,648 (100%)

Note: Sample includes regular public districts with valid NCES locale data. \*of those with EL students attending.

Urban districts ( $n=5$ ) have on average both significantly higher numbers of EL students ( $r=-0.38$ ,  $p < 0.001$ ) and percentages of EL students ( $r=-0.22$ ,  $p=0.015$ ). On average 13.4% of all students are EL in city districts compared to 2.5% in suburban districts, 1.3% in town-based districts and 1.6% in rural districts. Of the 5 urban public school districts Bangor Public Schools stands out with only 1% of its overall student population an English-language learner ( $n=41$ ). The other 4 urban districts have larger %s of ELs, ranging from 5% in Auburn Public Schools to 28% in Lewiston Public Schools.

Most EL students (82%) are attending school in an urban or suburban district but because most districts in Maine are rural, a still substantial number of EL students are attending school in rural areas where they make up only a handful of EL students (exceptions being RSU/MSAD 33 and RSU 88/MSAD 24, where the number of ELs is relatively high). There are 593 EL students attending a rural school, 65% of whom attend school with only 4 or fewer other ELs. Of the 77 rural districts with reported EL students attending, average EL enrollment is 8 students. 30% (23 districts) have only one EL student and another 16% (12 districts) have only 2 ELs.

Figure 3.



In Table 10 we dig a little bit deeper and examine the demographics of EL students by district type. While EL students of color are more likely to attend school in one of the five urban districts, many attend school in rural districts and in districts located in small towns. For example, across the 77 rural districts with EL enrollment more than half (56%) of EL students are non-white. Often times they are one of only a handful of other EL students of color.

Table 10: Race, demographics, and district location

	# of districts with ELs	# (%) of EL students	# (%) white EL students	# (%) non-white EL students	Median # (range) of non-white EL students
City	5	3,665 (64.9%)	331 (9%)	3,334 (91%)	201 (35-1,531)
Suburban	19	961 (17.0%)	364 (38%)	597 (62%)	13 (2-265)
Town	19	429 (7.6%)	135 (31%)	294 (69%)	11 (1-96)
Rural	77	593 (10.5%)	261 (44%)	332 (56%)	2 (0-34)
Statewide	188	5,648 (100%)	1,091 (19%)	4,557 (81%)	4 (0-1,531)

\*Sample: regular public districts

In the final column of Table 10 we show the median number of EL students of color and the range by district location. In city districts, the number of EL students of color ranges from 35 to 1,531 compared to a range of 2 to 265 in suburban districts, 1 to 96 in town-based districts and 0 to 34 in rural districts. The risk of EL students of color being demographically isolated increases as district rurality increases. For example, the median number of EL students of color in rural districts is 2. Among the 77 rural districts with non-zero EL enrollment, 8 have no EL students of color, 22 districts have only 1 EL student of color, 13 districts have only 2, another 13 have between 3 and 5; only 2 of the districts have 20 or more non-white EL students. Black/African EL students are particularly isolated: 11 rural districts have only one Black/African EL student, 8 have 2 Black/African EL students and one district has 5. Moreover, these are district and not school-based tallies; at the school level, the numbers are of course even smaller. In addition to the risk of EL students of color being socially isolated, schools may need additional resources to help these students and their families become integrated in the school community.

### **Expenditure Analysis**

In this section we analyze how much is being spent on EL programming and how it is being spent using 2017-2018 expenditure data. Analysis of regular public school districts are presented below; analysis of spending by public charters and tribal districts are included in the Appendix.

Of the 121 regular public districts that reported enrolling EL students in 2017-18, 82 (68%) reported General fund expenditures related to EL programs (i.e. program code 4100). Of these, 6 also reported federal grant expenditures (Special Revenue funds). There were 39 districts (32%) that had at least one attending EL student but no reported EL expenditures from the General fund, and only 2 of these 39 reported expenditures from Special Revenue funds. Three districts reported FY2018 general fund EL expenditures but had no attending EL students in the October 2017 count, ranging from \$650 spent by a district on contracted services to \$9,374 spent for teacher/ed tech compensation and staff professional development in another. These may represent spending on evaluating students who were ultimately not determined to meet EL student criteria, expenses incurred for resident students attending a school in another district, students who enrolled (or were identified as ELs) after the October student counts, or students

who were exited from active EL status and progressed to monitor status before the October counts but who still required some type of support. Districts currently without attending ELs might also be investing in teacher professional development related to future EL support needs.

The reasons that a district with attending EL students would report no EL-related expenditures (39 SAUs) is less clear. Of the 37 SAUs with attending students but no reported expenditures from either General or Special Revenue funds, 35 have five or fewer ELs; 20 have only 1 EL student and the remaining 15 have between 2 and 5 EL students. With such small numbers of EL students, districts may be serving EL students with existing staff with no additional expenses that are feasible to isolate and charge under the 4100 program code. For example, regular classroom teachers with EL training may be supporting EL students without supplemental EL-specific programs or supports; such an arrangement would be difficult (or impossible) to quantify as a portion of that teacher’s time dedicated to “EL programs”. It is also possible that there are administrative errors in either the expenditure or the enrollment data, such as EL programming reported under a different program code.

Districts with no reported expenditures and more than 5 EL students include Eastport Public Schools with 16 attending EL students and Madawaska Public Schools with 45 attending ELs. Closer examination of the demographics of their students suggests that many of their EL students may be bilingual with English combined with either French or a native Indian language. These students may be well on their way if not already English proficient, thus reducing the need for EL-specific spending, or may be taught by teachers who are also bilingual and thus able to provide student supports in the general classroom (i.e. regular instruction program).

To be included in this expenditure analysis, which relies heavily on per-pupil spending, SAUs must have both valid EL attending enrollment and General fund EL expenditure data.

Table 11: Districts Used in Cost Analysis\*

	# of SAUs
Enrollment of one or more EL students	121
<b>EL enrollment and EL expenditures reported</b>	<b>82</b>
EL enrollment and no EL expenditures reported	39
EL expenditures reported but no reported EL enrollment	3
No EL expenditures and no EL enrollment reported	65

\*Sample: Regular public districts; expenditures = General fund; enrollment=attending

Consistent with previous reviews of EL expenditures, there is wide variability across districts in per-EL-student expenditure amounts as can be seen in the histogram below, where per pupil expenditures range from \$24 to \$14,041.

Figure 4. Spending Per EL Pupil in Maine Districts, FY2017-18

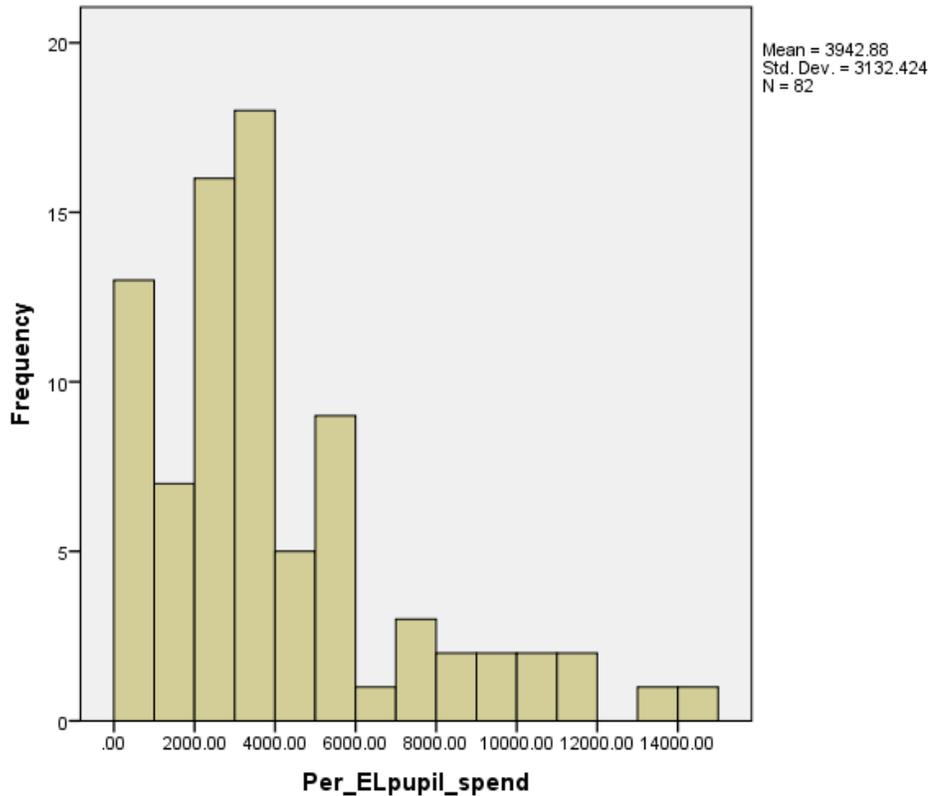


Table 12 below gives descriptive statistics on the EL expenditures by EL enrollment group for the 82 districts with both EL enrollment and expenditure data. Because per-pupil district level data can vary widely and can be heavily skewed by a few small, high spending districts, we compared overall per pupil spending for three EL enrollment district categories (smaller, medium, and larger) by combining spending for all districts and students in each group. This method reduces the influence of outliers with small numbers of students by pooling their data with that of similar districts. The per-pupil expenditure describes the total EL expenditures by all the SAUs in that enrollment size category divided by the total number of EL students reported as enrolled in those districts. We also report district-level per pupil spending including median, minimum and maximum. When the SAU-level median is below the overall per pupil spending for the group, as is the case among SAUs in the smallest EL enrollment size group, it means that there are a small number of districts with high per pupil spending that pull the overall

group average above what the majority of SAUs are spending. The range of per pupil spending also provides a sense of the variation seen across SAUs in each EL enrollment size group.

Table 12: Descriptive statistics from the 2017-18 Total EL Expenditure Data\*

	EL enrollment size group			
	1-15	16-250	251 or more	All
# of SAUs	47	32	3	82
Total # of ELs	300	1,553	3,593	5,446
Total EL expenditures	\$1,348,358	\$5,212,604	\$10,040,191	\$16,601,153
Overall per-EL-pupil expenditure for size group	\$4,495	\$3,357	\$2,794	\$3,048
SAU-level median (mean) per pupil expenditures	\$3,402 (\$4,206)	\$3,171 (\$3,678)	\$2,337 (\$2,648)	\$3,287 (\$3,943)
Range of SAU per pupil expenditures	\$24-14,041	\$181-10,360	\$2,240-3,365	\$24-14,041

\*Expenditures = General fund and program code = 4100

Districts with fewer EL students (1-15) had the highest per pupil EL expenditure as can be seen in both the higher overall per pupil spending (\$4,495) and at the SAU level, where both median (\$3,402) and average (\$4,206) are higher than for districts in the two groups with larger EL enrollment. Spending per EL student decreases as EL enrollment increases, both overall and at the SAU level. The three SAUs in the largest EL enrollment group had the lowest per pupil expenditure. This pattern of per student spending is consistent with efficiencies gained through economies of scale.

We also examined per pupil spending at the district level statistically to provide additional confidence that the observed differences in overall per pupil spending across district enrollment groups was not being driven solely by high or low-spending outliers and distributions within sub-groups. Because of the wide variation in spending, particularly among districts with lower EL enrollment, the observed negative relationship between EL enrollment and per EL student spending, consistent with economies of scale, is not statistically significant using standard statistical analysis (linear regression) due to heteroscedasticity (unequal variance of the error term). Equal variance of the error term produces more robust results; unequal variance of the error term violates the mathematical assumption underlying regression analysis and causes the statistical significance of regression coefficients to be underestimated. Taking the log of both variables (per EL pupil expenditures and number of EL students) moderates these effects and

yields a marginally significant negative relationship between per student spending and EL enrollment ( $p=0.07$ ); excluding one extreme outlier (i.e. a district with per EL student spending more than 3 times the standard deviation above the mean) and taking the log of both variables increases the statistical significance slightly to  $p=0.04$ . Nonetheless, the amount of variation in per pupil spending explained by EL enrollment levels is small, reflecting the fact that there is quite a bit of variability in spending patterns even among districts with similar EL enrollment.

In sum, while there is evidence that economies of scale reduce per student costs with rising enrollment there is considerable variation in per pupil spending amounts, even among districts with similar enrollment levels. We examine this more thoroughly below by comparing how districts with the same number of EL students spend their EL dollars and examining whether EL student demographics or district characteristics are associated with spending rates.

### Expenditures by Type

In this section we examine how EL funds are being spent. EL expenditure data for the 82 districts with both reported general fund expenditures and EL enrollment were analyzed by expenditure type and described below in Table 13. In addition to general funds, a total of \$373,519 in special revenue funds was spent by 8 SAUs (with attending EL enrollment); \$102,780 were from local grant funds, \$18,140 were from federal grant funds for rural and low income services, \$272,663 were from federal grants for language acquisition services and another \$79,941 were funds for refugee resettlement. These expenditures were not included in Table 13.

Table 13: General Fund Expenditures by type of cost, 2017-18

	Total Expenditure Amount	Per EL pupil amount (n=5,446)	% of total EL expenditures
<b>Total EL expenditure</b>	<b>\$16,601,153</b>	<b>\$3,048</b>	<b>100%</b>
Employed Personnel Costs (Salary, Stipends, and Benefits)			
a. Teachers & Other professionals	\$12,365,875	\$2,271	74.5%
b. Ed techs	\$2,078,298	\$382	12.5%
c. Tutors, substitutes, temps	\$444,254	\$82	2.7%
d. Administrators	\$603,038	\$111	3.6%
e. Support and Other regular staff	\$611,939	\$112	3.7%
Contracted and Purchased Services	\$266,716	\$49	1.6%
Textbooks and Instructional Materials	\$45,153	\$8	0.3%
Professional Development	\$92,699	\$17	0.6%
Supplies and Equipment including technology	\$49,884	\$9	0.3%
Miscellaneous/Other**	\$43,298	\$8	0.3%

\* Almost all (95% of items) are Function code = 1000 (reg instruction); 5% are Function code = 2300 (Support Services/General Admin), and comprised mostly by the administrator salaries and benefits.

\*\* Includes purchased property services, tuition, debt service, miscellaneous and special items

Statewide, almost all (97%) of the EL program costs reported in the general fund were personnel compensation, with 75% covering the compensation costs of teachers (and other professional staff) and an additional 12% for educational technicians. Less than 4% of total expenditures went to administrators and another 4% went to support staff. Just under 3% of total expenditures went to hire tutors and contracts paid to professionals, and other technical service providers not employed by the district amounted to an additional 2%.

Expenditures by type of cost are next analyzed by EL enrollment size group in Table 14 below. Administrative and support staff salaries make up a higher percentage of expenditures in the districts with the largest number of EL students. Districts with smaller numbers of EL students tend to spend more than other districts on tutors and contracted services; larger programs have more identifiable administrative costs.

Table 14: Distribution of expenditures by EL enrollment size

EL General fund Expenditure data by component, 2017-18 by EL enrollment size group				
	1-15	16-250	251+	Statewide
Total EL expenditures	\$1,348,358	\$5,212,604	\$10,040,191	\$16,601,153
% of Total Spent on:				
Teachers / Other Professionals	77.5%	77.5%	72.5%	74.5%
Ed Tech Compensation	11.3%	15.3%	11.3%	12.5%
Tutors/Substitutes	6.1%	4.4%	1.3%	2.7%
Administrators	0%	0.2%	5.9%	3.6%
Support Staff	0.1%	0.5%	5.8%	3.7%
Contracted support	3.7%	1.0%	1.6%	1.6%
All Other (supplies, prof dev, etc.)	1.3%	1.1%	1.6%	1.4%

\*Sample: 82 regular public school districts; general funds only

#### Expenditures by districts type

As shown above, there is evidence of some economies of scale with costs per student decreasing with increasing numbers of ELs but there is also a lot of variation in per pupil expenditures even among districts with similar EL enrollment levels. Some of the variability in spending rates is likely “noise” related to different expenditure coding practices. However, some of the variation among districts with similar levels of enrollment is real. Differences in spending may reflect different pedagogical approaches to teaching EL students as well as differences in student characteristics and local costs and availability of staff and services.

We conducted additional analysis using regression techniques to see if at least some of the variation in per pupil EL spending could be explained by observed differences in student demographics or district characteristics. The regression results confirm the wide variability in spending even by districts with similar EL enrollment and demographics. We found no statistically significant associations between per EL pupil expenditures and observable differences in the demographics of the district’s attending EL student population (% poor, % white, % at beginner level of English language learning, % testing at 4.5 ACCESS or above, % high school, % disabled) or district characteristics (rurality, area poverty rate) even after controlling for EL student enrollment size. The only statistical finding was a marginally significant positive correlation between SAU size (based on total enrollment), meaning larger SAUs tended to spend a bit more per EL student than smaller districts.

In sum, there is evidence of some economies of scale – with per EL student spending somewhat lower for districts with higher EL enrollment - but also considerable variation in per student spending even among districts with similar numbers of EL students and similar EL student population demographics. Some districts reduce per student costs by using tutors and contracted providers to deliver EL services instead of teachers. Districts that combine teachers and ed techs tend to have lower per pupil costs compared to those that use only teachers to deliver EL services. To the extent that this reflects unobserved differences in the needs of their EL students, different approaches to EL education or differences in the availability or cost of EL professionals cannot be determined using expenditure and enrollment data.

### Update to EL Weights

As described earlier, the EPS funding formula allocates additional resources for each EL student using a weighting procedure that adjusts the student count upward so as to increase the district's allocation in order to reflect the fact that English-learner students (EL) generally cost more to educate than other students. The EL weights are calculated by dividing districts into three groups based on the number of EL students enrolled (1-15, 16-250, 251+) and calculating the group average EL per pupil expenditures. These figures are then divided by a statewide per pupil operating cost figure that includes all operating expenditures except for debt service and student transportation and special education and CTE expenditures. The resulting ratios are the basis for the EPS EL component weights.

District-level expenditure data for the school year 2017-18 and EL student counts from student-level data were used to calculate the enrollment group per EL pupil figures. The statewide per pupil operating cost figures was obtained from tuition reports of expenditure data per attending pupil operating costs, exclusive off transportation, debt service, CTE, and special education.<sup>13</sup> Per pupil operating costs are calculated separately for elementary and secondary students so an overall operating cost was calculated as a weighted average based on the number of attending elementary and 9-12 students.

To be included in the EL weight matrix analysis, SAUs must have two consecutive years (2016-17 and 2017-18) of EL expenditures. This is done to exclude SAUs that have newly

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<sup>13</sup> <https://www.maine.gov/doe/funding/reports/tuition>  
<https://www.maine.gov/doe/funding/reports/tuition/year-end-private/definitions>

established EL programs with potentially higher start-up costs. Of the 121 regular public districts with attending EL students, 82 had expenditures in 2017-18 and 78 had expenditures in both 2016-17 and 2017-18.

Table 15 displays the updated per-pupil amounts for each enrollment category for 2017-18 and the per EL pupil amounts from the most recent prior review for comparison (Johnson and Stump, 2016). As can be seen in Table 15, overall statewide per student spending has increased by 12%. Per-EL-pupil spending has also increased, although the increase was about half that much among districts with large EL enrollments.

Table 15: Per pupil EL costs and change in EL costs by EL pupil enrollment category

	Per EL pupil EL expenditures			Overall per pupil operating cost**
	1-15 (43 districts)	16-250 (32 districts)	251+ (3 districts)	
2014-15	\$4,212	\$2,866	\$2,639	\$8,771
2017-18*	\$4,722	\$3,357	\$2,794	\$9,806
% change	12%	17%	6%	12%

\* Sample: the 78 regular public districts with EL General fund expenditures in both 2017-18 and 2018-19.

\*\* from tuition reports, weighted average elementary and secondary per pupil rates.

Table 16 provides the 2017-18 updated EL weights for the three EL enrollment categories and again includes those from 2014-15 for comparison (Johnson and Stump, 2016).

Table 16: FY2018 Updated EPS EL Weights

	Overall statewide per pupil operating cost**	1-15	16-250	251+
2014-15	\$8,897	0.5	0.3	0.3
2017-18	\$9,806	0.5	0.3	0.3
Current policy	--	0.7	0.5	0.525

\* From state average per pupil expenditures. The FY15 per-pupil amount from tuition reports was \$8,771

\*\*From tuition reports, weighted average elementary and secondary PP rates.

The EL weights remained virtually unchanged between 2014-15 and 2017-18, and differences disappeared in rounding to the nearest tenth as per historical practice for the EL student weight. The calculated weights have remained stable since the 2009 report using FY 2007 and FY 2008 data (Johnson & Stump, 2016).

## Expenditures and allocations

EL weights appear to have stabilized, remaining more or less unchanged since the 2009 review. However, the weights calculated based on actual spending still remain well below the weights currently used in the EPS formula. Therefore, additional analysis was conducted to examine how many districts are receiving more in their EPS allocation than they report spending on EL services. We compared the EL expenditures in 2017-18 to the EL allocation for 2017-18. Of the 82 regular public districts with attending EL students and reported EL expenditures, 77 had EL funds allocated through the EPS model.<sup>14</sup>

Statewide, the total amount spent on EL services amounted to 92% of the EL funds allocated through the EPS formula. The sum of general fund expenditures reported by the 77 districts with EL allocations for the school year 2017-18 was \$16,589,743 and the total amount allocated through the EPS formula for those districts was \$18,044,705. In other words, total spending was 8.8% below what was provided through the formula.

On the district level, however, there is a lot of variability with some districts spending considerably less than allocated and others spending much more than allocated. About half (53%) of the districts reported spending less than their EPS allocation. About one-third of the 77 districts (n=24) spent between 80% to 120% of what they were allocated, 39% (n=30) spent less than 80% of their allocation, and 30% (n=23) spent more than 120% of their allocation. The median district spent about 95% of what it was allocated.

In Table 17 and the figure that follows, we show the percentage of districts spending less than their EPS EL allocation by EL program size. While districts with smaller EL enrollment tended to be a bit less likely to report EL expenditures below the EPS allocation, the relationship between the percentage of allocation spent and EL enrollment is not statistically significant.

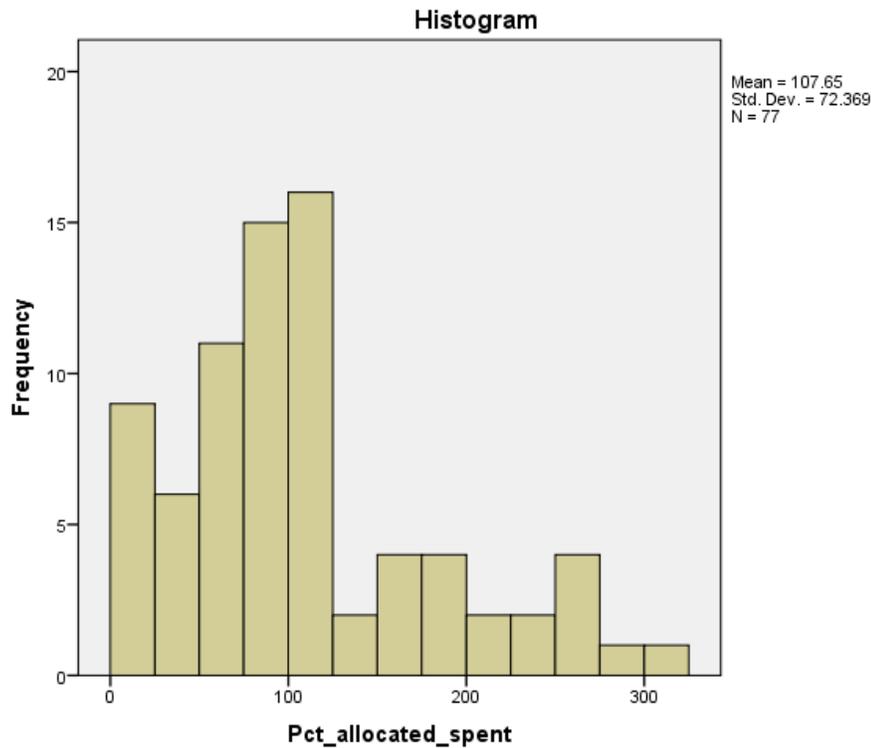
Table 17: Proportion of SAUs Receiving EPS EL Allocations  
Larger than Reported EL Expenditures

	EL Enrollment size categories			
	1-15	16-250	251 or more	All*
# of SAUs	42	32	3	77
% spending less than EL allocation	57%	44%	100%	53%

*\*Of the 82 regular public districts with attending EL students and reported EL expenditures, 77 also had EL funds allocated through the EPS model.*

<sup>14</sup> Five districts all had small numbers of EL students (ranging from 2 to 6) and reported small general fund EL expenditures but had no EL funds allocated through the EPS formula, which are based on prior year enrollments.

Figure 5. EL Spending as a Percentage of the EPS Allocation of Maine Districts, FY2017-18



The difference between allocation and expenditures is sometimes a small dollar amount and sometimes a large amount, depending on the size of the district’s EL enrollment. For example, Portland Public Schools with 1,636 ELs spent 94% of the amount allocated which amounted to a difference of \$377,949 from their allocation. On the other hand, RSU 55 with fewer than five ELs similarly spent 95% of what it was allocated which equated to a difference of only \$1,614.

Regression analysis also revealed no significant associations between the percentage of estimated EPS allocation reported spent and demographics of the district’s attending EL student population including the % poor, % white, % testing at 4.5 ACCESS or above, % high school or SAU characteristics such as rurality, or area poverty rate. There was a marginally significant positive correlation between SAU size (based on overall enrollment not just EL enrollment) and percent of allocation reported spent once location (city-rural) was controlled, meaning larger SAUs tended to spend more of their allocation.

In addition to EL spending not quite keeping up with EPS EL allocations, some of the differences observed between allocations and reported expenditures among roughly 30% of districts could be because of how districts are coding expenditures; for example, given that EL

students are not to be isolated away from other students and integrated as soon as possible into regular classes, some EL services might not be coded as EL services specifically (i.e., using Program Code 4100). Some SAUs may not be coding additional services provided to specifically to their EL students if it is provided by regular staff, for example, a regular classroom teacher or a literacy specialist as opposed to an EL teacher or EL tutor.

### **Impact of Changing the EL Exit Criteria**

In this final section we examine the impact of the change in exit criteria for EL students. Previously a student remained in EL status until they scored a 6.0 on the ACCESS test, the exam administered annually to assess English proficiency. Now a student is moved out of EL status once they score 4.5 or higher. (Note: for younger students in grades 1 or below, proficiency still requires a 6.0). While this policy change has already been adopted, we estimate the impact of this change on the number of EL students and resources allocated for EL services using 2017-18 data.

The EL allocation is calculated by multiplying the number of EL students per grade level by the district's calculated per pupil EPS rates established for grades pre-K to 8 and high school and by the district's EPS EL weight (which varies depending on the size of the district's total EL enrollment as described above). Using 2017-18 student-level data we identified those who would have been assigned EL status under the 6.0 versus 4.5 criteria to obtain total EL enrollment by grade level (elementary vs secondary) for each district under the two scenarios. We then estimated what the allocation change would have been for each district in the following year (FY2019) had the less restrictive criteria been used by applying the proportional change to the actual FY19 allocation. These scenarios **are not intended** to project actual financial impacts on any specific district in the future. The intent is to use historical data to model what might have happened in the past given different assumptions about the number of students counted in the EPS formula. When depicted overall, the models illustrate the kinds of impacts that are likely to occur. The specific and actual financial impacts on a given district in a given year will depend on multiple factors, including changes in their total EL population and their base EPS rates per elementary and secondary pupil. Past patterns based on one testing year are only a rough estimate of future realities with EL student enrollments. Note: the number of ELs by district comes from the student-level data we received from the MDOE; it may differ slightly from the

actual FY2019 EL totals found on page 2 of the 279, due to differences in the snapshot date of the data.

As noted above, we have valid numerical ACCESS scores for 4,788 (85%) of the 5,655 EL students attending school in regular public districts in 2017-18. Of those 4,788 EL students 809 (17%) had scores 4.5 or higher. Students with alternate ACCESS scores - A1-A3 (n=28) or P1-P2 (n=22) – are not English proficient (see Table 4 above).

We made the assumption that students with missing ACCESS scores (n=89), NA (n=30), or NULL (n=698) were also not English proficient. Note that 14% of EL students (n=817) do not have valid numerical ACCESS scores, which adds more uncertainty to these estimated impacts. Most regular public districts had a mix of valid and invalid ACCESS information; the few districts with no valid ACCESS data at all typically had only one or two EL students.

The EL population decreases by 809 students (14.3%) under the new exit criteria for the 121 regular public districts with attending EL students, with an estimated total reduction of \$2,986,379 in EL allocations statewide.

Table 18: Estimated Statewide change in FY2018 EL student numbers and allocation:  
Access 6.0 vs ACCESS 4.5 Exit rule (N=121 SAUs)

N=121 Districts	6.0 ACCESS Criteria	4.5 ACCESS Criteria
Total # of ELs	5,655	4,846
Allocation	\$20,465,106	\$17,478,727
Change in total allocation		-\$2,986,379

*Based on average EL allocations in the 121 regular public districts with attending EL students*

District level analysis shows that of the 121 public school districts with attending EL students, 39% (n=47) would have experienced no change in the number of EL students under the new exit criteria, and thus no change in their EPS EL allocation. For the remaining 74 districts (61%), the estimated loss in allocated EL funds ranges from \$4,163 (Northport) to \$954,868 (Portland). Among those that would have experience a decline in EL enrollment, the average change in allocation is \$40,357 while the median of \$13,908 is considerably less because outlier districts like Portland, Lewiston and Westbrook with large EL enrollments and subsequently heavy total losses in total EL allocation pulled the average up.

The estimated changes in allocation are generally relatively small because most districts have small enrollments, but the decline in total allocation can be substantial for districts with

large EL enrollments. Table 19 displays the projected changes in students categorized as ELs, and the resulting simulated change in total FY2019 allocation, for the 10 districts with the largest attending EL enrollments in 2017-18.

Table 19: Estimated declines in Fiscal Year 2017-18 EL allocations under new ACCESS criteria in the 10 Districts with Highest EL Enrollments

District	FY18 EL enrollment, under 6.0 ACCESS	FY18 EL enrollment under 4.5 ACCESS	% Change in active ELs	FY2019 EPS EL Allocation	Est. Impact (if % change applied)
Saco Public Schools	53	34	-36%	\$232,221	-\$83,249
RSU 33/MSAD 33	58	47	-19%	\$179,757	-\$34,092
RSU 88/MSAD 24	64	59	-8%	\$218,786	-\$17,093
Augusta Public Schools	162	146	-10%	\$530,300	-\$52,375
Auburn Public Schools	197	172	-13%	\$663,978	-\$84,261
Biddeford Public Schools	199	179	-10%	\$718,373	-\$72,198
South Portland Public Sch	240	207	-14%	\$880,390	-\$121,054
Westbrook Public Schools	406	360	-11%	\$1,476,837	-\$167,326
Lewiston Public Schools	1,551	1,429	-8%	\$5,247,552	-\$412,767
Portland Public Schools	1,636	1,380	-16%	\$6,102,201	-\$954,868

To illustrate, Portland’s FY2019 EL allocation in the EPS formula was \$6,102,201. If the lower ACCESS score criterion had been in place prior to FY2018, their EL enrollment data would have had 256 fewer EL students. This reduction in enrollment would have resulted in a 16% decrease in the FY19 EL allocation, an impact of almost a million dollars (\$954,868).

Because these 10 districts enroll over 80% of the state’s EL students, the financial impact on the remaining 111 districts is more modest. However, the impact on even a district with small EL enrollments can still be meaningful if it hinders their ability to maintain an EL program for those students.

How—and how much—these decreased allocations impact districts depends on how many EL students they have enrolled, how they design their EL programming, and perhaps most notably, the degree to which students newly exited from EL status continue to need ongoing supports. The cost of providing EL programs includes ancillary expenditures that apply to more than just the students active in an EL instructional program. Post-EL students are monitored for two years after they exit and remain eligible for targeted supports as needed, though they are not counted toward the additional EPS EL student weight. In addition, services such as translation for non-English speaking parents and guardians must continue even after a student has exited the

EL program. These costs have been included in the total expenditure that is the basis for the per-EL pupil weight, and have thus been distributed proportionally through the counted students. If students who are designated “proficient” when they score a 4.5 on the ACCESS exam require more ongoing monitoring and support than the students who were not exited from EL status until they scored a 6.0 then the cost of providing support to students in “monitor” status will increase. The decrease in EL allocations from the lower active student count could pose problems for districts unable to raise the difference.

### **EL Programs in Charter Schools**

There are limited data that can be analyzed and presented related to EL programs at Maine’s public charter schools. These schools were excluded from the above analyses as their funding model is different from that for regular public school districts. Five public charter schools had one or more enrolled EL students: Baxter Academy for Technology and Science, Cornville Regional Charter School, Harpswell Coastal Academy, Maine Connections Academy, and Maine Virtual Academy. Only Maine Connections Academy, with 7 enrolled ELs in 2017-18, had the largest program and all others enrolled 5 or fewer students. Only one school, Baxter Academy, reported EL-specific program expenditures under Program Code 4100 in that year. Their total reported spent, \$3,630, was 26% of the amount allocated through the funding system.

### **Summary of Findings**

*1. How many EL students are there in Maine, where do they attend school, and what is their demographic profile?*

- In 2017-18, the number of English language learner students enrolled in Maine public PK-12 schools according to data reported to the Maine Department of Education was 5,878 or 3.3% of the 180,650 total enrolled students. This was an increase of 0.3% from the 2014-15 school year, despite overall declines in student enrollments statewide. The majority of EL students (81%) are concentrated in just 10 Maine school districts.
- The majority (81%) of EL students are non-white; the largest race/ethnic group is African/Black (55%). EL students are almost twice as likely to be living in poor households compared to their non-EL peers. Overall, 44% of students in Maine live in FRPL-eligible households compared to 85% of EL students. EL students are slightly less

likely to be designated as having a disability compared to their non-EL peers (16% vs. 19% of all Maine students).

- Statewide there were at least 96 different languages spoken at home by EL students in Maine. The most common languages spoken include Somali (29%), Arabic (15%), French (9%) and Spanish (8%).
- While most EL students (82%) are attending school in an urban or suburban district a still substantial number of EL students are attending school in rural areas where they make up only a handful of EL students. There are 593 EL students attending a rural school, 65% of whom attend school with 4 or fewer other ELs. Of the 77 rural districts with reported EL students attending, average EL enrollment was 8 students; 30% (23 districts) have only one EL student and another 16% (12 districts) have only 2 ELs.

## *2. How much is spent on EL education and services? How are funds being spent?*

- Statewide, \$16,601,153 was spent from general funds on EL services (program code = 4100) in FY2018. Almost all (97%) of the EL program costs reported in the general fund were personnel compensation with 75% covering the compensation costs of teachers and other professional staff. About 13% of expenditures were for ed tech staff, 4% went to administrators, and another 4% went to support staff. Not quite 3% of total expenditures went to hire tutors, and contracts paid to professionals and other technical service providers not employed by the district amounted to an additional 2%.
- In addition to general funds, a total of \$373,519 in special revenue funds was spent by 8 SAUs including local grant funds and federal grants for Rural and Low Income students, language acquisition services and refugee resettlement.

## *3. How do EL per-pupil expenditure profiles vary by district type?*

- There is evidence of some economies of scale – with per EL student spending somewhat lower for districts with higher EL enrollment. Districts with fewer EL students (1-15) had the highest per pupil EL expenditure (\$4,495) while districts with 16-250 EL students spent \$3,357 per student and districts with 251 or more spent \$2,794 per student.
- Despite evidence of economies of scale, there is also considerable variation in per student spending even among districts with similar numbers of EL students and similar EL

student population demographics. We found no statistically significant associations between per EL pupil expenditures and observable differences in the demographics of the district's attending EL student population (% poor, % white, % at beginner level of English language learning, % testing at 4.5 ACCESS or above, % high school, % disabled) or district characteristics (rurality, area poverty rate) even after EL enrollment size was controlled. In other words, variable EL student demographics do not appear to be driving the differences in per student spending. This suggests that differences in spending are driven by other factors, including perhaps differences in local costs for services and staff, differences in pedagogical approaches to EL education and services, or possibly unobserved differences in EL student populations that affect needed services.

*4. What is the ratio of per EL pupil spending to overall per pupil spending? How has spending changed over time?*

- The relative EL program spending was calculated to be 0.5 for districts with 1-15 EL students, 0.3 for districts with 16-250 EL students and 0.3 for the largest districts. These weights remained virtually unchanged between the analyses based on 2007-08, 2014-15 and 2017-18 data. These weights are below those currently applied in the EPS formula (0.7, 0.5, and 0.525 respectively).

*5. How does reported EL spending compare to the amount allocated in the EPS formula?*

- Statewide, most of the EL funds allocated through the EPS formula are spent on EL services, with reported general fund EL program expenditures equal to 92% of total EL funds allocated. The sum of general fund expenditures reported by the 77 districts with EL allocations for the school year 2017-18 was \$16,589,743 and the total allocations through the EPS formula for those districts was \$18,044,705.
- On the district level, however, there is a lot of variability with some districts spending considerably less than allocated and others spending much more. About one-third of districts spent between 80% to 120% of what they were allocated, 39% spent less than 80% of their allocation and 30% spent more than 120% of their allocation.

*6. How will the change in EL exit criteria impact the number of EL students and EPS allocations?*

- The estimated decline in EL allocation under the new exit criteria for the 121 regular public districts with attending EL students would have been just under \$2.99 Million in FY2019. On a per student basis the changes in allocation are generally relatively small but the decline in total allocation can be substantial, especially for districts with large EL enrollments. While the change in total allocation is smaller for districts with lower EL enrollment, it could still have implications for EL programming.

### **Discussion & policy implications**

This report captures several different dynamics happening within the realm of English Learner program funding. The overall statewide spending on EL programs is lower than the amount of funding provided through the additional student weights in the EPS formula. This pattern is consistent with the past two reviews, and suggests that the ratio of spending on EL programs compared to regular instructional costs per pupil has shifted since the EPS model was last adjusted in FY2009. It is unclear whether the EL programs themselves have become more cost efficient, or whether the ratio has changed because spending on education in general has increased at a faster pace than the cost of providing EL supports; either way, the proportion appears to have stabilized at a new and lower level than the current EPS weights. In the 2016 review, this finding led to a recommendation to adjust the weights.

However, at the current time we recommend no immediate adjustments to the EPS EL program weights. The estimates of the potential impact of new ACCESS assessment target criteria suggest that the numbers of EL students enrolled in programs, and subsequently the EPS allocations, may decline about 14% now that the lower exit criteria are in use. The fact that the current weights were higher than spending when using the old criteria will act as a buffer to absorb some of the impact of reduced funding, but the actual impacts may be higher or lower than the estimates. While the impact on funding was relatively straightforward to estimate, it was based on only one year of assessment data and may fluctuate from year to year and district to district depending on student performance. More importantly, the impact of the assessment score change on program costs is not as easy to predict. It is unknown whether the earlier exiting of student from EL programs will substantially reduce the costs of supporting those learners while

in monitoring status. If students who are designated “proficient” when they score a 4.5 on the ACCESS exam require more ongoing support than students under the more stringent exit criteria, then the program costs may not decrease in direct proportion to the decrease in funding stemming from the lower enrollment counts. The actual expenditure patterns and enrollment patterns will need to be closely examined using FY2020 data, which is the first year where allocations and programs were based on enrollment counts using the new ACCESS score criteria.

In addition to the more widespread impact of the assessment change, this report also revealed the heterogeneity of spending patterns across districts. While the overall statewide pattern has been one of funding exceeding expenditures, that was not the case for all districts. Almost one third of districts (30%) spent more than an additional 20% of their EPS EL allocation on EL programs, with a handful spending two or three times their funding level. This wide variation in spending level suggests that at least some districts may need additional tools for operating efficient programs and would be likely to struggle if their funding were substantially decreased. Taken in combination, these findings about funding for EL programs suggest that additional time and study are warranted before suggesting any adjustments to funding weights.

In addition to finding implications, the report yielded an interesting data point regarding EL students in rural areas when reporting that about 10% of ELs (593 EL students) attended a rural school in FY18, and two-thirds (65%) of them attended school with only 4 or fewer other ELs. This, combined with the findings that ELs are disproportionately low-income and from underrepresented racial backgrounds, evokes questions about the challenges of providing equitable learning opportunities in these communities. While EL programs are supposed to provide EL programming and services in such a way to minimize isolation and ensure EL students have equal opportunities to participate in all aspects of the regular school program, in the earlier stages of English language acquisition EL students are inevitably grouped together and therefore somewhat segregated for at least some of their school day. The challenges of supporting learners—and their English-proficient peers—in these small rural contexts merits further study in order to understand the nature of resources that may be needed.

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