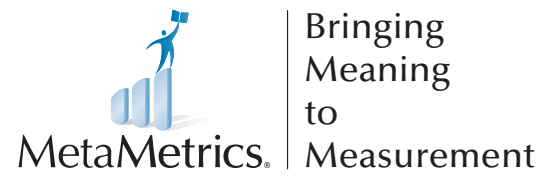


# Corporate Capabilities



# MetaMetrics® Core Values

## **Mission- Driven**

We work closely with educators and policy makers to promote equality and excellence in education.

## **Optimism**

We believe that we have the ability to positively impact our world.

## **Excellence**

We seek to be the best in everything we do.

## **Innovative**

We champion and celebrate creativity.

## **Integrity**

We act with honesty and transparency within our workplace, community and world.





## An Introduction to MetaMetrics

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Today, the research and technologies of MetaMetrics reach educators, parents and students across the globe. Every single day, individuals from all over the world visit our websites, take a test and/or use an instructional resource or curriculum that is linked to our work. While it is gratifying to play a role in promoting excellence and equity in education across the globe, the initial vision and mission of our organization focused domestically upon the educational issues within the United States.

For those of us in the United States, we often feel as if we face a daunting and impossible mission: to ensure that every child receives an education and that each one graduates from high school college and career ready. The numbers alone are staggering. We have over 55 million students spread over 14,000 districts across 100,000 schools. Yet each day in our country, magical moments of transformation take place when learning occurs.

Our mission at MetaMetrics is to be an agent of transformation in which our metrics, technologies and resources facilitate teaching and learning. We believe that a new paradigm in K–12 education is within our grasp if we seize on the major breakthroughs in psychometric theory, instructional theory and technology; and in blurring the distinction between assessment and instruction. As we have matured, we have witnessed that these catalysts that occur in learning know no geographical boundaries. In fact, we have observed that the basic instructional needs of learners and educators remain constant despite different educational environments in disparate parts of the globe.

## About MetaMetrics

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MetaMetrics, an educational measurement and research organization based in Durham, North Carolina, is dedicated to “Bringing Meaning to Measurement.” The genesis of the organization was predicated upon the notion that assessment and instruction could and should be connected. Our founders, Dr. A. Jackson Stenner and Dr. Malbert Smith, had a vision to make test scores more actionable by blurring the distinction between assessment and instruction. MetaMetrics was created in 1984 with the corporate vision that built upon the optimism and passion of two individuals who believed they could make positive contributions to the education of all students.

This vision of the future was shared by scientists at The National Institute of Child Health and Human Development (NICHD) who funded MetaMetrics’ research with a series of grants over the course of a decade. These grants supported research on reading and psychometric theory, which culminated in the development of MetaMetrics’ flagship product, The Lexile® Framework for Reading ([www.Lexile.com](http://www.Lexile.com)).

The creation of The Lexile Framework for Reading marks the first attempt in education to unify the measurement of reading. Dr. Stenner and Dr. Smith believed that one of the major impediments to progress in the social (soft) sciences versus the hard sciences was in the proliferation of tests and measurement systems. What philosophers of science call the *unification of measurement* was absent in education. With the creation of the Lexile Framework, Stenner and Smith demonstrated that common scales, like Fahrenheit and Celsius, could be built for reading.

Continuing this conviction, MetaMetrics develops scientific measures of student achievement and complementary technologies that link assessment with targeted instruction in order to improve learning. The organization employs a highly skilled staff with diverse backgrounds. MetaMetrics’ staff has over 70 years of work experience in state education agencies, and over

200 years of teaching experience at the elementary through university level. The organization’s staff holds more than 40 doctorate and graduate degrees from several of the most prestigious universities in the world, including Duke University, Princeton University, Stanford University, and The University of North Carolina at Chapel Hill.

“over 200 years of teaching experience at the elementary through university level”

MetaMetrics’ renowned team of psychometricians have completed over 30 linking studies to state assessments, participated in three national studies for the National Center for Educational Statistics (NCES), and have developed more than 20 interim assessments. The team of psychometricians and their research agenda are supported by the founders, Dr. Stenner and Dr. Smith, who continue to publish and present papers at major international and national assessment conferences. Both Dr. Stenner and Dr. Smith hold joint appointments as research professors at the School of Education at the University of North Carolina. Supporting the research and development team are two senior scientists, Dr. Donald Burdick (Professor Emeritus, Duke University) and Dr. Jill Fitzgerald (Professor Emerita, UNC), who was recently inducted into the International Reading Association (IRA) Hall of Fame.

For over 30 years, MetaMetrics’ work has been recognized worldwide for its distinct value in differentiating instruction and personalizing learning. Its products and services for reading (The Lexile Framework for Reading, El Sistema Lexile® para Leer), writing (The Lexile® Framework for Writing), and mathematics (The Quantile® Framework for Mathematics) are utilized throughout the world.

The Lexile Framework for Reading

The Lexile Framework measures reading ability and text complexity on the same developmental scale. Unlike other measurement systems, the Lexile Framework determines reading ability based on actual assessments, rather than generalized age or grade levels. Domestically and internationally recognized as the standard for matching readers with texts, tens of millions of students worldwide receive Lexile® measures that help them find targeted material from the more than 400 million articles, books and websites that have been measured. Lexile measures connect learners of all ages with resources at the right level of challenge and provide a scale in which growth towards state and national standards can be measured.

More than 50 popular reading assessments and programs have been linked to the Lexile Framework for Reading. ETS® and Pearson alone offer Lexile measures from a total of eleven reading assessments. Other major testing and instructional companies reporting out Lexile reader measures include Achieve3000®, Capstone, CTB/McGraw-Hill, Dynamic Measurement Group, ERB, Hampton-Brown, Houghton Mifflin Harcourt, Scholastic and The Riverside Publishing Company.

Today, nearly half of the U.S. state education agencies have linked their statewide assessments to the Lexile scale. For a complete list of the states that report out Lexile measures, visit <http://www.lexile.com/about-lexile/How-to-get-lexile-measures/states/>. The use of Lexile measures also extends globally involving tens of millions of individuals in more than 165 countries.

More than 200 publishers offer Lexile text measures for their content. In addition, more than 4,100 textbooks from over 40 publishers have been measured. Some of the major publishing, content aggregator and catalog automation companies utilizing Lexile text measures include Capstone, EBSCO Publishing, Follett® Software Company, Gale® (Cengage Learning), Houghton Mifflin Harcourt, MARCIVE® INC., Pearson, ProQuest, Simon & Schuster, and Scholastic.

With the release of the Common Core State Standards (CCSS) in 2010, there has been a renewed interest in the importance of text complexity. In fact, the staircase of text complexity leading to college and career readiness is denominated in Lexile bands. Appendix A of the *Common Core State Standards for English Language Arts & Literacy in History/Social Studies, Science and Technical Subjects* displays the college and career readiness staircase as follows:

Text Complexity Grade Band in the Standards	Old Lexile Ranges	Lexile Ranges Aligned to CCR Expectations*
K-1	N/A	N/A
2-3	450L-725L	420L-820L
4-5	645L-845L	740L-1010L
6-8	860L-1010L	925L-1185L
9-10	960L-1115L	1050L-1335L
11-CCR	1070L-1220L	1185L-1385L

\*Grade bands reflect the 2012 revised Appendix A of the *Common Core State Standards for English Language Arts*

The connection and importance of text complexity for college and career readiness was documented in a January 2012 report issued by the Institute of Education Sciences. This report indicates that Lexile measures are the most easily accessible and inexpensive indicators used to track student growth toward college and career readiness (see REL Technical Report: “How Prepared are subgroups of Texas students for college-level reading: applying a Lexile-based approach” [http://ies.ed.gov/ncee/edlabs/re-regions/southwest/pdf/REL\\_2012018.pdf](http://ies.ed.gov/ncee/edlabs/re-regions/southwest/pdf/REL_2012018.pdf)).

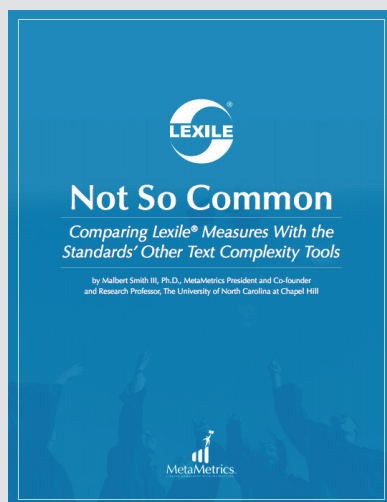
Having reader ability and text complexity on the same scale can inform classroom practice for more efficient learning and allow teachers the opportunity to more effectively scaffold instruction in order to lead to the rigorous college and career levels. As numerous researchers and educational practitioners attest, this feature provides classroom teachers with an available resource to support differentiated instruction (Chall and Dale, 1995; Hall and Moats, 1999; Hiebert, 2009; Hiebert and Mesmer, 2011; Mesmer, 2007).





The inherent value of the Lexile Framework is summarized in a MetaMetrics authored white paper, “Not So Common: Comparing Lexile Measures with the Standards’ Other Text Complexity Tools.” To read “Not So Common,” visit [https://cdn.lexile.com/m/cms\\_page\\_media/135/Not%20So%20Common\\_1.pdf](https://cdn.lexile.com/m/cms_page_media/135/Not%20So%20Common_1.pdf). This white paper demonstrates that Lexile measures are consistent with the CCSS recommendation related to text complexity; text complexity is the transaction between the text, reader and task. The Lexile Framework was developed with this transaction in mind.

El Sistema Lexile para Leer, the Spanish-language version of the widely adopted Lexile Framework for Reading, provides its own developmental scale and measure to connect Spanish readers with resources at the right level of difficulty and in their native language. Spanish Lexile measures help educators, librarians and families select targeted materials and activities that can improve reading ability and to monitor reading growth in school, the library and at home. Spanish Lexile measures are available from a growing number of reading assessments and programs, and the number of resources with Spanish Lexile measures continues to increase. MetaMetrics offers many tools available to support El Sistema Lexile—including the Spanish Lexile Analyzer®, the Spanish Lexile® Map, and the Spanish Book Search—that allows users to choose from nearly 5,000 Spanish titles to build custom reading lists based on Spanish Lexile range and personal interests and to check the availability of books at their local library. Measures from El Sistema are reported off of the New Mexico state assessments as well as reading products developed by Scholastic and Achieve3000.



- The Lexile measure is consistent with the CCSS recommendation related to text complexity.
- The Lexile Framework was developed with the transaction between text, reader and task in mind.

#### This Paper:

- Describes the ubiquity and utility of the Lexile Framework.
- Outlines a number of unique features of the Lexile Framework.

## Why the Lexile Framework for Reading?

When it comes to selecting a tool to measure reading ability and text complexity, there are three important criteria to consider. The first criterion is the ability to place the reader and text on the same scale. Without this conjoint feature, the utility and value of any scale is limited. As previously described, this critical feature was the foundation of our research.

The second criterion is ubiquity. Lexile measures are available for more than 270,000 books from over 200 publishers in MetaMetrics' free "Find a Book" search, and in the search tools from domestic and international booksellers like Barnes & Noble and Korea's Interpark Books. As mentioned earlier, over 4,100 textbooks from more than 40 publishers have been measured. More and more, publishers are submitting their materials for Lexile measurement to ensure alignment with the Common Core. Tens of millions of articles also have Lexile measures and are available from content aggregators such as EBSCO, ProQuest, Gale Cengage and Newsbank. Additionally, more than 200,000 web pages have been measured. All of these resources with Lexile measures—many of which are used

Common Core will be determined by how text complexity and the Standards are translated into classroom practice. For over a decade, MetaMetrics has provided tools and complementary resources to make this a reality. For example, the Lexile® Analyzer is freely available on the Lexile website for educators and others to determine the Lexile measure of a text. Over the past two years alone, MetaMetrics has provided more than 120,000 users with access to the free Lexile Analyzer. During this time, users have analyzed nearly one million text files, and the number of words analyzed for commercial use exceeds 1.5 billion.

MetaMetrics offers several free online tools to support the practice of targeted reading. In recognition of these tools, the Council of Chief State School Officers (CCSSO) has partnered with MetaMetrics to coordinate a national, state-led summer reading initiative to bolster student reading achievement during summer break. This summer reading initiative, "Chief's Summer Reading Challenge", is raising national awareness of the summer loss epidemic, sharing compelling research on the importance of personalized reading activities and providing access to a variety of free resources to support targeted reading and the initiative as a whole. Based in part on the research of Harvard University's Dr. James Kim, MetaMetrics developed "Find a Book" ([www.lexile.com/fab](http://www.lexile.com/fab)), which is the cornerstone of the CCSSO initiative. "Find a Book" enables students, educators and parents to build custom reading lists based on Lexile range and personal interests; and to check the availability of books at the local library.



in schools and libraries—allow students to read targeted narrative and informational text on classroom-relevant topics or personal interests.

The third criterion is the "accessibility" of the tools for measuring text complexity. The success of the





- “I subscribe to the notion that our biggest assets are our children, and those who are entrusted to their education.”

Malbert Smith III, Ph.D. | President and Co-founder of MetaMetrics  
*Education Reform: Making this the ‘Best of Times’*

## The Quantile Framework for Mathematics

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The creation of The Quantile Framework for Mathematics was born out of the realization that there was as much heterogeneity in a math class as there was in a reading class. Recognizing that one size does not fit all, our researchers built the Quantile Framework. Like The Lexile Framework, the Quantile Framework allows students and tasks (skills and concepts) to be placed on the same scale.

When it comes to math differentiation in the classroom, there has been an absence of tools and resources that teachers can utilize. By providing a common scale upon which the measurement of students' math skills, as well as, all math content could be placed provides the critical link to support differentiated math instruction.

The Quantile Framework for Mathematics ([www.Quantiles.com](http://www.Quantiles.com)) measures student achievement and the difficulty of mathematical skills and concepts (including the new Common Core State Standards for Mathematics) on the same scale. The Quantile Framework describes a student's ability to solve mathematical problems and the demand of the skills and concepts typically taught in kindergarten mathematics through Algebra II, Geometry, Trigonometry and Pre-calculus. Quantile measures take the guesswork out of instruction by describing which mathematical skills and concepts the student has learned and is ready to learn. They improve mathematics teaching and learning by targeting instruction and monitoring student growth toward proficiency standards and the mathematical demands of college and careers.

By establishing the demand (difficulty) measure of hundreds of mathematical skills and concepts, MetaMetrics has identified "Knowledge Clusters." The Knowledge Cluster for any particular skill or concept is comprised of the specific prerequisite and supplemental skills that precede the skill under

consideration. These Knowledge Clusters not only illustrate the interconnectivity of the skills and concepts, but also provide educators with actionable information they can use to target instruction, forecast understanding, and address student achievement. Inexperienced mathematics teachers often lack the tools for identifying the specific gaps in student learning or the areas where a student may be deficient, making efforts to differentiate mathematics content a herculean task. By utilizing descriptive Knowledge Clusters, the Quantile Framework allows educators to not only identify the gap between the learner and skill to be taught, but enables meaningful targeting by providing the appropriate prerequisite and supplemental material. The Quantile scale is a numeric scale that represents mathematical achievement ranging from initial understanding of mathematical concepts to applying these concepts to solve problems in areas such as numbers and operations, geometry, algebra, data analysis and probability, and measurement.

### Why The Quantile Framework for Mathematics?

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To aid educators in differentiating mathematics instruction, MetaMetrics provides two free, online instructional tools in order to access the Knowledge Clusters: the Math Skills Database and the Quantile Teacher Assistant (<http://qta.quantiles.com/>). Both utilities deliver online access to each Knowledge Cluster and can be accessed through each state standard, including the Common Core State Standards for Mathematics. For any specific skill, an educator can access not only the appropriate prerequisite and supplemental skills, but a host of free resources—including video tutorials, task suggestions, group activities, literature guides, online



activities and supplemental skill sheets—which have been calibrated to the Quantile scale. About 5,500 lessons from 450 textbooks are calibrated to the Quantile Framework ready for educators, families, and curriculum specialists to utilize. The organization has also calibrated over 3,100 downloadable and web resources.

MetaMetrics has aligned the curriculum standards of all 50 states, DODEA, Washington DC and the Common Core State Standards in Mathematics—as well as popular math resources developed by Virtual Nerd and Khan Academy—to the Quantile Framework for Mathematics. These online tools and resources support differentiation by allowing educators to use a student's Quantile measure to match that student with relevant prerequisite skills and address specific gaps in learning. Educators can then address those gaps with targeted mathematics resources as a means to mitigate a student's deficiencies. Major companies utilizing the Quantile Framework include American Education Corporation, Cambium Learning®, CTB/McGraw-Hill, ERB, Measured Progress, Scholastic, and Voyager® Expanded Learning. The Quantile Framework is currently used in numerous states at the local, district or state level. These state education agencies include Kentucky, North Carolina, Oklahoma, Virginia, West Virginia and Wyoming.



## Future Research

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Over two-thirds of our staff is devoted to research. While we continue to work with publishers (test, trade, and textbook), state education agencies, and instructional companies on incorporating Lexile and Quantile measures into their products, we have a dynamic research pipeline. One segment of this pipeline includes building tools and resources for educators and students who are aligned to the Common Core State Standards. As a part of this focus, we are the recipient of a three-year Bill & Melinda Gates grant that is part of the Literacy by Technology Initiative.

On the language side, we are continuing to research and build technologies for all four faces of language: reading, writing, listening and speaking. On both the math and reading side, we are working to build personalized learning platforms based upon the principles of deliberate practice and sound psychometric theory.

In the mathematics domain, MetaMetrics is examining the postsecondary mathematical demands of college and careers. This information will be used to help students and educators monitor they are "on track" for college and careers as defined in the Common Core State Standards for Mathematics.

Research is in the DNA of our organization and is the passion of our founders. All of the technologies and scales were first conceived and developed by our team of researchers. Even as we enjoy over 30 years, we continue to devote more time and energy into our research pipeline in the effort to *bring meaning to measurement*.



**MetaMetrics®**  
LINKING ASSESSMENT WITH INSTRUCTION

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