

Reading Skills and the Career Readiness Gap

A Study of High School Students' Preparedness for College and Career



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The world we live in continues to evolve and shows no signs of slowing down. What the future holds in terms of academics or jobs is uncertain and barely imaginable. Educators cannot assume that the traditional focus on college preparation or specific job training will be enough to prepare our students for what may lie ahead; our research has shown that it is not enough. In fact, life outside of school requires substantially higher levels of reading proficiency than most students experience in the high school classroom and even in post-secondary education. The best option we have is to redefine and restructure teaching and learning in ways that equip students to deal with the unexpected and adapt to changing circumstances. This will involve a level of retraining, not only in terms of professional development for teachers, but also in the entire school community's shift in culture. States' definition of reading proficiency needs to account for not just traditional academic measures of reading competence, but also the skills that make individuals employable and successful in their lives beyond high school.

The implementation of the higher state standards, new assessments and evaluation of educator effectiveness has reenergized the focus to ensure that students are both college and career ready. To help create an understanding of and establish necessary proficiency levels within the standards, the International Center for Leadership in Education and the Successful Practices Network commissioned the CTE Technical Assistance Center (CTE TAC) of NY and Tipping Point Analytics (TPA) to conduct a study to determine how the literacy requirements for 11th and 12th grade high school students compare to the text demands that a typical entry-level employee would encounter during his or her first year on the job.

Previous studies have examined a wide-ranging sample of texts from both academic and non-academic environments. Prior iterations of this study highlighted the literacy challenge that high schools face: the literacy requirements of adults in their daily life, entry-level employees, first-year post-secondary students, and people in the military are significantly higher than the required levels of reading proficiency that most high school students experience.

The primary focus of the most recent national literacy study, concluded in 2014, was to see whether or not the literacy requirements for entry-level jobs have changed over time. Technology and innovations in the global economy change constantly. Likewise, the texts that people in the workplace need to be able to read and understand are shifting—and more so than in academic areas, which remain relatively static. Inspections of literature and textbooks used now and in the past as instructional materials in schools and colleges have confirmed this.

This report contains the reading complexity measures, reported as Lexiles®, of all submissions that were received and analyzed. Personal use or job-specific texts that were not written with standard sentence and paragraph structure could not be measured. However, this was not a common occurrence.

The Literacy Gap

Student learning styles, interests, and aptitudes are like fingerprints: no two are the same. In a classroom situation where a teacher is lecturing or the students are reading a passage from a textbook, it can be assumed that only a fraction of the students are experiencing the appropriate amount of instructional material for the lesson to be effective. Students who find the lesson too rigorous become lost and discouraged while other students may not be challenged enough and become bored. Some students may have no interest in the lesson whatsoever.

Ideally, each student will experience measurable and sustained improvement from class to class, day to day, and grade to grade. By the time a student graduates from high school, he or she will have gained the requisite skills to succeed in the next stage of life, whether it is college or in a career. If a student can step seamlessly into that next phase, then the education system has worked for that individual. If all students can make that transition, then the system on the whole is succeeding. But this is not reality.

Since the publication of *A Nation at Risk* in 1983, which concluded that American schools were not preparing high school students for their next stage of life after graduation, the impetus for change has come primarily from pressure placed on elected officials by the business community and not from higher education, whose own slipping standards allowed for more and more “developmental” English courses to backfill academic deficiencies among entering freshmen. Business and industry continue to feel firsthand the skills gap between what students are achieving in school and what they actually need in order to be successful in today’s workplace. The business community has long identified inadequate reading ability as a leading problem among entry-level employees. In the past, many secondary school educators attempted to solve the problem by assigning more reading, which was mostly prose. The problem with this is twofold:

- 1. Prose is not read in most workplace environments.** Literacy, in the context of work, requires better technical reading skills for understanding informational documents and quantitative material. Students need to be exposed to a variety of texts, not just from other content areas, but from career and technical education courses, personal-use or adult-roles texts, and sample occupational materials. The modern definition of literacy needs to encompass all three types of text: prose, document, and quantitative. Too often, it is material quantitative in nature that is missing from a student’s educational experience.
- 2. Assigning more reading will not usually result in higher reading proficiency.** A student at a certain reading level will not improve his or her proficiency unless he or she is continually challenged by the text. A student that reads a text written at or below his or her reading level is not being challenged. Conversely, a student presented with a text well above her or his reading level will find it too complex and grow frustrated. A text needs to be slightly above a reader’s ability level to challenge the student and promote growth in reading proficiency.

Every state in the country, whether or not it has adopted some form of the Common Core State Standards, has added the requirement of “College and Career Ready” to its standards. The shift to include college AND career readiness has been both intentional and consequential.

Traditionally, College Prep has been seen as a rigorous educational program. Career ready was seen as a relevant but not necessarily rigorous education experience. College AND career ready needs to be both rigorous and relevant. Therefore, transitioning from the traditional paradigm of college OR career ready to college AND career ready for all students requires a very different set of skills and abilities. In the past, college ready meant collecting or accomplishing a series of academic merits (e.g., Carnegie units, AP courses, ACT or SAT scores), whereas career ready focused on acquiring technical skills, participating in a CTE program, or working toward a certification. With either focus, students were placed on markedly different paths with no guarantee of success.

The challenge we are faced with today is ensuring that the factors that make students successful in college and careers are the same: the ability to learn and apply new information, problem solve, communicate and collaborate with peers, and contribute to the greater good of society. If we can focus on teaching and then measure these more broadly defined characteristics it will be a better indicator of whether a graduate is truly prepared for a successful life after high school. The focus of K-12 and higher education needs to make a dramatic shift from what classes students have completed to what students are able to do. College and post-secondary education needs to be seen as a means to the end, not just the end of a student's learning cycle.

Students in other nations are quickly outpacing American students, as our education system is fixated on keeping the status quo by adding new regulations and policies that are not motivated by student achievement and engagement. Moving to standards that address both college and career readiness will help us address this problem. Standards, assessment, and instruction remain critical parts of the education experience, but an emphasis on instilling a sense of lifelong learning and engaging students in their own education will ensure that they become self-supporting adults.

The Lexile Framework[®] for Reading

The Lexile Framework[®] for Reading is a psychometric system for matching readers with texts of appropriate difficulty. This innovative approach to reading comprehension has been widely adopted and implemented in schools across the United States. In fact, they are the most widely adopted reading measure in use today. All major standardized reading tests and many popular instructional reading programs report student reading scores in Lexiles. Lexile measures, as components of the incremental Lexile scale, allow for measurement of both text difficulty and reader ability on the same scale. This enables readers to be appropriately matched with books that will be both engaging and challenging.

A Lexile[®] measure is a valuable piece of information about either an individual's reading ability or the difficulty of a text, like a book or magazine article. The Lexile measure is shown as a number with an "L" after it — 880L is 880 Lexile.

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 will likely understand the book. For example, if a reader has a Lexile measure of 600L (600 Lexile), we can forecast that the reader will comprehend approximately 75 percent of a book with the same Lexile measure (600L). When

the Lexile measures and the Lexile scale were developed, the 75% comprehension rate was set at the point where the difference between the Lexile reader measure and the Lexile text measure is 0L. The 75 percent comprehension rate is called “targeted” reading. This rate is based on independent reading; if the reader receives help, the comprehension rate will increase. The target reading rate is the point at which a reader will comprehend enough to understand the text, but also will face some reading challenges. At this point, a reader is not bored by text that is too easy, but also does not experience too much difficulty in understanding.

Findings of the 2014 Lexile Study

As lead researcher of the 2014 Lexile study, TPA reached out to the following organizations and entities for possible participation in the study:

- 62 Chambers of Commerce from the Business Council of New York state
- 47 Association Members from the Business Council of New York state
- 200-plus superintendents, principals, Boards of Cooperative Educational Services (BOCES) directors, and other administrators and board members from New York state
- 28 school or district administrators from across the nation that represent a broad range of urban, suburban, and rural communities

Each participating group identified a point-of-contact to act as liaison to local businesses to provide representative samples of job-specific texts that are critical for employees in entry-level positions to be able to read for successful job performance. Appendix A lists all entry-level occupational materials submitted and analyzed.

A similar Lexile study was conducted in 2006 by the same research team commissioned by the Successful Practices Network for this newer round of research. The 2006 study was based on submissions from 75 high schools across the United States. These submissions provided a variety of reading samples used in high school and local college classrooms (e.g., literature and textbooks) as well as reading materials found in their community, including armed forces texts, entry-level occupational texts from local businesses, and personal-use or adult-roles texts such as tax forms, insurance policies, and loan applications. The study highlighted the reading gap (as shown in Figure 1).

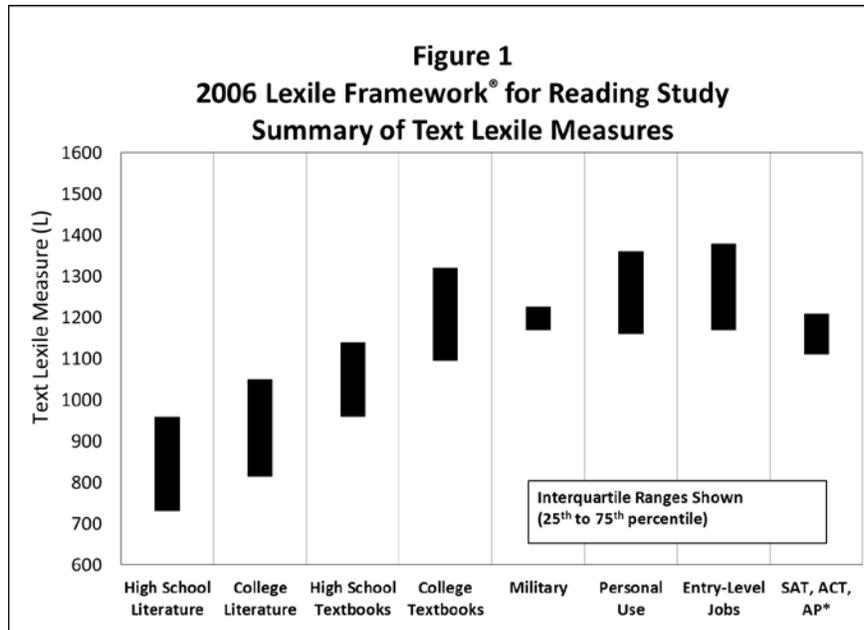
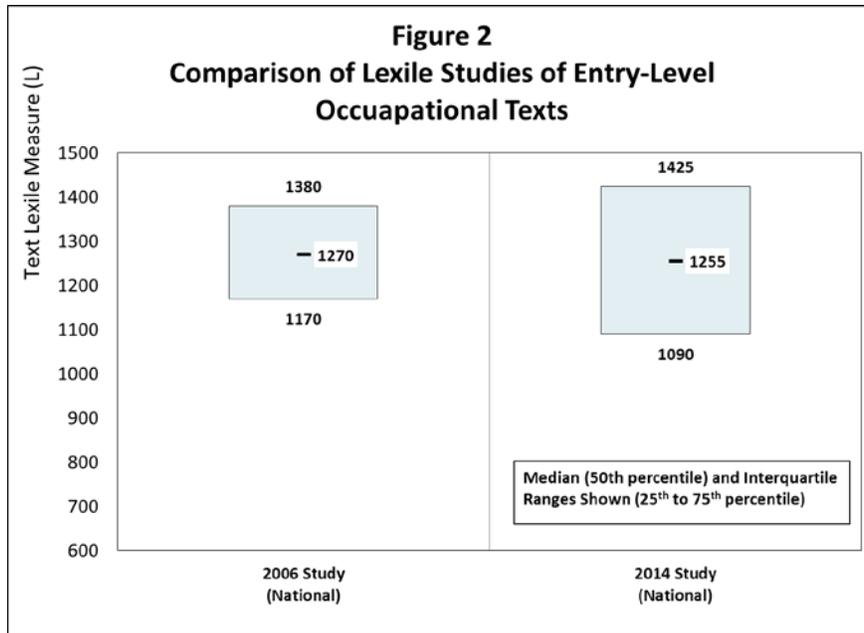
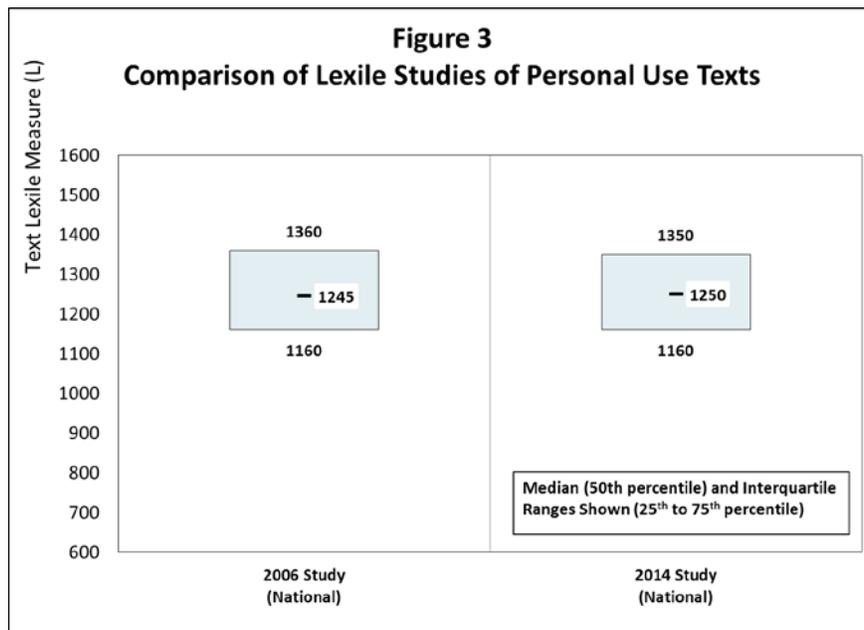


Figure 1 compares the Lexile measures of high school literature and textbooks to the Lexile measures of reading required in college, the military, personal use, and entry-level occupations, the gap in expectations is clear. The reading required of high school students is not adequately preparing students for the world outside of K-12 education. Even with a high school degree, about 30 percent of potential military recruits take the Armed Forces Qualification Test (AFQT)—used to determine math and reading skills—and fail it (Dilbeck, 2009).

Inspection of entry-level occupational texts submitted by the 2014 Study groups highlight the need for increasing student reading proficiency across all families of texts. Entry-level occupational reading materials analyzed for the 2006 national Lexile study had an interquartile range (IQR), or of 1170L to 1380L. The entry-level occupational texts from the 2014 Study had a higher 3rd quartile measure (1425L), however, the 1st quartile measure was lower than in the 2006 study (Figure 2). The wider IQR in 2014 is an indicator that occupational reading is changing with time and high school graduates have to be prepared to read any and all natures of text while on the job. Furthermore, it would be logical to assume that employers would want their prospective employees to effectively read and understand the other 25 percent of materials below the IQR, as well as the more demanding 25 percent above the IQR.



Unlike the occupational texts, there was little difference in IQR between the 2006 and 2014 Lexile studies for the personal use texts collected. These items tend to be more static in terms of the information they contain, although the IQR is consistently very high when compared to academic text complexities and has median Lexile measures that are comparable to entry-level, job-specific texts (Figure 3). Appendix B lists the personal use items analyzed in 2014.



The reality is the academic skills needed for career preparation are actually higher and fundamentally different than those needed for college. This is clearly evident in the reading required of students in high school literature and textbooks. Life outside of school requires substantially higher levels of reading proficiency than most students experience in the classroom and even post-secondary education. States need to be sure that the reading proficiency thresholds account for not just traditional academic measures of reading competence, but also the skills that make individuals employable and successful in their lives after graduation.

Using Lexile Measures to Assess College and Career Readiness

MetaMetrics, Inc., developer of the Lexile Framework, recently updated its interquartile Lexile ranges to reflect State Standards’ qualitative and quantitative measures of text complexity. Qualitative scales are anchored at one end by descriptions of texts representative of those required in typical first-year, credit-bearing college courses and in workforce training programs. Similarly, quantitative measures should identify the college- and career-ready reading level as one endpoint of the scale.

MetaMetrics realigned its original Lexile Grade Bands to match State Standards’ text complexity grade bands of reading comprehension development through the grades to distinguish that all students should be reading at the college- and career-readiness level no later than the end of high school (MetaMetrics, 2014). These updated ranges are the “Stretch” Lexile Band in the table shown.

Grade Band	Current (Original) Lexile Band	“Stretch” Lexile Band *
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

*COMMON CORE STATE STANDARDS FOR ENGLISH, LANGUAGE ARTS, APPENDIX A (ADDITIONAL INFORMATION), NGA AND CCSSO, 2012

MetaMetrics describes the method to understanding the “Stretch” Lexile Bands:

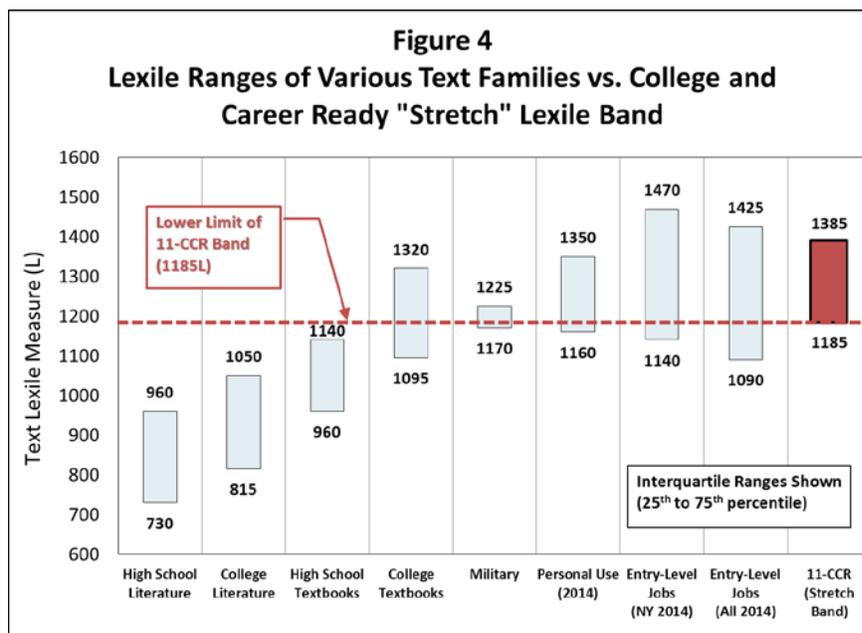
The State Standards advocate a “staircase” of increasing text complexity, beginning in grade 2, so that students can develop their reading skills and apply them to more difficult texts. **At the lowest grade in each band, students focus on reading texts within that text complexity band. In the subsequent grade or grades within a band, students must “stretch” to read a certain proportion of texts from the next higher text complexity band.** This pattern repeats itself throughout the grades so that students can both build on earlier literacy gains and challenge themselves with texts at a higher complexity level. Lexile measures and the Lexile ranges above help to determine what text is appropriate for each grade band and what should be considered “stretch” text (MetaMetrics, 2014).

Based on the table and subsequent definition of “Stretch” Lexile bands above, 11th graders should be focused on reading texts within the 11-CCR Lexile band with the hope of being college and career ready

by the time they graduate. Furthermore, students not at the lowest grade for a grade band must “stretch” to read a certain proportion of texts from the next higher text complexity band. Therefore, 10th graders need to be stretching themselves to read in the 11-CCR band as well.

Figure 4 accentuates the need for reading literacy intervention in high schools and even in college English literature courses. Only 25 percent of high school literature books are written at a Lexile level that exceeds 960L, which is 225L lower than the lower end of the 11-CCR Lexile band. Only 25 percent of college literature books measured above 1050L, which is 135L lower than where 11th graders should be or where 10th graders should be stretching themselves. Even high school textbooks have an IQR that falls below Lexile band for 11-CCR.

On the other hand, entry-level job texts, personal use reading, military-based texts, and about half of college textbooks have Lexile ranges that are consistent with the “Stretch” Lexile band for college and career readiness depicted in Figure 4.



Career Readiness for K-12

To address the literacy requirements in general, and reading requirements in particular, and to prepare students to be college AND career ready, we recommend these actions:

- Create an awareness program for faculty, boards, students and parents on the increasing rigor of the reading requirements in the workplace. Use data from this study to present this growing demand to increase reading requirements in K-12.
- Provide focus and sustained professional development to K-12 teachers in general, and secondary teachers in particular, on how to become effective teachers of reading within their subject areas.

- Drive more career reading materials and applications into academic programs. It will be critical to break down the barriers between disciplines.
- Change your school's report card. Use the results of this and other literacy studies to track how well students are progressing semester by semester toward being college and career ready.

The challenge of preparing today's students for tomorrow's world in yesterday's schools will require a sustained and focused effort on all of our parts if we are to succeed as a nation. If we do otherwise, the human and economic consequences to K-12 education and our children will be too dire to imagine.

For assistance in implementing any of these recommendations, please contact Bill Daggett at WDaggett@LeaderEd.com. If you are interested in conducting a Lexile study in your district, contact Jerry Pedinotti at Jerry.TPA@gmail.com.

Appendices

[Appendix A](#) — Entry-level occupational materials submitted and analyzed

[Appendix B](#) — Personal use materials analyzed

[Appendix C](#) — Career Clusters and Strands

References

Dilbeck, J. (2009). United States Army Accessions Command, Fort Knox, KY. Personal Communication on May 14, 2009.

MetaMetrics® (2014). [Text Complexity Grade Bands and Lexile Bands](#).

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- Rochester Hearing & Speech Center (NY)
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- City of Garden City, USD 457 (KS)
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