

Analysis of Common Core Readability Formulas  
Used for the New York State ELA Exams

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Dear Educators and Parents,

Last September, I had the opportunity to meet with New York State Commissioner of Education MaryEllen Elia. During that meeting, I shared my concerns regarding the developmental appropriateness of the questions and passages faced by our students taking the Common Core-aligned English Language Arts (ELA) tests since 2013. Although the commissioner said that future test questions were under review, she explained there was no plan to change the text complexity of the reading passages. In Commissioner Elia's opinion, the passages were developmentally appropriate.

Although many experienced educators can quickly determine if a piece of literature is too difficult for their students just by reading it, a readability formula must be used if someone wants to narrow down its difficulty to a specific grade. Readability formulas work by measuring certain features of a piece of literature using mathematical calculations. Most readability formulas look at the difficulty of words and sentences. We don't need to calculate other factors, as they tend to make the formulas more complex and achieve little in return.<sup>1</sup>

After my meeting with Commissioner Elia, I used the Fry Readability Formula to analyze the released reading passages used on the third grade 2016 Common Core ELA exam.<sup>2</sup> The results are as follows:

- One passage was written on a second grade level.
- Two passages were written on a fourth grade level.
- One passage was written on the border between a fourth/fifth grade level.
- Two passages were written on a fifth grade level.
- One passage was written on a sixth grade level.
- One passage was written on a seventh grade level.

The reason I chose to apply the Fry Readability Formula is because it has been a widely used tool for assessing the readability of literature since 1968. It was developed by Dr. Edward Fry, an expert in teaching reading and the Director of the Reading Center at Rutgers University. Dr. Fry was also President of the National Reading Conference and the International Reading Association.<sup>3</sup>

Although the State Education Department (SED) has yet to comment on the results of my analysis since it was first shared with their office six months ago, I felt compelled to learn more about the readability measures accepted by SED and used by test vendors Pearson and Questar.

Grade Band	ATOS	Degrees of Reading Power	Flesch-Kincaid	The Lexile Framework	Reading Maturity	SourceRater
2 <sup>nd</sup> -3 <sup>rd</sup>	2.75 – 5.14	42 – 54	1.98 – 5.34	420 – 820	3.53 – 6.13	0.05 – 2.48
4 <sup>th</sup> -5 <sup>th</sup>	4.97 – 7.03	52 – 60	4.51 – 7.73	740 – 1010	5.42 – 7.92	0.84 – 5.75
6 <sup>th</sup> -8 <sup>th</sup>	7.00 – 9.98	57 – 67	6.51 – 10.34	925 – 1185	7.04 – 9.57	4.11 – 10.66
9 <sup>th</sup> -10 <sup>th</sup>	9.67 – 12.01	62 – 72	8.32 – 12.12	1050 – 1335	8.41 – 10.81	9.02 – 13.93
11 <sup>th</sup> -12 <sup>th</sup>	11.20 – 14.10	67 – 74	10.34 – 14.20	1185 – 1385	9.57 – 12.00	12.30 – 14.50

Source: Student Achievement Partners

The chart above was taken from page 5 of the document containing the released passages from the 2016 Common Core ELA test.<sup>4</sup> It shows the text difficulty ranges considered appropriate for each grade level. This chart provides us with a lot of information.

First off, I would dismiss two formulas due to conflicts of interest. Reading Maturity is owned by Pearson and was used to analyze Pearson’s exams. Degrees of Reading Power was designed by Questar to analyze the passages on their exams.

I also have concerns with SourceRater. This readability tool, which has been renamed TextEvaluator, is owned by a company called Educational Testing Service (ETS). Although ETS did not create the NYS Common Core exams, it has been a giant in the field of assessment since 1947. Just like Pearson, ETS has been accused of creating questionable exams and then profiting from the sale of remediation materials.<sup>5</sup> In 2014, ETS had contracts canceled in the United Kingdom after a BBC investigation uncovered systematic fraud.<sup>6</sup>

It is also important to note that ETS announced in January 2017 that it will be purchasing Questar.<sup>7</sup> This means that ETS, a Pearson-like mega testing organization, whose president is a staunch proponent of the Common Core, will once again have significant influence over the New York State Testing Program.

The Lexile Framework is a well-known source for determining readability. In addition to being used by teachers in classrooms across the country, Barnes and Noble, Amazon, and Scholastic each provide a Lexile level for many of the books they sell. Unfortunately, Lexile has “stretched” their grade level bands within the past several years to match those of the Common Core State Standards.<sup>8</sup>

Grade Band	Current Lexile Band	"Stretch" Lexile Band*
K-1	N/A	N/A
2-3	450L-730L	420L-820L
4-5	640L-850L	740L-1010L
6-8	860L-1010L	925L-1185L
9-10	960L-1120L	1050L-1335L
11-CCR	1070L-1220L	1185L-1385L

*Please Note: The "Current Lexile Band" column shows the old range of scores while the column for the "Stretch" bands is being used today.*

Looking at the chart above, a reading passage with a Lexile of 1010L used to be considered at the top end of the eighth grade band, but the stretched bands now indicate the same passage is appropriate for fifth graders. 850L used to be considered at the end of the fifth grade band, but now 820L is considered appropriate for third graders.

In short, Lexile has advanced the grade level expectations by about two to three grade levels to mirror the Common Core State Standards. In my opinion, this stretching places Lexile's validity in question and their tool should no longer be used.

Not only have the Lexile bands been modified, so have the bands for ATOS and the Flesch-Kincaid formula. According to a customer service representative at Renaissance, the company that owns the ATOS formula, their third grade scores should range from 3.00-3.99, but the Common Core includes a score of 5.14 in the second-third grade band. The same is true for the Flesch-Kincaid formula.

Based on this information, SED's assertion that its exams have been developmentally appropriate are suspect because the department is using readability tools with scoring bands that have been manipulated to make harder passages look more appropriate.

To make matters worse, the State Education Department used the SAT to come up with cut scores (passing scores) for the Common Core exams.<sup>9</sup> This is cause for concern because the SAT is only 22% accurate at predicting the college success of high school students who are just a year or two away from college.<sup>10</sup> So, how can these questionable cut scores accurately predict the college readiness of third graders who are a decade away from their freshman year? They can't. However, that didn't stop SED from telling two-thirds of parents that their children are not going to be ready for college or a career.

Now, it is important to note that the State Education Department did not develop the chart of modified grade level bands. The chart comes straight from the Common Core.<sup>11</sup> However, instead of so easily accepting such a fundamental change to the definition of grade level readability expectations, SED should have reached out to experienced educators before creating state exams and cut scores that the department knew would falsely label so many of New York's students as failures.<sup>12</sup>

As disheartening as all this sounds, it can be turned around. Moving some commas and tweaking a handful of phrases in the Common Core State Standards is not going to fix something that was fundamentally flawed from the beginning.<sup>13</sup> Instead, New York should abandon the Common Core completely and continue revising our previous standards. This encouraging work was well underway in 2009 when SED canceled the effort in the hope of winning federal Race to the Top funding.<sup>14</sup>

Going forward, SED must make sure New York's assessments fairly and accurately measure student proficiency. SED must also make sure the standards that guide a teacher's daily instruction are well founded and developmentally appropriate so that all students are able to become productive members of society. Our children deserve nothing less.

Sincerely,  
Anthony Cardinale

## Notes

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3. Dr. Edward Fry  
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4. 2016 Grade 3 English Language Arts Test Released Questions  
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8. Lexile Text Complexity Bands: Old vs. New  
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12. How Come Officials Could Predict New Test Score Results?

[https://www.washingtonpost.com/news/answer-sheet/wp/2013/08/12/how-come-officials-could-predict-results-on-new-test-scores/?utm\\_term=.f85033453151](https://www.washingtonpost.com/news/answer-sheet/wp/2013/08/12/how-come-officials-could-predict-results-on-new-test-scores/?utm_term=.f85033453151)

13. NYSAPE Response to Common Core Revisions

<http://www.nysape.org/nysape-pr-cc-revisions-response.html>

14. LOHUD Article and Video Discussing New York's "Lost Standards"

<http://www.lohud.com/story/news/education/2014/05/10/common-core-derailed-ny-standards/8918925/>