FEATURE

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BEYOND THE CLASSROOM

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New Movement Shaping Education Today

In 1957 the launch of Sputnik sparked a transformative movement in public education in the United States, a movement that dramatically changed educational policy and practice. Now, over fifty-six years later, we are at another transformative moment in education with the almost universal adoption (forty-five states, the District of Columbia, and four territories) of the Common Core State Standards (CCSS). As we move from adoption to implementation of these standards across the country, the climate for educational reform has led to expectations of change that are unprecedented in scope. The challenge before educators today has never been greater. The end goal of the CCSS is best expressed by Education Secretary Arne Duncan's description of the Holy Grail of K–12 education: to graduate all of our students and make sure that they are "college- and career-ready." Let's be clear; this is the most ambitious goal we have ever had in public education. We have never in the history of our country, nor in the history of any other country, graduated every student. In addition to significantly improving the graduation rate, we are also challenged to raise the bar for all students by requiring that they graduate prepared to meet the challenges of postsecondary endeavors—that they are college- and career-ready. As educators and policy makers embark on implementing these new standards, they're seeking ways to effectively maximize the use of existing resources and strengthen partnerships in both the public and private sectors. There is no doubt that school and public libraries and librarians across this country play an essential role in reaching this "Holy Grail."

Librarians as a Driving Force

A substantial body of research clearly shows strong school library programs staffed with certified librarians have a significant impact on student achievement without regard to socioeconomics, teachers' experience levels, or other common correlations to student performance. Research has documented that schools where library resources have been used in support of instruction in literacy, information literacy, and technology skills have witnessed increased levels of motivation in students, as well as higher scores on student achievement measures and higher graduation rates. A study in Illinois involving schools with flexible scheduling and where students have increased access to the school library found that on the Illinois Standards Achievement Test fifth-grade students performed 10 percent better in reading and 11 percent better in writing compared to those with less access (Lance, Rodney, and Hamilton-Pennell 2005). The "School Library Impact Studies" conducted by Library Research Service concluded that libraries have a significant impact on student test scores, even for elementary-level students, and that school libraries play an important role in helping to close the achievement gap.

Equally important is the established role of public libraries in supporting all learners, especially underrepresented populations, including English language learners, socioeconomically disadvantaged students, and students with disabilities. In addition to being a valued community-based resource for recreational reading, these institutions provide students access to resources and technology that may not be available at home, as well as opportunities for after-school and summer learning programs. Experts agree that 21st-century information- and digital-literacy skills are essential for all learners. Public librarians have embraced this need by providing instruction and programs to help young people acquire these skills.

With the implementation of the CCSS, libraries should be one of the most valued and trusted resources for teachers, parents, and students. Why are school and public libraries so well positioned to take on this role? A look at the six critical shifts from previous standards to the Common Core State Standards for English Language Arts and Literacy (EngageNY n.d.) brings this connection to light. Other than classroom teachers, no other professionals are so well suited to address these core issues as librarians are.

HOW LEXILE MEASURES ARE BEING USED IN THE LIBRARY TO ACHIEVE COLLEGE AND CAREER READINESS

SIX CRITICAL SHIFTS

1

STAIRCASE OF TEXT COMPLEXITY

To read and comprehend text at the level of complexity required for success in college courses and the workplace, students need to be able to read and comprehend increasingly complex text throughout their K–12 experience.

2

BALANCING INFORMATIONAL AND LITERARY TEXT

Students need to read more nonfiction text. The CCSS proposes that about half the reading in elementary school and 75 percent in high school, across the entire day, should be nonfiction.

3

ACADEMIC VOCABULARY

Students must constantly build the transferable vocabulary they need to access grade-level complex texts across content areas.

4

WRITING FROM SOURCES

Students need to be able to write from multiple sources about a single topic, relying on evidence from texts to present careful analyses, well-defined claims, and clear information, as opposed to personal experience and opinion.

5

TEXT-BASED ANSWERS

Students must engage in rich and rigorous evidence-based conversations and writing about text.

6

KNOWLEDGE IN THE DISCIPLINES

Through reading, students need to build knowledge in history, social studies, science, and technical subjects.

While all six of these shifts are rich in their implications for educators, for the purposes of this discussion we want to focus primarily upon the issue of text complexity and the use of the Lexile® Framework for Reading.

Text Complexity and the Lexile Framework for Reading

The CCSS recommends a three-part model for evaluating the complexity of a text (Common Core State Standards Initiative 2010). The heart and soul of text complexity is best conceptualized in the graphic in figure 1. It takes into account the qualitative dimensions (levels of meaning or purpose, structure, language conventionality, and clarity, knowledge demands), quantitative measures (word length or frequency, sentence length, and text cohesion), and reader and task consideration (motivation, interest, prior knowledge, and experiences). Text complexity is defined in the Common Core State Standards as "the inherent difficulty of reading and comprehending a text combined with consideration of reader and task variables; in the standards, a three-part assessment of text difficulty that pairs qualitative and quantitative measures with reader-task consideration" (Common Core State Standards Initiative 2010, 43).

In applying these considerations for instruction, educators need to keep in mind two very important sentences from Common Core documentation: "The use of qualitative and quantitative measures to assess text complexity is balanced in the Standards' model by the expectation that educators will employ professional judgment to match texts to particular students and tasks. Numerous considerations go into such matching" (Common Core State Standards Initiative 2010, 7).

The CCSS Initiative stresses the importance of text complexity if we are to successfully prepare students for reading demands after high school. As stated, "One

Figure 1. Three components of assessing text complexity (Common Core State Standards Initiative 2010, 4).

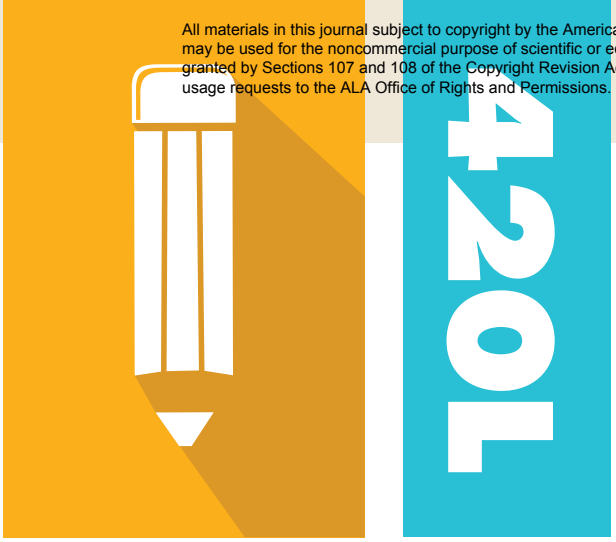

Table 1

GRADE BAND	LEXILE BAND
K–1	N/A
2–3	420L – 820L
4–5	740L – 1010L
6–8	925L – 1185L
9–10	1050L – 1335L
11–CCR	1185L – 1385L

of the key requirements of the Common Core State Standards for Reading is that all students must be able to comprehend texts of steadily increasing complexity as they progress through school" (Common Core State Standards Initiative 2010, 2). There are, however, two alarming trends in terms of text complexity that must be noted across the P–20 continuum (preschool through postgrad studies). First, over the last fifty years the text complexity of K–12 texts has trended downward (Chall, Conrad, and Harris 1977; Hayes, Wolfer, and Wolf 1996; Williamson 2008). Second, the text complexity of reading required by college courses, careers, and citizenship has held steady or increased over this same time period (Hayes, Wolfer, and Wolfe 1996). This disparity, along with the finding that reading comprehension breaks down as students read more complex text on college admissions tests such as the ACT and SAT, led to the development of the "staircase of text complexity" by grade level. The Common Core cites Lexile measures as key indicators of text complexity and provides recommended Lexile grade bands for reading development to ensure students are on track for college and career text demands.

In short, the Lexile Framework for Reading is based on this model and is significant because it, unlike any other technology, allows for matching individual readers with specific texts on the same developmental scale. MetaMetrics, developer of the Lexile Framework, has performed research on the importance of the reader-with-text match and the typical reading demands of college and careers. This research contributed to the Common Core as a whole and, more specifically, to the Lexile-based bands in table 1 above (Common Core State Standards Initiative 2010).

By specifying the Lexile reading demands across the K–12 continuum, a few points become obvious. First and foremost, we need to take a more longitudinal perspective as we prepare all students for the reading demands post high school. Secondly, every grade, every subject, and every education professional is important in growing the literacy skills of our students. Too often we have viewed only a subset of our educators (K–3) as responsible for the reading growth of students. A third point is that we now have a quantitative measure to evaluate whether a student is reading on grade level, a measure that is consistent across districts, states, and our nation.

Since the Lexile Framework is used extensively throughout the nation by teachers and librarians who are currently implementing the CCSS, we thought it would be helpful to provide background on the development, purpose, and utility of Lexile measures.

Background on the Development of the Lexile Framework

Founded in 1984, MetaMetrics cofounders Jackson Stenner, PhD, and Malbert Smith III, PhD, set out to build an empirical scale that would help match readers to text (placing reader ability and text complexity on the same scale) so that educators could respond appropriately to the tremendous heterogeneity of reading ability within a given class, grade level, or age group. In essence, Stenner and Smith wanted to build a stable and reliable technology tool to support what school and public librarians do daily: find the right book for each student. A second and related goal was to make test scores more meaningful and actionable. The typical scores that were reported from the major reading assessments in use at the time were norm-referenced scores that simply ranked student performance. There is not much a teacher, parent, or librarian can do with a percentile rank, stanine, or normal curve equivalent.

A final consideration in the development of the Lexile Framework was motivated by the need for what the philosophers of science call "unification of measurement." Simply stated, all of the different reading assessments with their various scales had created a psychometric Tower of Babel. Like other constructs, such as temperature, if we could unify the measurement of reading, we could reduce the need for so many different assessments and do more with the assessments that *were* administered.

The initial research on reading and psychometric theory that culminated in the development of the Lexile Framework was funded over a decade through a series of grants from the National Institute of Child Health and Human Development, part of the National Institutes of Health. While Stenner and Smith were the principal investigators on these grants, scholars from Duke University, University of North Carolina at Chapel Hill, and University of Chicago also played a significant role.

Consistent with the conceptual triangle of text complexity described earlier, the Lexile Framework was created within the transactional nature of students' relationship with text. Unlike some quantitative text-complexity tools that are just "text-centric," the Lexile Framework was created through a conjoint measurement model of both reader and text. In the creation of the Lexile Framework, the importance of the qualitative portion of the triangle was also recognized. These qualitative features are important and include such characteristics as developmental appropriateness, intended audience, purpose, and even factors such as the book's jacket art. When matching readers to books, it is important to pay attention to all of these features.

In trying to address some of these qualitative features, MetaMetrics also provides a series of codes. These codes, while not exhaustive, are intended to capture some of this information that is outside the quantitative measurement of Lexile measures. Below is a list of these codes along with a brief explanation.

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LEXILE CODES

AD (Adult Directed): Text that is usually read to a child, rather than a child reading independently.

MORE THAN ONE HUNDRED MILLION BOOKS, ARTICLES, AND WEBSITES *have been measured and received Lexile measures. The nation's largest periodical database services have provided Lexile measures for their newspaper and magazine articles, as well as encyclopedia and reference content.*

Lexile Measures for Both Texts and Readers

The Lexile Framework for Reading is an approach to reading and text measurement. Therefore, two Lexile measures exist: the Lexile text measure and the Lexile reader measure. A book, article, or piece of text receives a Lexile measure by running it through the MetaMetrics Lexile Analyzer, which uses a linguistic algorithm that examines the semantic and syntactic features of the text. The lower the Lexile text measure the easier the text is to read. For example, *Frog and Toad Together* (Arnold Lobel) is a 330L text; *Charlotte's Web* (E. B. White) is a 680L text; *The Pearl* (John Steinbeck) is a 1010L text, and *The House of the Spirits* (Isabel Allende) is a 1280L text. Lexile text measures are rounded to the nearest 10L.

What makes the Lexile Framework for Reading such a powerful technology is the fact that students receive a Lexile reader measure, which is placed on the same developmental scale as the text complexity of reading materials, allowing teachers, parents, and librarians to match a reader with resources at the student's ability level. A Lexile reader measure can range from below 0L for beginning readers to above 1600L for advanced readers. A student gets his or her Lexile reader measure from a reading test or program. For example, if a student receives an 880L on her end-of-grade reading test, her reader measure is 880L. Higher Lexile measures represent a higher level of reading ability.

Use of Lexile Measures

In addition to the utility of any tool, another important component is the ubiquity of that tool. Lexile measures are used at the school level in all fifty states. More than thirty-five million Lexile measures are reported worldwide each year. In over twenty states, students receive Lexile measures from the state's end-of-grade reading tests. More than sixty popular reading assessments and programs from major test publishers—including CTB/McGraw-Hill, ETS (formerly known as Educational Testing Service), NWEA (Northwest Evaluation Association), Measured Progress, Pearson, Scholastic, Scantron, and Cambium-Voyager—report Lexile reader measures. In addition to test publishers, all the major text and trade book publishers have elected to use Lexile measures as a way to describe text complexity.

More than one hundred million books, articles, and websites have been measured and received Lexile measures. The nation's largest periodical database services have provided Lexile measures for their newspaper and magazine articles, as well as encyclopedia and reference content. These popular content aggregator services—including EBSCO, World Book, Gale,

NC (Non-Conforming): Text that has a Lexile measure markedly higher than is typical for the publisher's intended audience or designated developmental level of the book.

HL (High-Low): Text with a Lexile measure much lower than the average reading ability of the intended age range of its readers.

IG (Illustrated Guide): Text consisting of independent pieces or sections of text such as in an encyclopedia or glossary.

GN (Graphic Novel): Text in the form of sequential art (graphic novel or comic book).

BR (Beginning Reading): Text that receives a Lexile measure below 0L.

NP (Non-Prose): Text comprised of more than 50 percent non-standard or non-conforming prose.

The Lexile measure is an important tool in the book-selection process. However,

NO TOOL CAN REPLACE THE PROFESSIO JUDGMENT OF A TEACHER, PARENT, OR

in helping students select books for educational and recreational reading.

ProQuest, and Grolier—are easily accessed in libraries through online state databases, and all provide a Lexile search for their content. The country's leading library automation services providers like Follett and Alexandria integrate Lexile measures into school library catalogs.

With the onset of the development and adoption of the CCSS, these numbers are growing dramatically. Lexile measures have become so widely used that there has been a transformation of the term "Lexile" from an adjective to a verb. When inquiring about texts, potential users often want to know if the text has been "Lexiled." The fact that such a large collection of resources has been Lexiled and the measures made available free of charge to teachers and parents enhances the ability of school and public librarians to support differentiated instruction in all content areas at all levels. The abundance of Lexile measures enables librarians to assume more of a leadership role in strengthening their partnership with classroom teachers to enhance instruction.

Kathy Mansfield, library media and textbook consultant from the Kentucky Department of Education, stresses the importance of using the Lexile search features like those in the KY Virtual Library "to help teachers differentiate instruction for their students and to help students find just the right materials that they can best comprehend" (2013). As a school librarian, Mansfield promotes the use of Lexile measures in helping teachers identify valuable resources and materials; the method she recommends for this advocacy is through collaboration that has meaningful goals, such as curriculum development and lesson design.

Kim Shearer, 2012 Kentucky Teacher of the Year and ELA teacher and school librarian at Boone County High School in Kentucky, emphasizes the importance of teachers using "stretch text" in classrooms "to expose students to texts which are more challenging than what they're used to" (2013). Shearer values and actively promotes collaboration between classroom teachers and school librarians in bringing Lexile-measured resources—books, articles, encyclopedia entries—into classrooms to support student achievement in all content areas.

Common Misconceptions of the Lexile Framework

Many factors affect the relationship between a reader and a book, including its content, the age and interests of the reader, and the design of the actual book. The Lexile measure is an important tool in the book-selection process. However, no tool can replace the professional judgment of a teacher, parent, or librarian in helping students select books for educational and recreational reading. Lexile measures are an indicator of whether the book will be accessible to a reader, not whether it is developmentally appropriate for a reader. Lexile.com provides recommended age-appropriateness ranges for books when this information is available. Lexile.com also offers an age-appropriateness filter for the popular "Find a Book" book search tool. Age information is provided by publishers and Bowker, the world's leading provider of bibliographic information management solutions. In addition to these features, Lexile codes, as described earlier, provide additional information about a book; this information relates to its developmental appropriateness, reading difficulty, and common or intended usage.

NAL LIBRARIAN

The Lexile Framework is not a panacea but a tool that helps match readers to text by measuring reading ability and text complexity on a common scale, the Lexile scale. As all educators, including school librarians, know, there is a tremendous heterogeneity in the reading ability of students within a given class, grade, or age level. The Lexile Framework helps in finding the "sweet spot" in terms of finding text at the appropriate challenge level. What Lev Vygotsky called the "zone of proximal development" (McLeod 2012) is engineered into the matching of reading ability and text complexity through the Lexile Framework.[1]

When a reader's Lexile measure and the Lexile measure of a book match, a targeted reading experience occurs. For example, if a reader has a Lexile measure of 1000L, he or she will be forecasted to comprehend approximately 75 percent of a book with the same Lexile measure (1000L). With the targeted reading experience, a reader will comprehend enough to understand the text but will be exposed to new vocabulary and face some reading challenge. This 75 percent comprehension rate is based on independent reading; if the reader receives assistance, the comprehension rate will increase. Important scaffolds like audio support, visual aids, and preteaching vocabulary can all contribute to a higher comprehension rate or help students read above their Lexile range. Of course, the Lexile Framework should never be used to restrict or pigeonhole a reader.

Librarians' Essential Role in Reading Progress

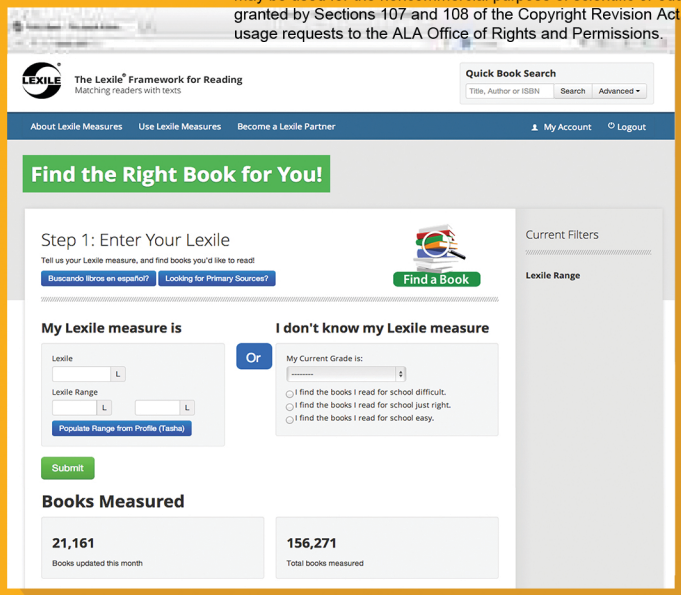
The ambitious goal of graduating every student ready for college or a career will be reached only if we marshal all of our collective resources in a concerted effort to promote literacy. Huge arrows in the quiver of educational resources are the school and public libraries and their importance in extending learning time. Unfortunately, our school calendar of 180 days a year with 3 months of summer off was built upon an agrarian society that no longer exists.

A large body of research documents the pernicious effects that this three-month break has in terms of reading growth for our students, in particular our low-income students. "Summer loss," "summer slide," and "summer fade" all refer to the reality that students who qualify for free or reduced-price lunch lose ground during the summer at a higher rate than other students. In fact, researchers now argue that up to two-thirds of the achievement gap can be explained by twelve summers of turning off the educational spigot (Alexander, Entwisle, and Olson 2007a, 2007b).

To the credit of leadership within the library community, your profession has long recognized this problem and attempted to address it through participation in the Collaborative Summer Library Program. At MetaMetrics, we have attempted to promote library use over the summer as well. We have teamed with the Council of Chief State School Officers to encourage state departments of education to engage in programs to increase targeted reading over the summer.

As mentioned earlier, over twenty states report Lexile measures from their state-wide reading assessments. These states are now able to take advantage of the link between reading ability and the millions of resources that have a Lexile text measure. When these states send score reports to parents, they are able to directly link test scores through Lexile measures to actionable resources. This capability has enabled over twenty state departments of education to use the state test reports to promote the use of libraries through summer reading programs.

[1] Since other text-complexity tools exist in addition to the Lexile Framework for Reading, comparative studies have been conducted to align and crosswalk other metrics to the Lexile grade bands. For a more thorough analysis and review of text-complexity tools see "Not So Common: Comparing Lexile Measures with the Standards' Other Text Complexity Tools" (Smith 2012) and *Measure of Text Difficulty: Testing Their Predictive Value for Grade Levels and Student Performance* (Nelson et al. 2012).



Through our partnerships with state departments of education, MetaMetrics has worked directly with four state libraries. In Colorado, Illinois, Kansas, Kentucky, and South Dakota the state librarians urged school and public librarians, educators, and families to use the Lexile-based "Find a Book" search tool. "Find a Book" enables individuals to build custom reading lists based on a Lexile range and personal interests and then to check the availability of books at the local library. The development of "Find a Book" was motivated by research performed by Harvard's Dr. James Kim and others, research that has demonstrated the importance of paying attention to both interest and Lexile match when encouraging summer reading (Kim 2005).

The idea behind the Lexile Framework for Reading is simple; if we know how well a student can read and how hard a specific book is to comprehend, we can predict how well that student is likely to understand the book. The Lexile Framework for Reading provides a common developmental scale and measure to match readers with resources and activities that are targeted to readers' ability levels. Lexile measures help educators, school librarians, and families

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select books, articles, and other materials that provide the right level of challenge for a reader's skills and goals, and to monitor growth in reading ability.

For more information on Lexile measures, visit <www.Lexile.com>.

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Malbert Smith *is a senior investigator on a U.S. National Center for Education Statistics research study to examine National Assessment of Educational Progress benchmark scores in relation to university and career readiness. He also serves on the boards of the UNC School of Education Foundation, Public School Forum of North Carolina, National Summer Learning Association, North Carolina Virtual Public Schools, and LEARN NC. He is also a research professor at UNC–Chapel Hill; he speaks frequently around the globe on issues related to educational research, measurement, and technology.*

Anne Schiano *joined MetaMetrics in 2011 after serving many years as a senior manager responsible for policy development at the New York State Education Department. Most recently, she led the Office of Curriculum, Instruction, and Instructional Technology. She has been the recipient of several honors and awards, including NYS Technology Education Association's Appreciation Award, the NYS School Library Association's Advocate Recognition, the NYS Reading Association's Advocate of the Year, and Georgetown Washington University's Elliot Fellow Award: Governing in the Global Age.*

Elizabeth Lattanzio *joined MetaMetrics in 2007 and has served many roles in the organization, including product analyst in the Learning Sciences Division and communications director. She shapes messaging for press releases and announcements and provides assistance for state, testing, and book publishing partners' messaging needs. She also works closely with state departments of education to develop and implement their summer reading initiatives. Elizabeth also oversees the development of MetaMetrics' white papers, policy briefs, research briefs, and position papers.*

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