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David L. Silvernail PhD

University of Southern Maine, Center for Education Policy, Applied Research, and Evaluation

Ida A. Batista

University of Southern Maine

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**Analysis of the Essential Programs and Services
Limited English Proficiency (LEP)
Cost Component**

**Report to the
Maine Department of Education
and
Joint Standing Committee on Education and Cultural Affairs
Maine State Legislature**

Prepared by

**David L. Silvernail
Director**

**Ida A. Batista
Policy Research Analyst**

**Maine Education Policy Research Center
University of Southern Maine Office**

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David L. Silvernail
Director

Ida A. Batista
Policy Research Analyst

The Essential Programs and Services (EPS) school funding model, which was first implemented in Maine beginning in the 2005-06 fiscal year, is designed to insure all schools have the programs and services that are essential if all students are to have equitable opportunities to achieve the Maine Learning Results. Maine's new EPS model is, what is called nationally, an adequacy-based model. Instead of determining the cost of K-12 education based on past expenditures, adequacy based models are designed to determine the cost of providing K-12 education to a pre-determined level. In Maine's case, the EPS model is designed to determine the type and amount of resources needed in each Maine school in order for all students to have equitable opportunities to achieve the Learning Results.

In establishing EPS, explicit recognition was given to the relationship between equitable opportunities and resources for children with specialized needs, such as Limited English Proficiency students (LEP). These children may, and in most cases do, require additional resources to attain equitable opportunities to learn. Prior to the EPS funding model, only a small amount of additional funding was set aside for the support of LEP students. Embedded in the goal of the EPS funding model is the assurance that the state provides adequate resources to meet the educational achievement goals of the student populations within any given school administration unit (SAU) and an equitable distribution across school administration units of those adequate resources. Thus, SAUs are given additional resources for LEP students under the EPS model.

Review of the EPS Limited English Proficiency Cost Component

By statute each component of the EPS model is scheduled for review on a three year cycle. The first scheduled review of the LEP component was conducted in 2007-08, with an additional review conducted in 2008-09, as requested by the Joint Standing Committee on Education and Cultural Services. This report describes the results of the regularly scheduled 2010-11 review.

The objective of this report is twofold: First, the LEP cost component will be recalculated using the same methodology used in earlier reviews. Second, additional analyses have been undertaken to explore the relationship between expenditures, allocations of resources, and outcomes.

The methodology used to establish the LEP cost component is a weighting system.

According to Gold, Smith and Lawton (1995):

Weighting procedures, in effect, adjust the pupil count to provide a better reflection of a school district’s educational need...Weights are assigned in relation to the costs of educating the “regular” school pupil. The “regular” pupil is given a weight of one (1.0). Other pupil populations are given weights relative to the “regular” pupil weight of 1.0 to reflect the additional cost of educating these pupils. For example, if a particular category of student has a weight of 1.5, that implies that it costs 1.5 times as much to educate that student as it does the “regular” student (p.25).

LEP Descriptive Information

In 2008-09 Maine had 4,194 LEP students, according to the Maine Department of Education. This number represents approximately 2% of the resident enrollment in Maine. Based on an analysis of groups of students and differences in costs by the Maine Department of Education prior to the initial implementation of the EPS funding model in FY2006, the numbers of LEP students in districts have been clustered into three groups, 1 – 15 students, 16 – 250 students, over 250 students. Table 1 provides descriptive statistics on LEP Enrollment by LEP size category across the state for 2008-09.

Table 1. Descriptive Statistics from the 2008 - 09 LEP Enrollment Data

	LEP Enrollment Categories			Statewide
	1 – 15	16 – 250	251+	
Number of Districts	85	31	2	118
Total Number of LEP Students	359 (8.5%)	1571 (37.5%)	2264 (54%)	4194 (100%)
Number of Unique Languages	49	76	52	102
Range of SAU Unique Languages	(1 - 8)	(2 – 31)	(21 – 48)	(1 – 48)

As reported in the table, a total of 118 of the SAUs within the state have at least one LEP child. Of those 118 SAUs, 85 SAUs (72% of the districts with LEPs) have between 1 - 15 LEP students. However, the total number of LEP students represented by these districts is only 8.5% of the total LEP population. The two SAUs, Lewiston and Portland, that are categorized as

having more than 250 LEP students, have 54% of the state LEP population. There is a statewide total of 102 unique languages LEP students speak as their primary language, and individual SAUs have a range of 1 – 48 unique languages that they must communicate with. Table A in Appendix A lists unique languages by school district LEP enrollment size.

Out of the 118 SAUs that reported having LEP students in 2008 – 09, only 70 had LEP expenditures in 2008 - 09 as reported to the Maine Department of Education at the time of this report. Table B in the appendix lists in alphabetical order the SAUs with their 2008 – 09 LEP student counts and per pupil expenditures. Also in Appendix A, Table C identifies the SAUs with reported LEP enrollment but no reported LEP expenditures at the time of this report; and Table D identifies SAUs with reported LEP expenditures in 2008 - 09 but no reported LEP students. The Maine Department of Education is currently reviewing the data in Tables C and D to determine the reasons for these mismatches of LEP pupils and expenditures.

In Maine, the LEP weights are calculated by dividing school administrative units into three groups based on the number of LEP students served, and comparing the group two year average LEP per pupil costs to state two year average per pupil operating costs, excluding transportation and debt services. To be included in the cost analysis, SAUs must have two consecutive years (e.g. 2007 - 08 & 2008 - 09) of valid LEP enrollment and LEP expenditure data. The reasons for requiring two years of data are two-fold: One, to smooth out expenditure fluctuations that may occur from one year to the next, and two, to guarantee that the SAUs have established LEP programs, and not just start-up LEP programs. Table 2 shows the progression of inclusion from the 118 SAUs with LEP enrollment in 2008 - 09 to the 63 SAUs with LEP enrollment and expenditure data for 2007 - 08 and 2008 - 09 that were included in this analysis.

Table 2. Number of SAUs Included by Data Source

Data Source	SAUs Included
LEP Enrollment 2008-09 Only	118
LEP Enrollment & Expenditure 2008-09	70
LEP Enrollment & Expenditure 2007-08 and 2008-09	63

Table 3 below gives descriptive statistics on the LEP expenditure by LEP enrollment size for the 63 SAUs from 2008 - 09 that meet the requirement of two consecutive years of data. Please see Table E in the appendix for a complete listing of SAUs with LEP counts and per pupil

LEP expenditure included in the analysis. Also Table F presents a comparison between EPS LEP Allocations and LEP Expenditures for 2008 - 09.

Table 3. Descriptive Statistics from the 2008 - 09 LEP Expenditure Data

Characteristics	LEP Enrollment Categories			Statewide
	1 – 15	16 – 250	251+	
Number of Districts	35	26	2	63
Total Number of LEP Students	203	1394	2264	3861
Total LEP Expenditure	\$849,268	\$3,208,536	\$5,514,191	\$9,571,995
Average Per pupil Total LEP Expenditure	\$4,184	\$2,302	\$2,436	\$3,315
Median Per pupil Total Expenditure	\$4,441	\$2,642	\$2,333	\$2,799
Range of SAU Per pupil Total LEP Expenditure	(\$29 - \$12,386)	(\$9 – \$6,665)	(\$1,979 – \$2,687)	(\$9 – \$9,235)

As shown in the table, 35 of the SAUs categorized with 1 - 15 LEP students in 2008 - 09 were included in the study analysis. This group, as it is currently represented, has the highest median per pupil LEP total expenditure (\$4,441). The LEP enrollment category of 16 - 250 retained most of their SAUs in the analysis, though a third of their LEP students were in SAUs not represented due to missing expenditure data. Median LEP expenditures for this category was \$2,642 per LEP. Both SAUs in the largest LEP enrollment category were retained and had the lowest per pupil LEP total expenditures of the three categories (i.e., \$2,333).

The LEP expenditure for the 63 SAUs was then divided into major expenditure components. Table 4 presents the LEP expenditures for 2008 - 09 by major component. Across the state approximately 91% of all LEP expenditure is associated with salaries and benefits (74% + 14.4% + 2.5%). The smallest LEP size category had the smallest proportion of their total expenditure going to teacher salaries and benefits, and utilized more tutors and contracted services than other LEP enrollment size categories. SAUs with 16 - 250 LEP students spent approximately 76% of their total LEP expenditure on teacher salaries and an additional 14% on education techs, which is similar to the largest LEP category. The largest LEP category had most their expenditures in teacher and education tech salaries and benefits.

Table 4. LEP Expenditure Data by Component, 2008 - 09

	LEP Enrollment Categories			
	1 – 15	16 – 250	251+	Statewide
Total LEP Expenditure	\$849,268	\$3,208,536	\$5,514,191	\$9,571,995
Percent LEP Expenditure Teacher Salary & Benefits	61.4%	75.5%	75.0%	74.0%
Percent LEP Expenditure Ed Tech Salary & Benefits	10.8%	13.7%	15.3%	14.4%
Percent LEP Expenditure Tutors Salary & Benefits	6.4%	3.5%	1.2%	2.5%
Percent LEP Expenditure Contracted Services	11.2%	0.3%	0.7%	1.5%
Percent LEP Expenditure – Other Personnel	2.0%	6.3%	5.5%	5.5%
Percent LEP Expenditure-Other Non-Personnel	8.2%	0.7%	2.2%	2.2%

Update to LEP Category Weights

As described earlier, the EPS model utilizes a weighting system to calculate the additional costs for LEP children. The LEP weights are calculated by dividing SAUs into three groups based on the number of students in the LEP program. Next, average per-LEP-pupil expenses are calculated for each LEP size group. Each group average is the simple average of SAU per-LEP-pupil cost over two years. The LEP weight for each group is then calculated as the groups average per-LEP-pupil expenses divided by the state average per-pupil operating cost, excluding transportation and debt services for the two years. Based on the analysis of actual LEP related cost, a weighting matrix was developed for the three different LEP enrollment groups found in Maine’s school administrative units.

The weighted adjustment incorporated into the Maine funding formula in 2005 - 06 appears in Table 5. As may be seen from the table, SAUs with 1 - 15 LEP students spent approximately 50% more than the state average per pupil expenditure for their LEP students. Those with 16 - 249 LEP students spent 30% more than the state per pupil average and those with 250 or more LEP students spent 60% more than the state average.

Table 5: 2005-06 Analysis - EPS Weight Matrix for LEP Children

LEP Actual Per Pupil Expenditure Weights				
	Per-Pupil LEP Cost by LEP Pupil Count			Per-Pupil Operating Cost
	1 - 15	16 – 249	250+	
2000-01	\$3,062	\$1,531	\$2,762	\$5,164
2001-02	\$2,941	\$1,707	3,863	\$5,473
2-year	\$2,800	\$1,607	\$3,311	\$5,319
LEP Weight	0.50	0.30	0.60	

In fall 2007, the LEP cost component was reviewed according to statutory requirements. The Maine Education Policy Research Institute (MEPRI) conducted this analysis using the same methodology as in the previous LEP analysis, and the most recent two-year data available, the 2005 - 06 and 2006 - 07 SAU expenditures for LEP. The updated analysis resulted in a new weighting matrix as shown in Table 6. The actual weight had increased for the two lower LEP student categories, and decreased for the largest category.

Table 6: 2007-08 Analysis - EPS Weight Matrix for LEP Children

LEP Actual Per Pupil Expenditure Weights				
	Per-Pupil LEP Cost by LEP Pupil Count			Per-Pupil Operating Cost
	1 – 15	16 – 249	250+	
2005-06	\$7,891	\$4,884	\$2,242	\$8,253
2006-07	\$5,295	\$4,191	\$1,942	\$8,213
2-year	\$5,803	\$4,062	\$2,092	\$8,233
LEP Weight (Update)	0.70	0.50	0.30	

In reviewing these updated weights, Education Committee members raised concern about the adequacy of the weights. More specifically, the decrease in the weight for the largest category was questioned by the two constituent SAUs, the Lewiston and Portland school districts. In the case of Lewiston, it was the first time the Lewiston school district had been categorized within the largest LEP enrollment category and expressed concerns that even though they enjoy the benefits of economy of scales, they had crossed a threshold in that due to the

increase in their LEP population and increase diversity of LEP population, it was more expensive to acquire the resources necessary to educate their LEP population. Portland has always been categorized as having a large LEP population and similarly expressed concerns that due to the size and diversity of their LEP population additional LEP funds were needed. After considerable discussion and debate, the Education Committee reached consensus that for the school year 2008 - 09 the weighting would be 0.525 for the largest LEP population category.

As mentioned above, for the 2010-11 review, the same methodology that was used in previous reviews was replicated, and the results of this analysis appear in Table 7. As may be seen in the table the LEP weights for all three categories decreased from those in the most recent review.

Table 7: 2010-11 Analysis – EPS Weight Matrix for LEP Children (ave method includes outliers)

LEP Actual Per Pupil Expenditure Weights				
	Per-Pupil LEP Cost by LEP Pupil Count			Per-Pupil Operating Cost
	1-15	16-249	250+	
2007-08	\$3,937	\$2,531	\$2,493	\$9,330
2008-09	\$4,547	\$2,734	\$2,333	\$9,801
2-year	\$4,242	\$2,633	\$2,218	\$9,566
LEP Weight	0.443	0.275	0.252	

One of the factors which may be influencing the changes is the presence of one or more outliers. Outliers are defined as extreme scores, in this case per pupil expenditures, which when included in the calculation of averages, pull the average higher or lower. One method of correcting for this is by using a weighted average. A weighted average is calculated like an arithmetic average but allows some data points to contribute more than others. So the data for this review was weighted by LEP student enrollment so that extreme expenditures due to size did not exaggerate the LEP size categories per pupil average expenditure. Table 8 reports the new adjusted weights, using weighted averages. As may be seen from the table, adjusting for outliers has little effect in this case on the calculated LEP weights.

Table 8: 2010-11 Analysis – EPS Weight Matrix for LEP Children

LEP Actual Per Pupil Expenditure Weights				
	Per-Pupil Cost by LEP Pupil Count			Per-Pupil Operating Cost
	1-15	16-249	250+	
2007-08	\$3,753	\$1,954	\$2,436	\$9,330
2008-09	\$4,184	\$2,302	\$2,436	\$9,801
2-year	\$3,964	\$2,126	\$2,482	\$9,566
LEP Weight	0.414	0.222	0.259	

A third method of analysis was undertaken for this review by adjusting the per pupil operating cost figure used in the calculations. The original definition of the per pupil operating costs excluded transportation and debt service costs, in large part because these two cost areas may vary considerably depending upon the SAU. For the third method of analysis in this review, the same assumptions were made for special education costs and CTE costs; that is, these may also vary considerably depending upon the SAU. Accordingly, the analysis appearing in Table 9

Table 9: 2010-11 Analysis – EPS Weight Matrix for LEP Children

LEP Actual Per Pupil Expenditure Weights				
	Per-Pupil Cost by LEP Pupil Count			Per-Pupil Operating Cost
	1-15	16-249	250+	
2007-08	\$3,753	\$1,954	\$2,532	\$7,597
2008-09	\$4,184	\$2,302	\$2,436	\$7,949
2-year	\$3,964	\$2,126	\$2,482	\$7,764
LEP Weight	0.511	0.274	0.320	

defines per pupil operating costs as excluding transportation, debt service, special education, and CTE costs. This analysis yields slightly higher LEP weights for all three groups.

Additional Analysis

In order to further examine the calculated LEP weights, additional analyses were undertaken exploring the relationships between expenditures, resources, and LEP student performance. Table 10 reports the correlations between performance and expenditures. Performance in this case is LEP student performance on the ACCESS test. The ACCESS for LEP is a large scale annual assessment developed by the World-Class Instructional Design and Assessment (WIDA) consortium that is administered by the state each spring to evaluate identified ELL students' English speaking proficiency in four main domains (35% each from Reading and Writing, and 15% each from Listening and Speaking). This study focuses primarily on the Overall Proficiency Level. Proficiency levels are assigned based on the scores students received, lower scores reflecting lower proficiency levels and higher scores higher proficiency levels. There are six proficiency levels from lowest to highest, Level 1 = Entering, Level 2 = Beginning, Level 3 = Developing, Level 4 = Expanding, Level 5 = Bridging, and Level 6 = Reaching (Gottlieb, Cranley, Cammilleri 2007.) It is important to note, in Maine if a student receives a proficiency rating of 6, depending on professional judgment, the student is reclassified as a former LEP student or "in monitoring" status.

A statistical correlation is a number which represents the relationship between two or more phenomena. The number may range between ± 1.00 . A correlation of + 1.00 means that as one variable increases, the other variable also increases. This is labeled a perfect positive correlation. A perfect negative correlation (-1.00) means that as one variable increases the other variable decreases. Correlations near zero (0.00) represent no correlation between the variables. In other-words, as one variable increases, the other variable may sometimes increase, sometimes decreases, or does not change.

The plus (+) or minus (-) sign accompanying a correlation does not denote the value of the correlation; just the direction of the relationship. One common way to interpret a correlation is to determine predictive power; to determine how often you can predict accurately one variable from another. To determine its predictive power a correlation is converted as follows: the correlation is squared and then multiplied by 100. So, for example, if the correlation is 90, then the predictive power is 81% ($.90 \times .90 \times 100$). This means if you know the first variable, and you know the correlation between the first variable and a second variable is .90, then you may predict one from the other and expect to be correct 81% of the time.

As shown in Table 10, there is very little relationship between student performance on the ACCESS test and LEP expenditures. The correlation, and thus the relationship is near zero ($r = .114$). Why is this the case? A variety of factors may explain the lack of a relationship, including that there is in fact no relationship between LEP per pupil expenditures and academic performance. However, a secondary analysis of the data suggests other factors may be distorting the possible relationship in this case.

Table 10: Pearson Correlations ACCESS for LEP Overall Proficiency and Expenditures 2009

	Overall Proficiency Level (1=4137)	Average per pupil Operating expenditure (n=4123)	Average per pupil LEP expenditure (n=3945)	Average per pupil Operating and LEP expenditure (n=3851)
Overall Proficiency Level	1			
Average per pupil Operating expenditure	.119**	1		
Average per pupil LEP expenditure	-.036*	-.121**	1	
Average per pupil Operating and LEP expenditure	.114**	.942**	.220**	1

**significant at the .01 level; * significant at the .05 level

The secondary analysis revealed considerable differences in SAU LEP costs, even when comparing two or more SAUs with similar numbers of LEP children and languages. Three examples appear in Table 11 on the next page. As may be seen in the table, some SAUs are spending considerably more than others for the same number of LEP children.

Table 11: Examples of Differences in ELL Expenditures

District	No. of 2008-09 LEP Students	2008-09 LEP Expenditures
Hope	1	\$11,589
MSAD 56	1	\$2,267
Yarmouth	4	\$9,191
MSAD 47	4	\$1,084
RSU 75	16	\$4,769
Wells – Ogunquit CSD	16	\$2,682

Second, although some of the differences in SAU expenditures may be attributable to differences in LEP needs, an analysis of expenditures yielded what appears to be differences in program staffing approaches among some SAUs, as shown in Table 12. For example, Hope

Table 12: Examples of How SAUs Use LEP Expenditures

District	No. 2008-09 LEP Pupils	2008-09 LEP Per Pupil Expenditures	Percent of Expenditures					
			Teacher Salary & Benefits	Ed Tech Salary & Benefits	Tutor Salary & Benefits	Contracted Services	Other Personnel	Other Non-Personnel
Hope	1	\$11,589	-	87.8%	-	-	12.2%	-
RSU56	1	\$2,267	100%	-	-	-	-	-
Yarmouth	4	\$9,191	-	-	-	100%	-	-
MSAD 47	4	\$1,084	-	2.8%	-	-	-	97.2%
RSU 75	16	\$9,183	64.5%	-	35.5%	-	-	-
Wells Ogunquit CSD	16	\$2,682	100%	-	-	-	-	-

provided evaluation services for its 1 LEP child by using Ed Techs, while RSU 56 provided services through the use of teachers , but at a much smaller amount. In the case of RSU 75 (LEP = 16 students), the program costs are associated with teacher salaries and benefits and education technician salaries and benefits, while program costs for Wells Ogunquit CSD (LEP = 16 students) are for teacher salaries and benefits only.

Why such wide differences in the amounts spent providing education services for LEP children in different SAUs, and why are there such wide differences in how the resources are spent? It appears SAUs have very little guidance regarding the provision of LEP services, nor

any standardized listing of allowable expenditures. According to a 2005 MDOE administrative letter to school district superintendents:

For school units with more than 15 ESL students, instruction must be provided by a certified teacher with an ESL endorsement. For school units with less than 15 ESL students, instruction may be provided by a paraprofessional who is supervised by a certified teacher with an ESL endorsement (MDOE Administrative Letter No. 35).

In addition to this broad directive, MDOE has recently updated the accounting handbook for reporting LEP expenditures. However, it appears that neither the administrative letter directive nor the updated handbook clearly defines allowable LEP expenditures.

The secondary analysis also uncovered another potential problem area in the provision of LEP education. Table 13 reports the correlations between performance on the ACCESS test and performance on Maine’s assessment test (i.e., MEA and MSHA). As may be seen from the circled correlations, the relationship is at best, moderate (e.g., .541 for math and .655 for reading). This suggests that higher performance on the ACCESS test does not insure better performance on the state tests.

Table 13: Pearson correlations ACCESS for LEP Overall & Reading Proficiency and State Assessment in Reading and Math 2009

	ACCESS Reading Proficiency Level	ACCESS Overall Proficiency Level	State Reading Assessment	State Math Assessment
ACCESS Reading Proficiency Level	1			
ACCESS Overall Proficiency Level	.892**	1		
State Reading Assessment	.597**	.655**	1	
State Math Assessment	.512**	.541**	.584**	1

** significant at the .01 level

This moderate relationship between the two tests becomes more apparent in Table 14. This table provides a more detailed look at the relationships by comparing state reading

proficiency levels to Access overall proficiency levels. If the relationship is a strong one, one would expect to see the majority of the shaded boxes on the diagonal, meaning that there is agreement between the information that the ACCESS provides compared to the state assessment in reading. As may be seen from the table, there is more dispersion from the main diagonal than is desirable.

Table 14: Maine State Reading Proficiency Levels Compared to Access Overall Proficiency Levels - 2009

Maine State Standard Reading Proficiency Levels 2009		Access Overall Proficiency Levels 2009						
		1.00	2.00	3.00	4.00	5.00	6.00	Total
DNM =1	Count	49	197	239	81	27	3	596
	% within MEA 09	8.2%	33.1%	40.1%	13.6%	4.5%	.5%	100.0%
PM=2	Count	3	48	256	331	101	15	754
	% within MEA 09	.4%	6.4%	34.0%	43.9%	13.4%	2.0%	100.0%
MT=3	Count	1	4	69	290	285	107	756
	% within MEA 09	.1%	.5%	9.1%	38.4%	37.7%	14.2%	100.0%
EXC=4	Count	0	0	0	10	16	15	41
	% within MEA 09	.0%	.0%	.0%	24.4%	39.0%	36.6%	100.0%
Total	Count	53	249	564	712	429	140	2147
	% within MEA 09	2.5%	11.6%	26.3%	33.2%	20.0%	6.5%	100.0%

Table 15 presents another way to view the relationship. The table displays one year growth of LEP students on the ACCESS test. Looking at the diagonal from upper left to lower right, the counts and percentages of students on the diagonal are students who essentially had some growth, but not enough to change their proficiency level. Counts and percentages on the cells to the right of the main diagonal are students that had enough growth between 2008 and 2009 to increase their proficiency level from one year to the next. Counts and percentages to the left main diagonal represent student retraction in their ability to show growth on the ACCESS from 2008 to 2009.

Table 15: 2008 Overall Proficiency Levels compared to 2009 Overall Proficiency Levels

2008 Overall Proficiency Levels		2009 Overall Proficiency Levels							Total
		Missing	1.00	2.00	3.00	4.00	5.00	6.00	
Missing	Count	131	309	191	249	176	82	34	1172
	% within 2007	11.2%	26.4%	16.3%	21.2%	15.0%	7.0%	2.9%	100.0%
1.00	Count	91	91	176	113	7	0	0	478
	% within 2007	19.0%	19.0%	36.8%	23.6%	1.5%	.0%	.0%	100.0%
2.00	Count	92	10	201	261	49	8	0	621
	% within 2007	14.8%	1.6%	32.4%	42.0%	7.9%	1.3%	.0%	100.0%
3.00	Count	152	3	48	428	352	89	7	1079
	% within 2007	14.1%	.3%	4.4%	39.7%	32.6%	8.2%	.6%	100.0%
4.00	Count	158	0	4	108	401	236	54	961
	% within 2007	16.4%	.0%	.4%	11.2%	41.7%	24.6%	5.6%	100.0%
5.00	Count	106	1	0	9	82	225	86	509
	% within 2007	20.8%	.2%	.0%	1.8%	16.1%	44.2%	16.9%	100.0%
6.00	Count	134	0	0	0	2	17	28	181
	% within 2007	74.0%	.0%	.0%	.0%	1.1%	9.4%	15.5%	100.0%
Total	Count	864	414	620	1168	1069	657	209	5001
	% within 2007	17.3%	8.3%	12.4%	23.4%	21.4%	13.1%	4.2%	100.0%

Summary

In accordance with Maine statute, the Limited English Proficiency (LEP) cost component was reviewed in FY2011. Replication of the methodology used in previous reviews resulted in new LEP weights, ones which were lower for all three groupings of LEP students than the current weights used in the Maine funding formula. A modification to the methodology (by adjusting the definition of per pupil expenditures) yielded slightly higher new weights, but ones still below the current weights.

Further analyses also uncovered some additional potential problems in the LEP component. There are wide differences in LEP per pupil expenditures across SAUs, and considerable variance in how resources are used in providing services for LEP pupils. And there appears to be little relationship between the number of LEP students, per pupil expenditures, and student performance. Accordingly, additional analyses are needed in order to determine the actual relationships between these various factors, which in turn may suggest a new definition of LEP in the funding formula, and a targeted approach to funding LEP for school districts.

ADDITIONAL NOTES

It should be noted that the current LEP weighting expenditure model under-estimates from the smallest group to the second largest group. The under-estimation in the LEP model is due to the classification of districts by LEP pupil size into clusters and continuity of the LEP size groups across time. The weight assigned to SAUs with just enough students to classify them within the second category is less than the weight and allocation amount for the maximum amount of LEP pupils in the smallest category. It was necessary to create an additional adjustment for districts in 2007 - 08 with 16 - 25 LEP so that they received the weighting of the smallest group and did not lose allocation for being just larger than the largest small category of LEP pupil size. However, a review of the Maine Statutes revealed that the 2007-08 adjustment is no longer in statute. It is recommended that this adjustment be placed back into Maine Statute.

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APPENDIX A

Table A. Unique Languages by LEP Size Categories 2008 - 09

LEP Size Categories		
1 – 15	16 – 250	251+
Aleut	Albanian	Acholi
American Sign Language	American Sign Language	Albanian
Amharic	Amharic	American Sign Language
Apache languages	Arabic	Amharic
Arabic	Armenian	Arabic
Burmese	Bemba	Azerbaijani
Chinese	Bengali	Bambara
Chinook jargon	Bulgarian	Bengali
Creoles and Pidgins (Other)	Burmese	Bulgarian
Creoles and Pidgins, English-b	Cebuano	Burmese
Creoles and Pidgins, French-ba	Chinese	Chinese
Czech	Cree	Creoles and Pidgins, English-b
Dutch	Creoles and Pidgins, French-ba	Creoles and Pidgins, French-ba
English	Creoles and Pidgins, Portugues	Dinka
Estonian	Dinka	English
Ethiopic	Dutch	French
French	English	Ganda
Fula	Estonian	Georgian
German	Faroese	German
Greek, Modern (1453-)	French	Greek, Modern (1453-)
Gp	German	Icelandic
Gujarati	Greek, Modern (1453-)	Japanese
Hawaiian	Gujarati	Khmer
Hindi	Hebrew	Kinyarwanda
Icelandic	Hindi	Korean
Indonesian	Hungarian	Kurdish
Italian	Icelandic	Kusaie
Japanese	Indonesian	Lingala
Khmer	Iranian (Other)	Mandingo
Korean	Italian	Mende
Lao	Japanese	Persian
Mandingo	Javanese	Polish
Mayan languages	Kazakh	Portuguese
Nepali	Khmer	Pushto
Norwegian	Kinyarwanda	Russian
Polish	Korean	Salishan languages
Portuguese	Kurdish	Serbo-Croatian (Roman)
Pushto	Lao	Shona

Continued Table A. Unique Languages by LEP Size Categories 2008 - 09

LEP Size Categories		
1 – 15	1 – 15	1 – 15
Romanian	Latvian	Somali
Russian	Malayalam	Sorbian languages
Somali	Marathi	South American Indian (Other)
Spanish	Miscellaneous (Other)	Spanish
Swahili	Mon-Khmer (Other)	Sudanese
Swedish	Nepali	Swahili
Tagalog	Niger-Kordofanian (Other)	Swedish
Thai	Norwegian	Tagalog
Ukrainian	Pampanga	Telugu
Uzbek	Panjabi	Thai
Vietnamese	Passamaquoddy	Tigrinya
	Persian	Twi
	Polish	Ukrainian
	Portuguese	Vietnamese
	Pushto	
	Romanian	
	Russian	
	Serbo-Croatian (Cyrillic)	
	Serbo-Croatian (Roman)	
	Shona	
	Sinhalese	
	Slovak	
	Somali	
	Spanish	
	Sudanese	
	Swahili	
	Tagalog	
	Tahitian	
	Tamil	
	Telugu	
	Thai	
	Tigrinya	
	Tswana	
	Turkish	
	Twi	
	Ukrainian	
	Urdu	
	Vietnamese	

Table B. SAUs with Enrollment and Expenditure Data for 2008-09

School Administrative Unit:	Total LEP Students 2008-09	Per Pupil Total LEP Expenditure 2008-09
Appleton School Department	2	\$6,643
Auburn School Department	156	\$2,799
Augusta Public Schools	50	\$3,755
Bangor School Department	47	\$2,864
Biddeford School Department	53	\$2,601
Brewer School Department	2	\$38
Brunswick School Department	54	\$2,025
Bucksport School Department	3	\$5,079
Cape Elizabeth School Department	8	\$10,553
Caribou School Department	25	\$2,344
China School Department	5	\$2,573
Deer Isle-Stonington CSD	1	\$1,275
Falmouth School Department	25	\$4,517
Freeport School Department	14	\$2,795
Gorham School Department	13	\$6,151
Hope School Department	1	\$11,589
Indian Township	93	\$1,879
Jay School Department	1	\$10,212
Kittery School Department	8	\$3,499
Lewiston School Department	804	\$1,979
Madawaska School Department	67	\$70
Manchester School Department	4	\$946
Maranacook CSD	5	\$588
Millinocket School Department	6	\$1,724
Moosabec CSD	2	\$2,791
MSAD 04	3	\$105
MSAD 05	5	\$4,441
MSAD 06	20	\$3,230
MSAD 09	3	\$4,479
MSAD 15	11	\$5,697
MSAD 16	9	\$2,938
MSAD 17	6	\$2,068
MSAD 21	8	\$1,112
MSAD 22	3	\$1,166
MSAD 33	97	\$172
MSAD 34	4	\$9,186
MSAD 35	16	\$4,161
MSAD 37	24	\$2,335
MSAD 43	7	\$7,242
MSAD 47	4	\$1,084
MSAD 48	8	\$278
MSAD 49	1	\$67
MSAD 50	7	\$4,983
MSAD 51	7	\$1,137
MSAD 52	33	\$4,404

Continued Table B. SAUs with Enrollment and Expenditure Data for 2008-09

School Administrative Unit:	Total LEP Students 2008-09	Per Pupil Total LEP Expenditure 2008-09
MSAD 54	25	\$4,612
MSAD 55	9	\$4,534
MSAD 56	1	\$2,267
MSAD 57	5	\$29
MSAD 58	7	\$3,324
MSAD 60	40	\$1,813
MSAD 71	33	\$1,375
MSAD 75	16	\$4,769
Oak Hill CSD	1	\$12,386
Old Orchard Beach School Dept	8	\$7,222
Old Town School Department	6	\$8,474
Orland School Department	1	\$4,414
Orono School Department	10	\$2,376
Pleasant Point	84	\$911
Portland Public Schools	1,460	\$2,687
Saco School Department	46	\$1,676
Sanford School Department	95	\$9
Scarborough School Department	59	\$3,200
South Portland School Department	126	\$4,256
Vassalboro School Department	6	\$5,704
Waterville Public Schools	20	\$4,298
Wells-Ogunquit CSD	16	\$2,682
Westbrook School Department	82	\$2,271
Windham School Department	17	\$6,665
Yarmouth Schools	4	\$9,191

Table C. SAUs with Reported LEP Enrollment and No Reported LEP Expenditure, 2008 - 09

Attending SAU Name	Total LEP Students
Alexander School Department	1
Bar Harbor School Department	9
Boothbay-Boothbay Hbr CSD	7
Brooklin School Department	3
Damariscotta School Department	1
Easton School Department	3
Edgecomb School Department	2
Ellsworth School Department	18
Five Town CSD	6
Glenburn School Department	1
Grand Isle School Department	5
Great Salt Bay CSD	4
Hancock School Department	6
Islesboro School Department	2
Lamoine School Department	2
Lisbon School Department	4
Monmouth School Department	1

Continued Table C. SAUs with Reported LEP Enrollment and No Reported LEP Expenditure, 2008 - 09	
Attending SAU Name	Total LEP Students
MSAD 01	3
MSAD 03	6
MSAD 11	1
MSAD 12	2
MSAD 20	1
MSAD 24	94
MSAD 25	1
MSAD 27	5
MSAD 28	7
MSAD 29	1
MSAD 32	1
MSAD 46	2
MSAD 53	1
MSAD 59	2
MSAD 61	4
MSAD 63	1
MSAD 67	1
MSAD 72	4
Palermo School Department	3
Peninsula CSD	3
Poland School Department	1
Rangeley School Department	5
Richmond School Department	1
RSU 01	14
Schoodic CSD	4
South Bristol School Department	1
Surry School Department	2
Tremont School Department	1
Trenton School Department	5
Winslow Schools	24
York School Department	16
N=48	292

Table D. SAUs with Reported LEP Expenditure and No Reported LEP Students, 2008 - 09			
SAU Name	Total SAU Elementary LEP Expenditure 2008-09	Total SAU Secondary LEP Expenditure 2008-09	Total SAU LEP Expenditure 2008-09
Hermon School Department	\$923	\$0	\$923
Indian Island	\$453	\$0	\$453
MSAD 68	\$10,819	\$0	\$10,819
Readfield School Department	\$2,416	\$0	\$2,416
N=4	\$14,611	\$0	\$14,611

Table E. SAUs with Enrollment and Expenditure Data in Analysis

School Administrative Unit	LEP Pupils 0809	LEP per pupil Expenditure 0809	LEP Pupils 0708	LEP per pupil Expenditure 0708
Appleton School Department	2	\$6,643	2	\$6,347
Auburn School Department	156	\$2,799	150	\$1,453
Augusta Public Schools	50	\$3,755	55	\$3,213
Bangor School Department	47	\$2,864	56	\$2,326
Biddeford School Department	53	\$2,601	37	\$3,532
Brewer School Department	2	\$38	1	\$245
Brunswick School Department	54	\$2,025	60	\$1,800
Bucksport School Department	3	\$5,079	4	\$4,669
Cape Elizabeth School Department	8	\$10,553	15	\$4,537
Caribou School Department	25	\$2,344	29	\$2,064
China School Department	5	\$2,573	2	\$9,561
Falmouth School Department	25	\$4,517	29	\$4,681
Freeport School Department	14	\$2,795	17	\$2,496
Gorham School Department	13	\$6,151	8	\$9,235
Hope School Department	1	\$11,589	1	\$9,045
Indian Township	93	\$1,879	122	\$1,440
Jay School Department	1	\$10,212	2	\$2,171
Lewiston School Department	804	\$1,979	593	\$2,403
Madawaska School Department	67	\$70	82	\$437
Manchester School Department	4	\$946	2	\$2,610
Maranacook CSD	5	\$588	6	\$385
Millinocket School Department	6	\$1,724	3	\$341
MSAD 04	3	\$105	1	\$1,920
MSAD 05	5	\$4,441	7	\$127
MSAD 06	20	\$3,230	17	\$2,068
MSAD 09	3	\$4,479	4	\$3,392
MSAD 15	11	\$5,697	12	\$4,938
MSAD 16	9	\$2,938	8	\$1,685
MSAD 17	6	\$2,068	4	\$3,117
MSAD 21	8	\$1,112	2	\$1,575
MSAD 33	97	\$172	101	\$260
MSAD 34	4	\$9,186	3	\$2,403
MSAD 35	16	\$4,161	8	\$6,162
MSAD 37	24	\$2,335	36	\$1,619

Continued Table E. SAUs with Enrollment and Expenditure Data in Analysis

School Administrative Unit	LEP Pupils 0809	LEP per pupil Expenditure 0809	LEP Pupils 0708	LEP per pupil Expenditure 0708
MSAD 43	7	\$7,242	15	\$4,109
MSAD 47	4	\$1,084	1	\$1,534
MSAD 48	8	\$278	13	\$254
MSAD 50	7	\$4,983	7	\$3,657
MSAD 51	7	\$1,137	11	\$1,716
MSAD 52	33	\$4,404	30	\$4,650
MSAD 55	9	\$4,534	9	\$3,636
MSAD 56	1	\$2,267	1	\$3,847
MSAD 57	5	\$29	9	\$25
MSAD 58	7	\$3,324	7	\$2,889
MSAD 60	40	\$1,813	34	\$1,556
MSAD 71	33	\$1,375	27	\$1,940
MSAD 75	16	\$4,769	23	\$3,466
Oak Hill CSD	1	\$12,386	1	\$2,156
Old Orchard Beach School Dept	8	\$7,222	4	\$11,564
Old Town School Department	6	\$8,474	6	\$8,226
Orono School Department	10	\$2,376	11	\$2,587
Pleasant Point	84	\$911	89	\$851
Portland Public Schools	1460	\$2,687	1490	\$2,583
Saco School Department	46	\$1,676	23	\$3,269
Sanford School Department	95	\$9	102	\$2
Scarborough School Department	59	\$3,200	56	\$3,392
South Portland School Department	126	\$4,256	141	\$2,885
Vassalboro School Department	6	\$5,704	2	\$10,179
Waterville Public Schools	20	\$4,298	15	\$5,416
Wells-Ogunquit CSD	16	\$2,682	21	\$1,986
Westbrook School Department	82	\$2,271	65	\$2,713
Windham School Department	17	\$6,665	16	\$9,183
Yarmouth Schools	4	\$9,191	3	\$5,469

Table F. SAUs Enrollment, Expenditure, and Allocation in 0809

School Administrative Unit	LEP Pupils 0809	LEP Expenditure 0809	LEP Allocation 0809	LEP Allocation – Expenditure 0809
Eastport School Department	0	\$0	\$2,977	\$2,977
MSAD 44	0	\$0	\$3,707	\$3,707
Mount Desert School Department	0	\$0	\$3,903	\$3,903
Dennysville School Department	0	\$0	\$3,914	\$3,914
Georgetown School Department	0	\$0	\$3,955	\$3,955
Mt Desert CSD	0	\$0	\$4,310	\$4,310
Veazie	0	\$0	\$4,375	\$4,375
Arundel School Department	0	\$0	\$4,535	\$4,535
Durham School Department	0	\$0	\$4,611	\$4,611
Caswell	0	\$0	\$5,655	\$5,655
MSAD 14	0	\$0	\$6,366	\$6,366
MSAD 64	0	\$0	\$7,284	\$7,284
MSAD 36	0	\$0	\$11,327	\$11,327
Flanders Bay CSD	0	\$0	\$12,598	\$12,598
Indian Island	0	\$453	\$7,498	\$7,045
Hermon School Department	0	\$923	\$0	-\$923
Readfield School Department	0	\$2,416	\$0	-\$2,416
MSAD 68	0	\$10,819	\$7,419	-\$3,401
MSAD 20	1	\$0	\$3,394	\$3,394
Alexander School Department	1	\$0	\$3,620	\$3,620
Tremont School Department	1	\$0	\$3,823	\$3,823
MSAD 53	1	\$0	\$3,870	\$3,870
Damariscotta School Department	1	\$0	\$4,334	\$4,334
Monmouth School Department	1	\$0	\$4,340	\$4,340
Poland School Department	1	\$0	\$8,065	\$8,065
Richmond School Department	1	\$0	\$8,141	\$8,141
MSAD 29	1	\$0	\$10,821	\$10,821
South Bristol School Department	1	\$0	\$17,077	\$17,077
MSAD 11	1	\$0	\$20,458	\$20,458
MSAD 49	1	\$67	\$0	-\$67
Deer Isle-Stonington CSD	1	\$1,275	\$0	-\$1,275
MSAD 56	1	\$2,267	\$3,997	\$1,730
Orland School Department	1	\$4,414	\$0	-\$4,414
Jay School Department	1	\$10,212	\$8,516	-\$1,696
Hope School Department	1	\$11,589	\$3,903	-\$7,686
Oak Hill CSD	1	\$12,386	\$4,430	-\$7,957
Lamoine School Department	2	\$0	\$4,276	\$4,276
MSAD 59	2	\$0	\$8,282	\$8,282
Islesboro School Department	2	\$0	\$8,378	\$8,378
Brewer School Department	2	\$76	\$4,325	\$4,249
Moosabec CSD	2	\$5,583	\$0	-\$5,583
Appleton School Department	2	\$13,287	\$7,918	-\$5,369
Easton School Department	3	\$0	\$7,680	\$7,680

Continued Table F. SAUs Enrollment, Expenditure, and Allocation in 0809

School Administrative Unit	LEP Pupils 0809	LEP Expenditure 0809	LEP Allocation 0809	LEP Allocation – Expenditure 0809
Palermo School Department	3	\$0	\$7,998	\$7,998
Peninsula CSD	3	\$0	\$10,847	\$10,847
Brooklin School Department	3	\$0	\$12,011	\$12,011
MSAD 01	3	\$0	\$23,766	\$23,766
MSAD 04	3	\$315	\$3,748	\$3,433
MSAD 22	3	\$3,498	\$0	-\$3,498
MSAD 09	3	\$13,436	\$16,030	\$2,594
Bucksport School Department	3	\$15,238	\$15,921	\$683
Lisbon School Department	4	\$0	\$8,620	\$8,620
Schoodic CSD	4	\$0	\$11,512	\$11,512
Great Salt Bay CSD	4	\$0	\$16,047	\$16,047
MSAD 61	4	\$0	\$20,486	\$20,486
MSAD 72	4	\$0	\$36,062	\$36,062
Manchester School Department	4	\$3,782	\$8,403	\$4,621
MSAD 47	4	\$4,336	\$4,292	-\$43
MSAD 34	4	\$36,743	\$12,254	-\$24,489
Yarmouth Schools	4	\$36,765	\$13,566	-\$23,199
Rangley School Dept	5	\$0	\$4,015	\$4,015
Trenton School Department	5	\$0	\$11,401	\$11,401
MSAD 27	5	\$0	\$11,944	\$11,944
Grand Isle School Department	5	\$0	\$32,621	\$32,621
MSAD 57	5	\$147	\$37,837	\$37,690
Maranacook CSD	5	\$2,938	\$25,899	\$22,962
China School Department	5	\$12,864	\$16,450	\$3,586
MSAD 05	5	\$22,207	\$29,092	\$6,885
MSAD 03	6	\$0	\$7,802	\$7,802
Five Town CSD	6	\$0	\$41,864	\$41,864
Millinocket School Department	6	\$10,344	\$10,121	-\$223
MSAD 17	6	\$12,406	\$15,852	\$3,446
Vassalboro School Department	6	\$34,222	\$7,687	-\$26,535
Old Town School Department	6	\$50,842	\$25,838	-\$25,004
Boothbay-Boothbay Hbr CSD	7	\$0	\$22,645	\$22,645
MSAD 28	7	\$0	\$24,797	\$24,797
MSAD 51	7	\$7,956	\$51,169	\$43,213
MSAD 58	7	\$23,267	\$25,808	\$2,542
MSAD 50	7	\$34,884	\$28,689	-\$6,195
MSAD 43	7	\$50,691	\$54,569	\$3,878
MSAD 48	8	\$2,226	\$48,210	\$45,985
MSAD 21	8	\$8,893	\$7,367	-\$1,526
Kittery School Department	8	\$27,991	\$0	-\$27,991
Old Orchard Beach School Dept	8	\$57,773	\$22,010	-\$35,763

Continued Table F. SAUs Enrollment, Expenditure, and Allocation in 0809

School Administrative Unit	LEP Pupils 0809	LEP Expenditure 0809	LEP Allocation 0809	LEP Allocation – Expenditure 0809
Cape Elizabeth School	8	\$84,421	\$68,240	-\$16,181
Bar Harbor School Department	9	\$0	\$24,360	\$24,360
MSAD 16	9	\$26,442	\$32,236	\$5,795
MSAD 55	9	\$40,803	\$33,534	-\$7,270
Orono	10	\$23,758	\$42,522	\$18,764
MSAD 15	11	\$62,671	\$52,829	-\$9,842
Gorham School Department	13	\$79,958	\$36,635	-\$43,322
Freeport School Department	14	\$39,124	\$57,097	\$17,973
York School Department	16	\$0	\$31,909	\$31,909
Wells-Ogunquit CSD	16	\$42,915	\$94,082	\$51,167
MSAD 35	16	\$66,573	\$35,314	-\$31,260
MSAD 75	16	\$76,303	\$68,201	-\$8,103
Windham School Department	17	\$113,297	\$65,322	-\$47,974
Ellsworth School Department	18	\$0	\$36,744	\$36,744
MSAD 06	20	\$64,596	\$58,437	-\$6,159
Waterville Public Schools	20	\$85,968	\$60,433	-\$25,535
Winslow Schools	24	\$0	\$61,102	\$61,102
MSAD 37	24	\$56,030	\$91,301	\$35,271
Caribou School Department	25	\$58,602	\$79,182	\$20,580
Falmouth School Department	25	\$112,925	\$94,547	-\$18,378
MSAD 54	25	\$115,300	\$86,222	-\$29,078
MSAD 71	33	\$45,363	\$85,653	\$40,289
MSAD 52	33	\$145,341	\$85,494	-\$59,847
MSAD 60	40	\$72,535	\$104,957	\$32,422
Saco School Department	46	\$77,078	\$95,477	\$18,399
Bangor School Department	47	\$134,612	\$169,665	\$35,053
Augusta Public Schools	50	\$187,743	\$159,800	-\$27,943
Biddeford School Department	53	\$137,850	\$113,101	-\$24,749
Brunswick School Department	54	\$109,355	\$186,769	\$77,414
Scarborough School Department	59	\$188,826	\$175,731	-\$13,096
Madawaska School Department	67	\$4,718	\$220,176	\$215,458
Westbrook School Department	82	\$186,225	\$196,499	\$10,273
Pleasant Point	84	\$76,498	\$234,534	\$158,035
Indian Township	93	\$174,777	\$313,495	\$138,718
MSAD 24	94	\$0	\$274,154	\$274,154
Sanford School Department	95	\$846	\$304,555	\$303,709
MSAD 33	97	\$16,645	\$267,949	\$251,304
South Portland School	126	\$536,240	\$455,986	-\$80,254
Auburn School Department	156	\$436,673	\$422,961	-\$13,713
Lewiston School Department	804	\$1,590,871	\$1,723,120	\$132,249
Portland Public Schools	1460	\$3,923,320	\$4,938,876	\$1,015,556
State LEP Total	4161	\$9,744,734	\$12,768,525	\$3,023,792
State LEP per Pupil		\$2,341.92	\$3,068.62	\$726.70