Using Achieve3000 LevelSet Lexile Scores to satisfy Reading Assessment Graduation Requirements for Certain English Language Learners

The goal of this Research Brief is to provide an analysis of an alternative pathway to graduation for English Language Learners (ELL) who have been in the English Speakers of Other Languages (ESOL) program for less than two years. To do so, we aimed to estimate what Lexile score, based on the Achieve3000 LevelSet assessment, is equivalent to a passing score on the Grade 10 ELA FAST exam.

Introduction

To meet graduation requirements, public school students in Florida must participate in and pass any statewide, standardized assessments required for a standard diploma or earn identified concordant scores or comparative scores, as applicable, for the cohort year in which they entered in ninth grade (M-DCPS, 2024). One of the statewide assessments required for graduation is the Grade 10 English Language Arts (ELA) Florida Assessment for Student Thinking (FAST) assessment or a concordant score on the College Board's SAT, Admission College Testing (ACT) or Classical Learning Test (CLT) assessment.

English Language Learners (ELLs) in Miami-Dade County Public Schools (M-DCPS) have a lower graduation rate (80.1% in 2022-2023) as compared to non-ELL students (92.2% in 2022-2023) and the overall graduation rate (90.3% in 2022-2023). Notably, during the 2022-2023 school year, ELLs had quite a low passing rate on the Grade 10 ELA FAST assessment (5%) compared to non-ELL students (58%). ELLs who have been in the English Speakers of Other Languages (ESOL) program for less than two years may graduate using alternative assessment scores, as stated in Florida Statute s. 1003.433(3),

> Beginning with the 2022-2023 school year, students who have been enrolled in an English Speakers of Other Languages (ESOL) program for less than 2 school years and have met all requirements for the standard high school diploma except for passage of any assessment required for graduation as specified by ss. 1003.4282 or 1008.22, F.S., or alternate assessment is eligible for a standard high school diploma if the student: b) meets the requirement to pass the statewide, standardized grade 10 ELA assessment by satisfactorily demonstrating grade-level expectations on a formative assessment that generates a score or metric that can be interpreted as a measure of grade ten level achievement in ELA.

In the past, the district has used scores from the Assessing Comprehension and Communication in English State-to-State (ACCESS) for ELL exam developed through the multistate World-class Instructional Design and Assessment (WIDA) consortium to establish an alternate reading graduation criterion for such ELL students. ACCESS for ELLs is an exam that assesses students' knowledge and skills in the domains of Listening, Speaking, Reading, and Writing. The assessment provides scale scores, proficiency levels in each domain, and an overall composite scale score and proficiency level. Proficiency levels vary from 1 to

6 and are labeled (1) Entering, (2) Emerging, (3) Developing, (4) Expanding, (5) Bridging, and (6) Reaching. Level 6, or Reaching, is considered by the WIDA consortium to indicate proficiency in a particular English language domain. Proficiency level determinations are grade-level specific; proficiency levels below level 6 are reported as decimals. For example, a proficiency level of 3.4 indicates that a student is at the Developing level of proficiency and has made four-tenths of the way to the Expanding level. To meet graduation requirements, students would need to achieve a proficiency level of 4 on the exam's reading portion and an overall composite proficiency level of 4. This is the criterion that the Florida Department of Education (FLDOE) uses to define English language proficiency for ELLs (Rule 6A-6.0903, F.A.C.). During the 2022-2023 school year, only 24% of 10th grade students, 26% of 11th grade students, and 21% of 12th grade students achieved a proficiency level of 4 or higher on the Reading component, and only 22% of 10th grade students, 23% of 11th grade students, and 18% of 12th grade students achieved a proficiency level of 4 or higher for the overall composite score (FLDOE, 2023).

Another alternate assessment used in the District is the Scholastic Reading Inventory (SRI) from Houghton Mifflin Harcourt (HMH), which provides Lexile Scores. A degree or unit of reading comprehension (one Lexile) is operationally defined as 1/1000 of the distance between primer level (lower end of the scale) and encyclopedia level text (higher end of the scale) (Stenner et al., 1987). Therefore, Lexile measures are used to determine a student's level of reading and create a "targeted" reading experience by matching the score to appropriate texts. The text should challenge the reader slightly, but it should not be so hard that the reader becomes frustrated. A Lexile score of 1080 is used as the minimum score to meet the requirement.

McGraw Hill's Achieve3000 program also uses Lexile scores and may serve as another alternative pathway to meeting the Grade 10 ELA assessment requirement for graduation for ELLs who have been in ESOL for less than two years. Achieve3000 is a computer-based instructional program designed to adjust reading materials to students' reading levels, otherwise known as their Lexile levels. The assessment used as part of the program is LevelSet, which is a criterion-referenced assessment that determines a student's Lexile level and adapts to their current Lexile level when administered each subsequent time. It is typically administered once at the beginning of the school year, and once at the end of the school year, but can be administered up to three times a year.

Data

To determine the equivalent Lexile scores for passing the Grade 10 FAST ELA exam, we selected a sample of 996 students who were ELLs and took both the Grade 10 FAST ELA and LevelSet assessments. We restricted the sample to students who took the Lexile and FAST assessments in the Spring (either in April or May of 2024). See Table 1 for the demographic characteristics of the sample as well as the FAST ELA passing rate and mean Lexile scores per student group. We also limited the sample to 10th graders, excluding 11th and 12th grade students who were retaking the assessments, due to the correlation coefficient decreasing considerably when they were included. Once 11th and 12th graders were excluded, we found a moderate correlation between the two assessments ($r = .47$). Although this is a less than desirable correlation coefficient, it is acceptable for the purposes of this study considering the restricted range of our sample.

Table 1
Student Demographics and Assessment Outcomes

	Frequencies (%)	FAST ELA Passing Score - Frequency (%)	Achieve3000 LevelSet Lexile Score – Mean (SD)
Gender			
Male	512 (51.4%)	95 (18.6%)	824.27 (343.96)
Female	484 (48.6%)	89 (18.4%)	871.39 (339.07)
Race/Ethnicity			
White	25 (2.5%)	3 (12%)	902.8 (210.74)
Black or African American	54 (5.4%)	8 (14.8%)	654.91 (306.93)

Hispanic or Latino	911 (91.5%)	173 (19%)	857.38 (344.48)
Other	6 (0.6%)	0	795 (247.8)
ESOL Level			
1 - Beginner	10 (1%)	0	858 (371.49)
2 – Beginner	388 (39%)	40 (10.3%)	775.19 (340.42)
3 – Intermediate	407 (41%)	78 (19.2%)	856.76 (337.56)
4 - Advanced	178 (18%)	59 (33.1%)	968.51 (305.34)
5 – Proficient (Exit)	13 (1.3%)	7 (53.8%)	1025.38 (465.28)
Disability Status			
Disability	21 (2%)	1 (4.8%)	765 (339.81)
Section 504 Plan	12 (1.2%)	2 (16.7%)	892.5 (455.1)
No Disability	963 (96.8%)	183 (18.8%)	848.94 (342.24)
Disability Type			
Specific Learning Disability	16 (76.2%)	1 (6.3%)	811.56 (354.36)
Autism Spectrum Disorder	1 (4.8%)	0	785 (0)
Other Health Impaired	2 (9.5%)	0	415 (127.28)
Orthopedically Impaired	1 (4.8%)	0	985 (0)
Deaf or Hard of Hearing	1 (4.8%)	0	480 (0)
Economically Disadvantaged			
Free or Reduced Lunch (FRL)	515 (51.7%)	97 (18.8%)	854.93 (344.31)
No FRL	481 (48.3%)	87 (18.1%)	838.86 (340.14)
Overall	996	184 (18.5%)	847.17 (342.23)

Method

To determine what LevelSet Lexile score would be equivalent to a passing score on the Grade 10 FAST ELA exam, we considered two possible methods of analysis. The first method is a simple linear regression (SLR), in which a regression equation can be used to predict the Lexile score that would correspond to the minimum passing FAST ELA scale score for 10th graders (247). The advantages of using SLR is that it is easy to interpret and understand and can be used to make predictions about future performance outcomes. However, SLR may not account for outliers and may be skewed if the data are not evenly distributed.

Additionally, our sample is restricted in range because we are only including ELLs, so this likely have impacted the correlation coefficient and the power of the regression analysis. To run the SLR, we entered the FAST ELA scale score as the outcome variable and the Lexile score as the predictor in the model. We created the prediction equation (FAST ELA score = slope (Lexile) + intercept) and then inserted 247 (the minimum FAST ELA passing scale score) in the place of "y", to solve for "x", which gave us the expected Lexile score for a student who meets the minimum passing requirement on the Grade 10 FAST ELA exam.

We took into account the Conditional Standard Error of Measurement (CSEM) of 6 at the scale score of 247 – the minimum of the achievement level 3 for the grade 10 assessment. That is, we developed potential cut scores for the FAST scale scores of 247 and 241 = 247 – 1CSEM. The CSEM is a measure of inconsistency or uncertainty in the scores of a group of test-takers, and allows for more flexibility, especially for students whose scores are right near the achievement level cut-off and error of measurement could make the difference between passing and failing (Livingston, 1982).

The second method is a direct linking method, also known as Linear Equating (LE). In LE, a transformation is chosen to equate two sets of items if they correspond to the same number of standard deviations above or below the mean in that group of students (Kolen & Brennan, 2014). The linking equation between the FAST ELA scale scores and Lexile measures can be written as:

$$\text{Lexile Measure} = \frac{SD\ Lexiles}{SD\ FAST\ ELA\ Scores}(FAST\ ELA\ Score - Mean\ FAST\ ELA\ Scores) + Mean\ Lexile.$$

The benefit of using LE is that it may be most appropriate when there is a small sample size, if the two assessments have similar difficulties, and simplicity is desired for conducting analyses and conversion equations (Kolen & Brennan, 1995). On the other hand, LE can lead to out-of-range scores and is heavily group-dependent, meaning that it may only apply to that specific group of test-takers and cannot be generalized to other samples of students, because equating cannot adjust scores correctly for every individual test taker or every possible group of test-takers (Livingston, 2014).

Results

We present our preliminary findings from both methods of analyses in Table 1 below.

Table 1

Results of Analyses: Equivalent FAST and Lexile Scores

	LEXILE CUT SCORE	
FAST SCORE	Linear Regression	Direct Linking
247	1520	1171
241	1320	1076

Our recommendation is to use the Lexile cut score of 1076 determined using the direct linking method, as it was the recommended method in previous studies linking the Florida Standards Assessment for ELA and Lexile scores (MetaMetrics, 2019). In addition, it takes into account measurement uncertainty using the CSEM.

In the spring of 2024, only 14.7% of ELLs passed the Grade 10 FAST ELA exam required for graduation. If the new cut score of 1076 on the LevelSet assessment from Achieve3000 was considered as a concordant score for the Grade 10 FAST ELA, 27% of ELLs in grades 10-12 would have met the requirement for graduation instead.

References

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