



# RESEARCH BRIEF

## Research Services

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## TIME TO ENGLISH READING PROFICIENCY

### Results at a Glance

The time it takes for an English Language Learner (ELL) to reach reading proficiency in English depends on the grade level of entry into the English for Speakers of Other Languages (ESOL) program and on the student's initial English proficiency level. The summary table below presents the average years to English proficiency across different grade levels for students entering the ESOL program at beginning Level 1 versus the more advanced Levels 2-4.

For the majority of students who enter as ELLs in 9<sup>th</sup> grade or higher, the time in high school is not sufficient to reach reading proficiency in English.

	Grade K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Level 1	3.7	3.4	3.5	3.9	3.9	3.9	4.3	4.3	4.6
Levels 2-4	2.4	2.2	2.1	2.3	2.1	2.5	2.4	2.0	2.5

For no student group defined by the initial grade and ESOL level combination is one year of learning adequate to reach levels of English proficiency sufficient for students' FCAT results to be interpreted as valid indicators of what students know and are able to do in the content areas of reading and mathematics. In fact, students who enter the ESOL program at the lowest level of English proficiency in grade 3 or later (the majority of students) do not reach levels of FCAT reading achievement comparable to those of non-ELL students even after four academic years of learning English. Thus, the inclusion of the FCAT results of ELL students into the state accountability system after only one year of English learning puts the schools and school districts with large numbers of ELL students at a distinct disadvantage.

### Background and Purpose

The State Board of Education recently changed a rule concerning the inclusion of the testing results of ELLs into the state accountability program. While in the past a two-year English acquisition period was allocated to ELLs before their FCAT results were used in the state accountability program, now this period has been reduced to only one calendar year.

This change of rules reignited a long-standing debate concerning the length of time it takes ELLs to acquire English proficiency. An often cited research finding is that it takes 4-7 years depending on the students' initial grade, level of English proficiency, and prior educational experiences, to learn academic English skills (Hakuta, Butler, & Witt, 2000; Thomas & Collier, 2001). Several studies on the subject were conducted in Florida, including Miami-Dade County. Using the FCAT Writing data, Moore and Zainuddin (2003) found that it takes 3-5 years for students in the fourth grade and at least 5-6 years in eighth and tenth grades to achieve parity with non-ELL students on the writing assessment. The authors of a more recent study used 2-6 years of data from M-DCPS to estimate the time students remained classified as ELLs (Conger, Hatch, McKinney, Atwell, & Lamb, 2012). They found that the median time of ELL classification was approximately 2.4 years and that about one-third of the students were still classified as ELL three years after entry.

When ELL students participate in an academic assessment in English and score at the relatively low levels, it can be difficult to determine the reasons for their poor performance. It may be impossible to differentiate between a lack of content knowledge or a deficit of English proficiency necessary to demonstrate students' knowledge and skills in content areas. Thus, the validity of assessment results of ELL students before they reach English proficiency is doubtful. The goal of this report is to use the state assessment data to establish the time it takes ELLs in the Miami-Dade County Public Schools to acquire the minimum of English language proficiency sufficient for the valid interpretation of the students' content area FCAT results.

## The Sample

A sample of students who entered M-DCPS as ELLs during the August-October 2006 period was followed for 1-6 years. To be more specific, the students who were in grades K-7 in October 2006 were followed for 6 years, eighth-graders were followed for five years, ninth-graders for four years and so on, so that the twelfth-graders were followed for only one full academic year. These periods will be referred to as the *maximum follow-up time* in the rest of the text. A total of 12,944 students were in the sample. Of those, approximately 88% of the students were native speakers of Spanish, 7 % were native speakers of Haitian Creole, and the rest were speakers of a variety of other languages. Approximately two-thirds of the students in the sample were eligible for the federal free/reduced price lunch program. These figures are typical for the student ELL population in the District.

Because the time to English proficiency is likely to depend on the grade of entry as well as on the initial English proficiency level, the sample was subdivided into groups based on these two factors. Students in each of the grades K-2 were divided into four groups based on their initial ESOL levels. Because smaller numbers of ELLs were present in other grade levels, students in each of the grades 3-12 were divided into only two groups: those in ESOL level 1 and those in the other higher ESOL levels combined. The numbers of students in the sample initially and those who were enrolled in M-DCPS for the maximum follow-up time, disaggregated by initial grade and ESOL levels, are presented in the technical notes at the end of this paper.

## The Definition of Proficiency

Several of the studies mentioned earlier rely on the ELL classification to determine the time to proficiency. Often, the rules for deciding when a student reaches English proficiency and can be exited from the ESOL program are confounded with the student's content area assessment results. For instance, in Florida, the current State Board rule requires ELL students in grades 3-9 to score at achievement levels 3-5 on the FCAT reading to be eligible for ESOL exit. However, only approximately two-thirds of *non-ELL* students statewide score within those FCAT levels. This rule effectively holds ELL students to a higher and frequently unattainable standard.

In an attempt to avoid this confounding, the following analytic strategy was initially employed. Binary logistic regression analyses predicting the 2010 FCAT reading and mathematics pass-fail determination (levels 3-5 vs. levels 1-2) from the 2010 CELLA reading proficiency scores were conducted, and the predicted probability of success for each CELLA score was found. Then, for each of the grade levels 3-10, the CELLA reading scores at which the predicted probability of success was equal to the empirical proportions of non-ELL students scoring within the achievement levels 3-5 on the FCAT was found for reading and mathematics separately. (Non-ELL students were defined here as students who have never been identified as ELLs or students who had been identified as ELLs but who had exited the ESOL program more than two years prior to the FCAT 2010 administration.) The intent of this strategy was to use these CELLA reading scores as definitions of what constitutes minimal levels of English reading proficiency, i.e., those levels at which ELL students are performing on the FCAT content areas on par with non-ELL students. The cut scores resulting from this analysis were very demanding. In most cases, the CELLA scores indicating proficiency by these standards were beyond the cut scores currently required for exiting ESOL.

As an alternative to this empirical definition of English proficiency we turned to definitions currently in use. For some time districts have been using cut scores defined by the State for determining proficiency in CELLA content areas. These cut scores have been used in conjunction with other criteria to determine eligibility for exit from the ESOL program. Unfortunately, these cut scores are not grade-specific but are applied across grades in any of the four clusters (K-2, 3-5, 6-8, and 9-12). The grade-specific English reading proficiency cut scores we used in this study came from the Accountability Works, a testing company that, in cooperation with the Educational Testing Service, developed the CELLA. The Accountability Works cut scores are equal to those of the State for the middle of each grade cluster, but are further refined for each grade level separately. It should be noted that the predicted probability of scoring within achievement levels 3-5 on the FCAT reading corresponding to these cut scores were lower than the observed proportions of non-ELL students scoring proficient on the FCAT reading for most grade levels. The selected CELLA reading cut scores, associated predicted probabilities of scoring within achievement levels 3-5 on the FCAT and other related statistics are shown in the technical notes.

In this study, we only used the definition of English proficiency in reading, not in writing or in oral skills. This choice was made because reading skills have the largest impact on the students' ability to demonstrate what they know and are able to do on many tests in English, such as the FCAT

reading, mathematics, or science. Because the writing proficiency in English is not considered, results of the study are not applicable to ELLs' participation in FCAT writing.

## The Analyses

For each of the initial grade and ESOL levels, we found the cumulative percentages of ELL students reaching English reading proficiency on CELLA in the 2007-2012 period. Only the students who were enrolled for the maximum follow-up time were included in this analysis.

In addition, we used a statistical technique referred to as "survival analysis" to estimate the mean time it takes for ELLs to reach reading proficiency in English as defined above. Because the survival analysis technique appropriately accounts for the time during which the students are no longer enrolled in M-DCPS, the results of all students who were in the sample initially could be used for this analysis. Since the students who enrolled in high school as ELLs were followed for relatively short periods, the survival analysis was conducted for only students in grades K-8. Given that the CELLA reading scores lower than those found in the logistics regression analysis were used as definitions for what constitutes English reading proficiency, mean times to proficiency are likely to be the underestimates of the true parameters.

Finally, the differences between the percentages of students in the groups defined by the initial grade and ESOL levels who scored within achievement levels 3-5 on the FCAT reading and the corresponding percentages for non-ELL students were compared for each year in the 2007-2010 period. The results of all students in the sample who had FCAT reading scores during this period were used in this analysis.

## Percentages Reaching English Proficiency

The cumulative percentages of students reaching English reading proficiency during the study follow-up time are shown in table 1. To enhance readability, the cells for which less than 50% of the corresponding students reach proficiency are highlighted in red.

For students entering the ESOL program in grades K and 1, the percentages reaching proficiency were greater than 50% by the time they would reach grade 3, the first year of FCAT testing.

For students entering the ESOL program in high school, the great majority do not have enough time to reach English proficiency.

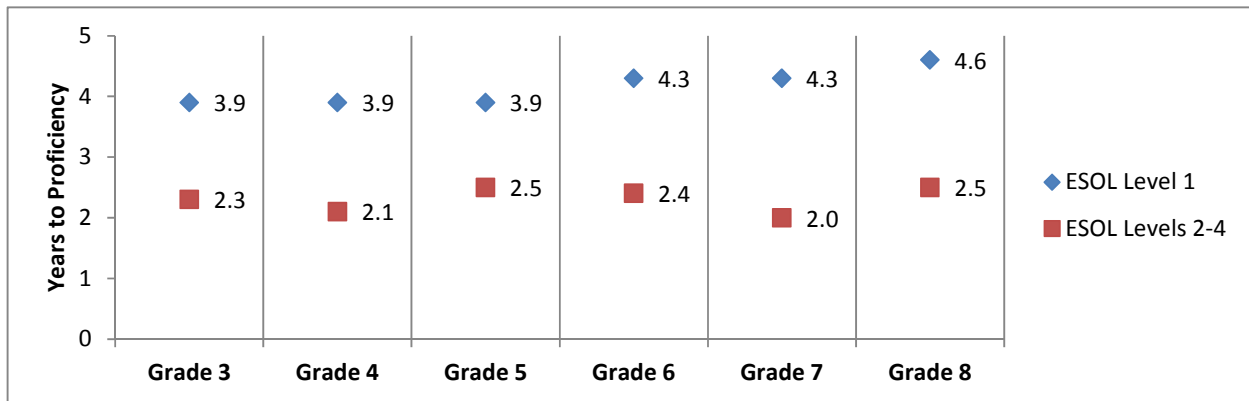
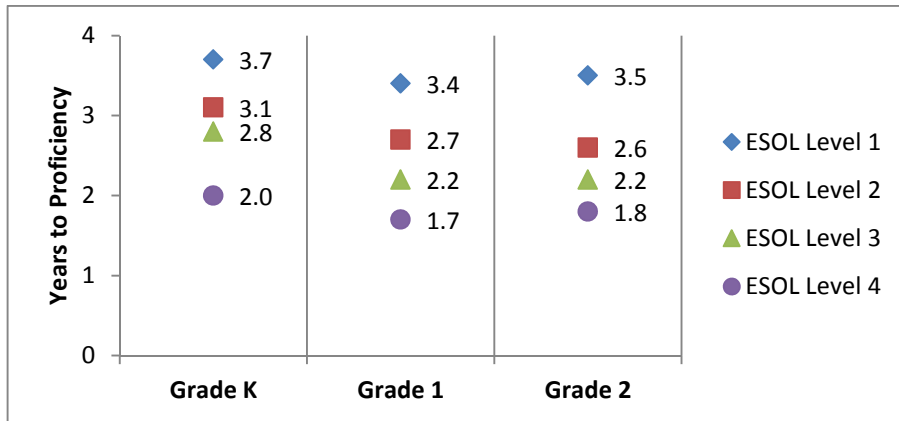
Of particular interest are students entering ESOL in grade 2 through 10 circled in red. The FCAT test scores for these students would be incorporated into the state accountability program under the current inclusion rules. Among these students, the bulk of those entering at ESOL level 1 would be at a distinct testing disadvantage given their lack of English proficiency. Since most students do enter into these grades at ESOL level 1, the great majority of these students would be inadequately prepared for testing in English.

Table 1

Initial Grade	Initial ESOL Level	Cumulative Percentages of Students Reaching CELLA Reading Proficiency					
		First Year	After 1 Year	After 2 Years	After 3 Years	After 4 Years	After 5 Years
K	1	8%	27%	54%	64%	71%	78%
	2	15%	43%	67%	75%	80%	85%
	3	24%	54%	75%	80%	83%	87%
	4	49%	79%	90%	93%	95%	96%
1	1	5%	40%	52%	69%	78%	85%
	2	25%	68%	80%	82%	86%	89%
	3	40%	79%	84%	90%	93%	96%
	4	60%	91%	96%	99%	99%	99%
2	1	10%	37%	56%	71%	78%	83%
	2	41%	62%	76%	86%	90%	90%
	3	59%	91%	93%	94%	94%	94%
	4	81%	90%	93%	95%	97%	97%
3	1	5%	26%	50%	54%	64%	73%
	2-4	61%	83%	86%	89%	89%	92%
4	1	5%	27%	42%	57%	65%	74%
	2-4	64%	87%	90%	93%	93%	96%
5	1	4%	28%	43%	59%	68%	75%
	2-4	50%	76%	86%	86%	88%	91%
6	1	2%	20%	41%	49%	52%	66%
	2-4	36%	72%	87%	90%	90%	92%
7	1	5%	23%	41%	55%	62%	66%
	2-4	53%	79%	89%	96%	96%	96%
8	1	0%	5%	14%	29%	46%	
	2-4	(sample too small for reliable estimation)					
9	1	2%	7%	30%	42%		
	2-4	7%	36%	79%	79%		
10	1	1%	12%	30%			
	2-4	9%	35%	74%			
11	1	1%	14%				
	2-4	38%	54%				
12	1	5%					
	2-4	39%					

## Average Time to Proficiency

The results of the survival analysis estimating the mean time (in academic years) to English reading proficiency in years are shown in the two figures below. The results are disaggregated by the initial grade and ESOL levels.



In general, ELL students who entered in grades K-2 at ESOL levels 1-2 (44% of all K-2 students), took on average between 2.6 and 3.7 years to reach English reading proficiency. For students who entered at ESOL levels 3-4, it took between 1.7 and 2.8 years to reach proficiency.

ELL students who entered in grades 3-8 at ESOL level 1 (73% of all grade 3-8 students), took an average of 3.9 to 4.6 years to reach reading proficiency in English. It took between 2.0 and 2.5 years on average for students who entered in grades 3-8 at ESOL levels 2-4 to reach proficiency.

## Differences in FCAT Performance

The table below presents the differences in the percentage of ELL students scoring within achievement levels 3-5 compared to their non-ELL counterparts.

Grade	ESOL	First Year	After 1 Year	After 2 Years	After 3 Years
K	1				-8%
	2-4				6%
1	1			-5%	-11%
	2-4			4%	2%
2	1		-32%	-25%	-12%
	2-4		-6%	-4%	-1%
3	1	-57%	-45%	-35%	-28%
	2-4	-16%	-9%	-10%	-7%
4	1	-58%	-46%	-31%	-25%
	2-4	-25%	-12%	-2%	0%
5	1	-60%	-41%	-28%	-21%
	2-4	-27%	-13%	-2%	-12%
6	1	-56%	-49%	-37%	-25%
	2-4	-29%	-17%	-9%	-8%
7	1	-62%	-47%	-39%	-29%
	2-4	-34%	-19%	-15%	-10%
8	1	-43%	-36%	-26%	
	2-4	-24%	-8%	-10%	
9	1	-35%	-29%		
	2-4	-23%	-17%		
10	1	-29%			
	2-4	-23%			

In this table, for ease of readability, we have highlighted those cells in which the ELL students have performed worse than the non-ELL students by more than 20 percentage points. We see a similar pattern to the other analyses. The data demonstrate that students who entered the ESOL program in grades K or 1 are performing at levels comparable to those of non-ELL students by the time they begin participating in the FCAT testing in grade 3. Students who enter the ESOL program in later grades at relatively high initial ESOL levels achieve at the levels comparable to the results of the non-ELL students by the second or third year of FCAT testing.

Once again, of particular interest are results circled in red; these represent the outcomes of students whose FCAT test scores would be incorporated into the state accountability program under the current inclusion rules. It can be seen that students entering into the program at ESOL Level 1, lacking in English proficiency, are succeeding at a much lower rate. **Indeed, students who enter the ESOL program at the lowest level of English proficiency in grade 3 or later (the majority of students) do not reach levels of FCAT reading achievement comparable to those of non-ELL students even after four academic years of learning English.**

## Discussion

The results of the analyses presented above demonstrate that the time it takes for an ELL student to reach reading proficiency in English depends on the grade level of entry into the ESOL program and on the initial English proficiency level. Given that the figures on mean time to English reading proficiency from the survival analysis are likely to be underestimates of the corresponding time parameters, the following observations can be made.

When students enter the ESOL program in early elementary grades (K-2) at the relatively low initial levels of English proficiency, it takes between 2.6 and 3.7 years or more to reach the English reading proficiency. When students enter the ESOL programs in early elementary grades at relatively high initial levels of English proficiency, this period is between 1.7 and 2.8 years or more.

For students who enter the ESOL program in grades 3-8 at a low level of English proficiency, it takes an average of about four years or more to reach reading proficiency in English. For grade 3-8 students who enter at relatively high initial levels of English proficiency, this period is between 2.0 and 2.5 years or more.

Finally, for the majority of students who enter high school as ELLs, the time in high school is not sufficient to reach reading proficiency in English.

For no student group defined by the initial grade and ESOL level combination is one year of learning English adequate to reach levels of English proficiency sufficient for students' FCAT results to be interpreted as valid indicators of what students know and are able to do in the content areas of reading and mathematics. This means that the inclusion of FCAT results of ELL students into the state accountability system after only one or even two years of English study puts the schools and school districts with large numbers of ELL students at a distinct disadvantage.



# Technical Notes

## Counts of Students in the Study

Initial Grade/ESOL Level		Number of students initially	Of those, students followed for the maximum time
Kindergarten	ESOL 1	2418	2025
	ESOL 2	1161	996
	ESOL 3	1353	1138
	ESOL 4	3588	3106
Grade 1	ESOL 1	277	204
	ESOL 2	81	56
	ESOL 3	120	82
	ESOL 4	142	100
Grade 2	ESOL 1	297	214
	ESOL 2	50	29
	ESOL 3	71	53
	ESOL 4	87	59
Grade 3	ESOL 1	247	182
	ESOL 2-4	122	66
Grade 4	ESOL 1	255	187
	ESOL 2-4	118	67
Grade 5	ESOL 1	275	198
	ESOL 2-4	87	42
Grade 6	ESOL 1	237	167
	ESOL 2-4	75	39
Grade 7	ESOL 1	271	167
	ESOL 2-4	78	47
Grade 8	ESOL 1	246	87
	ESOL 2-4	84	2
Grade 9	ESOL 1	332	140
	ESOL 2-4	90	14
Grade 10	ESOL 1	305	146
	ESOL 2-4	109	23
Grade 11	ESOL 1	184	147
	ESOL 2-4	69	56
Grade 12	ESOL 1	64	64
	ESOL 2-4	51	51
Total		12944	9954

CELLA Reading Proficiency Cut Scores and Associated Statistics

Grade	CELLA Reading Proficiency Cut Score	Predicted Probability of Scoring Within Achievement Levels 3-5 on the 2010 Reading FCAT	Observed Proportion of Non-ELL Students Scoring Within Achievement Levels 3-5 on the 2010 Reading FCAT	Difference
3	722	.284	.732	-0.448
4	734	.341	.748	-0.407
5	744	.375	.701	-0.326
6	752	.452	.664	-0.212
7	759	.452	.680	-0.228
8	765	.519	.557	-0.038
9	769	.519	.460	0.059
10	774	.579	.419	0.160

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