

Reading

One 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. By the time they complete the core, students must be able to read and comprehend independently and proficiently the kinds of complex texts commonly found in college and careers. The first part of this section makes a research-based case for why the complexity of what students read matters. In brief, while reading demands in college, workforce training programs, and life in general have held steady or increased over the last half century, K-12 texts have actually declined in sophistication, and relatively little attention has been paid to students' ability to read complex texts independently. These conditions have left a serious gap between many high school seniors' reading ability and the reading requirements they will face after graduation. The second part of this section addresses how text complexity can be measured and made a regular part of instruction. It introduces a three-part model that blends qualitative and quantitative measures of text complexity with reader and task considerations. The section concludes with three annotated examples showing how the model can be used to assess the complexity of various kinds of texts appropriate for different grade levels.

Why Text Complexity Matters

In 2006, ACT, Inc., released a report called *Reading Between the Lines* that showed which skills differentiated those students who equaled or exceeded the benchmark score (21 out of 36) in the reading section of the ACT college admissions test from those who did not. Prior ACT research had shown that students achieving the benchmark score or better in reading—which only about half (51 percent) of the roughly half million test takers in the 2004–2005 academic year had done—had a high probability (75 percent chance) of earning a C or better in an introductory, credit-bearing course in U.S. history or psychology (two common reading-intensive courses taken by first-year college students) and a 50 percent chance of earning a B or better in such a course.¹

Surprisingly, what chiefly distinguished the performance of those students who had earned the benchmark score or better from those who had not was not their relative ability in making inferences while reading or answering questions related to particular cognitive processes, such as determining main ideas or determining the meaning of words and phrases in context. Instead, the clearest differentiator was students' ability to answer questions associated with complex texts. Students scoring below benchmark performed no better than chance (25 percent correct) on four-option multiple-choice questions pertaining to passages rated as “complex” on a three-point qualitative rubric described in the report. These findings held for male and female students, students from all racial/ethnic groups, and students from families with widely varying incomes. The most important implication of this study was that a pedagogy focused only on “higher-order” or “critical” thinking was insufficient to ensure that students were ready for college and careers: what students could read, in terms of its complexity, was at least as important as what they could do with what they read.

The ACT report is one part of an extensive body of research attesting to the importance of text complexity in reading achievement. The clear, alarming picture that emerges from the evidence, briefly summarized below², is that while the reading demands of college, workforce training programs, and citizenship have held steady or risen over the past fifty years or so, K-12 texts have, if anything, become less demanding. This finding is the impetus behind the Standards' strong emphasis on increasing text complexity as a key requirement in reading.

College, Careers, and Citizenship: Steady or Increasing Complexity of Texts and Tasks

Research indicates that the demands that college, careers, and citizenship place on readers have either held steady or increased over roughly the last fifty years. The difficulty of college textbooks, as measured by Lexile scores, has not decreased in any block of time since 1962; it has, in fact, increased over that period (Stenner, Koons, & Swartz, in press). The word difficulty of every scientific journal and magazine from 1930 to 1990 examined by Hayes and Ward (1992) had actually increased, which is important in part because, as a 2005 College Board study (Milewski, Johnson, Glazer, & Kubota, 2005) found, college professors assign more readings from periodicals than do high school teachers. Work-place reading, measured in Lexiles, exceeds grade 12 complexity significantly, although there is considerable variation (Stenner, Koons, & Swartz, in press). The vocabulary difficulty of newspapers remained stable over the 1963–1991 period Hayes and his colleagues (Hayes, Wolfer, & Wolfe, 1996) studied.

Furthermore, students in college are expected to read complex texts with substantially greater independence (i.e., much less scaffolding) than are students in typical K-12 programs. College students are held more accountable for what they read on their own than are most students in high school (Erickson & Strommer, 1991; Pritchard, Wilson, & Yamnitz, 2007). College instructors assign readings, not necessarily explicated in class, for which students might be held accountable through exams, papers, presentations, or class discussions. Students in high school, by contrast, are

¹In the 2008–2009 academic year, only 53 percent of students achieved the reading benchmark score or higher; the increase from 2004–2005 was not statistically significant. See ACT, Inc. (2009).

²Much of the summary found in the next two sections is heavily influenced by Marilyn Jager Adams's painstaking review of the relevant literature. See Adams (2009).

rarely held accountable for what they are able to read independently (Heller & Greenleaf, 2007). This discrepancy in task demand, coupled with what we see below is a vast gap in text complexity, may help explain why only about half of the students taking the ACT Test in the 2004–2005 academic year could meet the benchmark score in reading (which also was the case in 2008–2009, the most recent year for which data are available) and why so few students in general are prepared for postsecondary reading (ACT, Inc., 2006, 2009).

K–12 Schooling: Declining Complexity of Texts and a Lack of Reading of Complex Texts Independently

Despite steady or growing reading demands from various sources, K–12 reading texts have actually trended downward in difficulty in the last half century. Jeanne Chall and her colleagues (Chall, Conard, & Harris, 1977) found a thirteen-year decrease from 1963 to 1975 in the difficulty of grade 1, grade 6, and (especially) grade 11 texts. Extending the period to 1991, Hayes, Wolfer, and Wolfe (1996) found precipitous declines (relative to the period from 1946 to 1962) in average sentence length and vocabulary level in reading textbooks for a variety of grades. Hayes also found that while science books were more difficult to read than literature books, only books for Advanced Placement (AP) classes had vocabulary levels equivalent to those of even newspapers of the time (Hayes & Ward, 1992). Carrying the research closer to the present day, Gary L. Williamson (2006) found a 350L (Lexile) gap between the difficulty of end-of-high school and college texts—a gap equivalent to 1.5 standard deviations and more than the Lexile difference between grade 4 and grade 8 texts on the National Assessment of Educational Progress (NAEP). Although legitimate questions can be raised about the tools used to measure text complexity (e.g., Mesmer, 2008), what is relevant in these numbers is the general, steady decline—over time, across grades, and substantiated by several sources—in the difficulty and likely also the sophistication of content of the texts students have been asked to read in school since 1962.

There is also evidence that current standards, curriculum, and instructional practice have not done enough to foster the independent reading of complex texts so crucial for college and career readiness, particularly in the case of informational texts. K–12 students are, in general, given considerable scaffolding—assistance from teachers, class discussions, and the texts themselves (in such forms as summaries, glossaries, and other text features)—with reading that is already less complex overall than that typically required of students prior to 1962.³ What is more, students today are asked to read very little expository text—as little as 7 and 15 percent of elementary and middle school instructional reading, for example, is expository (Hoffman, Sabo, Bliss, & Hoy, 1994; Moss & Newton, 2002; Yopp & Yopp, 2006)—yet much research supports the conclusion that such text is harder for most students to read than is narrative text (Bowen & Roth, 1999; Bowen, Roth, & McGinn, 1999, 2002; Heller & Greenleaf, 2007; Shanahan & Shanahan, 2008), that students need sustained exposure to expository text to develop important reading strategies (Afflerbach, Pearson, & Paris, 2008; Kintsch, 1998, 2009; McNamara, Graesser, & Louwerson, in press; Perfetti, Landi, & Oakhill, 2005; van den Broek, Lorch, Linderholm, & Gustafson, 2001; van den Broek, Risden, & Husebye-Hartmann, 1995), and that expository text makes up the vast majority of the required reading in college and the workplace (Achieve, Inc., 2007). Worse still, what little expository reading students are asked to do is too often of the superficial variety that involves skimming and scanning for particular, discrete pieces of information; such reading is unlikely to prepare students for the cognitive demand of true understanding of complex text.

The Consequences: Too Many Students Reading at Too Low a Level

The impact that low reading achievement has on students' readiness for college, careers, and life in general is significant. To put the matter bluntly, a high school graduate who is a poor reader is a postsecondary student who must struggle mightily to succeed. The National Center for Education Statistics (NCES) (Wirt, Choy, Rooney, Provasnik, Sen, & Tobin, 2004) reports that although needing to take one or more remedial/developmental courses of any sort lowers a student's chance of eventually earning a degree or certificate, "the need for remedial reading appears to be the most serious barrier to degree completion" (p. 63). Only 30 percent of 1992 high school seniors who went on to enroll in postsecondary education between 1992 and 2000 and then took any remedial reading course went on to receive a degree or certificate, compared to 69 percent of the 1992 seniors who took no postsecondary remedial courses and 57 percent of those who took one remedial course in a subject other than reading or mathematics. Considering that 11 percent of those high school seniors required at least one remedial reading course, the societal impact of low reading achievement is as profound as its impact on the aspirations of individual students.

Reading levels among the adult population are also disturbingly low. The 2003 National Assessment of Adult Literacy (Kutner, Greenberg, Jin, Boyle, Hsu, & Dunleavy, 2007) reported that 14 percent of adults read prose texts at "below basic" level, meaning they could exhibit "no more than the most simple and concrete literacy skills"; a similarly small number (13 percent) could read prose texts at the "proficient level," meaning they could perform "more complex and challenging literacy activities" (p. 4). The percent of "proficient" readers had actually declined in a statistically significant way from 1992 (15 percent). This low and declining achievement rate may be connected to a general lack of reading. As reported by the National Endowment for the Arts (2004), the percent of U.S. adults reading literature dropped from 54.0 in 1992 to 46.7 in 2002, while the percent of adults reading *any* book also declined by 7 percent

³As also noted in "Key Considerations in Implementing Text Complexity," below, it is important to recognize that scaffolding often is entirely appropriate. The expectation that scaffolding will occur with particularly challenging texts is built into the Standards' grade-by-grade text complexity expectations, for example. The general movement, however, should be toward *decreasing scaffolding* and *increasing independence* both within and across the text complexity bands defined in the Standards.

during the same time period. Although the decline occurred in all demographic groups, the steepest decline by far was among 18-to-24- and 25-to-34-year-olds (28 percent and 23 percent, respectively). In other words, the problem of lack of reading is not only getting worse but doing so at an accelerating rate. Although numerous factors likely contribute to the decline in reading, it is reasonable to conclude from the evidence presented above that the deterioration in overall reading ability, abetted by a decline in K-12 text complexity and a lack of focus on independent reading of complex texts, is a contributing factor.

Being able to read complex text independently and proficiently is essential for high achievement in college and the workplace and important in numerous life tasks. Moreover, current trends suggest that if students cannot read challenging texts with understanding—if they have not developed the skill, concentration, and stamina to read such texts—they will read less in general. In particular, if students cannot read complex expository text to gain information, they will likely turn to text-free or text-light sources, such as video, podcasts, and tweets. These sources, while not without value, cannot capture the nuance, subtlety, depth, or breadth of ideas developed through complex text. As Adams (2009) puts it, “There may one day be modes and methods of information delivery that are as efficient and powerful as text, but for now there is no contest. To grow, our students must read lots, and more specifically they must read lots of ‘complex’ texts—texts that offer them new language, new knowledge, and new modes of thought” (p. 182). A turning away from complex texts is likely to lead to a general impoverishment of knowledge, which, because knowledge is intimately linked with reading comprehension ability, will accelerate the decline in the ability to comprehend complex texts and the decline in the richness of text itself. This bodes ill for the ability of Americans to meet the demands placed upon them by citizenship in a democratic republic and the challenges of a highly competitive global marketplace of goods, services, and ideas.

It should be noted also that the problems with reading achievement are not “equal opportunity” in their effects: students arriving at school from less-educated families are disproportionately represented in many of these statistics (Bettinger & Long, 2009). The consequences of insufficiently high text demands and a lack of accountability for independent reading of complex texts in K-12 schooling are severe for everyone, but they are disproportionately so for those who are already most isolated from text before arriving at the schoolhouse door.

The Standards’ Approach to Text Complexity

To help redress the situation described above, the Standards define a three-part model for determining how easy or difficult a particular text is to read as well as grade-by-grade specifications for increasing text complexity in successive years of schooling (Reading standard 10). These are to be used together with grade-specific standards that require increasing sophistication in students’ reading comprehension ability (Reading standards 1-9). The Standards thus approach the intertwined issues of what and how student read.

A Three-Part Model for Measuring Text Complexity

As signaled by the graphic at right, the Standards’ model of text complexity consists of three equally important parts.

(1) Qualitative dimensions of text complexity. In the Standards, *qualitative dimensions* and *qualitative factors* refer to those aspects of text complexity best measured or only measurable by an attentive human reader, such as levels of meaning or purpose; structure; language conventionality and clarity; and knowledge demands.

(2) Quantitative dimensions of text complexity. The terms *quantitative dimensions* and *quantitative factors* refer to those aspects of text complexity, such as word length or frequency, sentence length, and text cohesion, that are difficult if not impossible for a human reader to evaluate efficiently, especially in long texts, and are thus today typically measured by computer software.

(3) Reader and task considerations. While the prior two elements of the model focus on the inherent complexity of text, variables specific to particular readers (such as motivation, knowledge, and experiences) and to particular tasks (such as purpose and the complexity of the task assigned and the questions posed) must also be considered when determining whether a text is appropriate for a given student. Such assessments are best made by teachers employing their professional judgment, experience, and knowledge of their students and the subject.

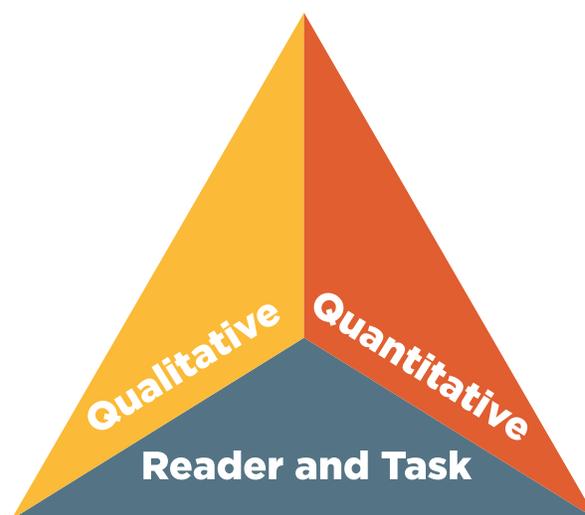


Figure 1: The Standards’ Model of Text Complexity

The Standards presume that all three elements will come into play when text complexity and appropriateness are determined. The following pages begin with a brief overview of just some of the currently available tools, both qualitative and quantitative, for measuring text complexity, continue with some important considerations for using text complexity with students, and conclude with a series of examples showing how text complexity measures, balanced with reader and task considerations, might be used with a number of different texts.

Qualitative and Quantitative Measures of Text Complexity

The qualitative and quantitative measures of text complexity described below are representative of the best tools presently available. However, each should be considered only provisional; more precise, more accurate, and easier-to-use tools are urgently needed to help make text complexity a vital, everyday part of classroom instruction and curriculum planning.

Qualitative Measures of Text Complexity

Using qualitative measures of text complexity involves making an informed decision about the difficulty of a text in terms of one or more factors discernible to a human reader applying trained judgment to the task. In the Standards, qualitative measures, along with professional judgment in matching a text to reader and task, serve as a necessary complement and sometimes as a corrective to quantitative measures, which, as discussed below, cannot (at least at present) capture all of the elements that make a text easy or challenging to read and are not equally successful in rating the complexity of all categories of text.

Built on prior research, the four qualitative factors described below are offered here as a first step in the development of robust tools for the qualitative analysis of text complexity. These factors are presented as continua of difficulty rather than as a succession of discrete “stages” in text complexity. Additional development and validation would be needed to translate these or other dimensions into, for example, grade-level- or grade-band-specific rubrics. The qualitative factors run from easy (left-hand side) to difficult (right-hand side). Few, if any, authentic texts will be low or high on all of these measures, and some elements of the dimensions are better suited to literary or to informational texts.

(1) **Levels of Meaning (literary texts) or purpose (informational texts).** Literary texts with a single level of meaning tend to be easier to read than literary texts with multiple levels of meaning (such as satires, in which the author’s literal message is intentionally at odds with his or her underlying message). Similarly, informational texts with an explicitly stated purpose are generally easier to comprehend than informational texts with an implicit, hidden, or obscure purpose.

(2) **Structure.** Texts of low complexity tend to have simple, well-marked, and conventional structures, whereas texts of high complexity tend to have complex, implicit, and (particularly in literary texts) unconventional structures. Simple literary texts tend to relate events in chronological order, while complex literary texts make more frequent use of flashbacks, flash-forwards, and other manipulations of time and sequence. Simple informational texts are likely not to deviate from the conventions of common genres and subgenres, while complex informational texts are more likely to conform to the norms and conventions of a specific discipline. Graphics tend to be simple and either unnecessary or merely supplementary to the meaning of texts of low complexity, whereas texts of high complexity tend to have similarly complex graphics, graphics whose interpretation is essential to understanding the text, and graphics that provide an independent source of information within a text. (Note that many books for the youngest students rely heavily on graphics to convey meaning and are an exception to the above generalization.)

(3) **Language Conventinality and Clarity.** Texts that rely on literal, clear, contemporary, and conversational language tend to be easier to read than texts that rely on figurative, ironic, ambiguous, purposefully misleading, archaic or otherwise unfamiliar language or on general academic and domain-specific vocabulary.

(4) **Knowledge Demands.** Texts that make few assumptions about the extent of readers’ life experiences and the depth of their cultural/literary and content/discipline knowledge are generally less complex than are texts that make many assumptions in one or more of those areas.

Figure 2: Qualitative Dimensions of Text Complexity

Levels of Meaning (literary texts) or purpose (informational texts)

- Single level of meaning → Multiple levels of meaning
- Explicitly stated purpose → Implicit purpose, may be hidden or obscure

Structure

- Simple → Complex
- Explicit → Implicit
- Conventional → Unconventional (chiefly literary texts)
- Events related in chronological order → Events related out of chronological order (chiefly literary texts)
- Traits of a common genre or subgenre → Traits specific to a particular discipline (chiefly informational texts)
- Simple graphics → Sophisticated graphics
- Graphics unnecessary or merely supplementary to understanding the text → Graphics essential to understanding the text and may provide information not otherwise conveyed in the text

Language Conventionality and Clarity

- Literal → Figurative or ironic
- Clear → Ambiguous or purposefully misleading
- Contemporary, familiar → Archaic or otherwise unfamiliar
- Conversational → General academic and domain-specific

Knowledge Demands: Life Experiences (literary texts)

- Simple themes → Complex or sophisticated themes
- Single themes → Multiple themes
- Common, everyday experiences or clearly fantastical situations → Experiences distinctly different from one's own
- Single perspective → Multiple perspectives
- Perspective(s) like one's own → Perspective(s) unlike or in opposition to one's own

Knowledge Demands: Cultural/Literary Knowledge (chiefly literary texts)

- Everyday knowledge and familiarity with genre conventions required → Cultural and literary knowledge useful
- Low intertextuality (few if any references/allusions to other texts) → High intertextuality (many references/allusions to other texts)

Knowledge Demands: Content/Discipline Knowledge (chiefly informational texts)

- Everyday knowledge and familiarity with genre conventions required → Extensive, perhaps specialized discipline-specific content knowledge required
- Low intertextuality (few if any references to/citations of other texts) → High intertextuality (many references to/citations of other texts)

Adapted from ACT, Inc. (2006). *Reading between the lines: What the ACT reveals about college readiness in reading*. Iowa City, IA: Author; Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success*. New York: Carnegie Corporation of New York; Chall, J. S., Bisseck, G. L., Conrad, S. S., & Harris-Sharples, S. (1996). *Qualitative assessment of text difficulty: A practical guide for teachers and writers*. Cambridge, UK: Brookline Books; Hess, K., & Biggam, S. (2004). A discussion of "increasing text complexity." Published by the New Hampshire, Rhode Island, and Vermont departments of education as part of the New England Common Assessment Program (NECAP). Retrieved from www.nciea.org/publications/TextComplexity_KH05.pdf

Quantitative Measures of Text Complexity

A number of quantitative tools exist to help educators assess aspects of text complexity that are better measured by algorithm than by a human reader. The discussion is not exhaustive, nor is it intended as an endorsement of one method or program over another. Indeed, because of the limits of each of the tools, new or improved ones are needed quickly if text complexity is to be used effectively in the classroom and curriculum.

Numerous formulas exist for measuring the readability of various types of texts. Such formulas, including the widely used Flesch-Kincaid Grade Level test, typically use word length and sentence length as proxies for semantic and syntactic complexity, respectively (roughly, the complexity of the meaning and sentence structure). The assumption behind these formulas is that longer words and longer sentences are more difficult to read than shorter ones; a text with many long words and/or sentences is thus rated by these formulas as harder to read than a text with many short words and/or sentences would be. Some formulas, such as the Dale-Chall Readability Formula, substitute word frequency for word length as a factor, the assumption here being that less familiar words are harder to comprehend than familiar words. The higher the proportion of less familiar words in a text, the theory goes, the harder that text is to read. While these readability formulas are easy to use and readily available—some are even built into various word processing applications—their chief weakness is that longer words, less familiar words, and longer sentences are not inherently hard to read. In fact, series of short, choppy sentences can pose problems for readers precisely because these sentences lack the cohesive devices, such as transition words and phrases, that help establish logical links among ideas and thereby reduce the inference load on readers.

Like Dale-Chall, the Lexile Framework for Reading, developed by MetaMetrics, Inc., uses word frequency and sentence length to produce a single measure, called a Lexile, of a text's complexity. The most important difference between the Lexile system and traditional readability formulas is that traditional formulas only assign a score to texts, whereas the Lexile Framework can place both readers and texts on the same scale. Certain reading assessments yield Lexile scores based on student performance on the instrument; some reading programs then use these scores to assign texts to students. Because it too relies on word familiarity and sentence length as proxies for semantic and syntactic complexity, the Lexile Framework, like traditional formulas, may underestimate the difficulty of texts that use simple, familiar language to convey sophisticated ideas, as is true of much high-quality fiction written for adults and appropriate for older students. For this reason and others, it is possible that factors other than word familiarity and sentence length contribute to text difficulty. In response to such concerns, MetaMetrics has indicated that it will release the qualitative ratings it assigns to some of the texts it rates and will actively seek to determine whether one or more additional factors can and should be added to its quantitative measure. Other readability formulas also exist, such as the ATOS formula associated with the Accelerated Reader program developed by Renaissance Learning. ATOS uses word difficulty (estimated grade level), word length, sentence length, and text length (measured in words) as its factors. Like the Lexile Framework, ATOS puts students and texts on the same scale.

A nonprofit service operated at the University of Memphis, Coh-Metrix attempts to account for factors in addition to those measured by readability formulas. The Coh-Metrix system focuses on the cohesiveness of a text—basically, how tightly the text holds together. A high-cohesion text does a good deal of the work for the reader by signaling relationships among words, sentences, and ideas using repetition, concrete language, and the like; a low-cohesion text, by contrast, requires the reader him- or herself to make many of the connections needed to comprehend the text. High-cohesion texts are not necessarily “better” than low-cohesion texts, but they are easier to read.

The standard Coh-Metrix report includes information on more than sixty indices related to text cohesion, so it can be daunting to the layperson or even to a professional educator unfamiliar with the indices. Coh-Metrix staff have worked to isolate the most revealing, informative factors from among the many they consider, but these “key factors” are not yet widely available to the public, nor have the results they yield been calibrated to the Standards' text complexity grade bands. The greatest value of these factors may well be the promise they offer of more advanced and usable tools yet to come.

Reader and Task Considerations

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. For example, harder texts may be appropriate for highly knowledgeable or skilled readers, and easier texts may be suitable as an expedient for building struggling readers' knowledge or reading skill up to the level required by the Standards. Highly motivated readers are often willing to put in the extra effort required to read harder texts that tell a story or contain information in which they are deeply interested. Complex tasks may require the kind of information contained only in similarly complex texts.

Numerous factors associated with the individual reader are relevant when determining whether a given text is appropriate for him or her. The RAND Reading Study Group identified many such factors in the 2002 report *Reading for Understanding*:

The reader brings to the act of reading his or her cognitive capabilities (attention, memory, critical analytic ability, inferencing, visualization); motivation (a purpose for reading, interest in the content, self-efficacy as a reader); knowledge (vocabulary and topic knowledge, linguistic and discourse knowledge, knowledge of

comprehension strategies); and experiences.

As part of describing the activity of reading, the RAND group also named important task-related variables, including the reader's purpose (which might shift over the course of reading), "the type of reading being done, such as skimming (getting the gist of the text) or studying (reading the text with the intent of retaining the information for a period of time)," and the intended outcome, which could include "an increase in knowledge, a solution to some real-world problem, and/or engagement with the text."⁴

Key Considerations in Implementing Text Complexity

Texts and Measurement Tools

The tools for measuring text complexity are at once useful and imperfect. Each of the qualitative and quantitative tools described above has its limitations, and none is completely accurate. The development of new and improved text complexity tools should follow the release of the Standards as quickly as possible. In the meantime, the Standards recommend that multiple quantitative measures be used whenever possible and that their results be confirmed or overruled by a qualitative analysis of the text in question.

Certain measures are less valid or inappropriate for certain kinds of texts. Current quantitative measures are suitable for prose and dramatic texts. Until such time as quantitative tools for capturing poetry's difficulty are developed, determining whether a poem is appropriately complex for a given grade or grade band will necessarily be a matter of a qualitative assessment meshed with reader-task considerations. Furthermore, texts for kindergarten and grade 1 may not be appropriate for quantitative analysis, as they often contain difficult-to-assess features designed to aid early readers in acquiring written language. The Standards' poetry and K-1 text exemplars were placed into grade bands by expert teachers drawing on classroom experience.

Many current quantitative measures underestimate the challenge posed by complex narrative fiction. Quantitative measures of text complexity, particularly those that rely exclusively or in large part on word- and sentence-level factors, tend to assign sophisticated works of literature excessively low scores. For example, as illustrated in example 2 below, some widely used quantitative measures, including the Flesch-Kincaid Grade Level test and the Lexile Framework for Reading, rate the Pulitzer Prize-winning novel *Grapes of Wrath* as appropriate for grades 2-3. This counterintuitive result emerges because works such as *Grapes* often express complex ideas in relatively commonplace language (familiar words and simple syntax), especially in the form of dialogue that mimics everyday speech. Until widely available quantitative tools can better account for factors recognized as making such texts challenging, including multiple levels of meaning and mature themes, preference should likely be given to qualitative measures of text complexity when evaluating narrative fiction intended for students in grade 6 and above.

Measures of text complexity must be aligned with college and career readiness expectations for all students. Qualitative scales of text complexity should be 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, for example, has realigned its Lexile ranges to match the Standards' text complexity grade bands and has adjusted upward its trajectory of reading comprehension development through the grades to indicate that all students should be reading at the college and career readiness level by no later than the end of high school.

Figure 3: Text Complexity Grade Bands and Associated Lexile Ranges (in Lexiles)

Text Complexity Grade Band in the Standards	Old Lexile Ranges	Lexile Ranges Aligned to CCR expectations
K-1	N/A	N/A
2-3	450-725	450-790
4-5	645-845	770-980
6-8	860-1010	955-1155
9-10	960-1115	1080-1305
11-CCR	1070-1220	1215-1355

⁴RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Santa Monica, CA: RAND. The quoted text appears in pages xiii-xvi.

Readers and Tasks

Students' ability to read complex text does not always develop in a linear fashion. Although the progression of Reading standard 10 (see below) defines required grade-by-grade growth in students' ability to read complex text, the development of this ability in individual students is unlikely to occur at an unbroken pace. Students need opportunities to stretch their reading abilities but also to experience the satisfaction and pleasure of easy, fluent reading within them, both of which the Standards allow for. As noted above, such factors as students' motivation, knowledge, and experiences must also come into play in text selection. Students deeply interested in a given topic, for example, may engage with texts on that subject across a range of complexity. Particular tasks may also require students to read harder texts than they would normally be required to. Conversely, teachers who have had success using particular texts that are easier than those required for a given grade band should feel free to continue to use them so long as the general movement during a given school year is toward texts of higher levels of complexity.

Students reading well above and well below grade-band level need additional support. Students for whom texts within their text complexity grade band (or even from the next higher band) present insufficient challenge must be given the attention and resources necessary to develop their reading ability at an appropriately advanced pace. On the other hand, students who struggle greatly to read texts within (or even below) their text complexity grade band must be given the support needed to enable them to read at a grade-appropriate level of complexity.

Even many students on course for college and career readiness are likely to need scaffolding as they master higher levels of text complexity. As they enter each new grade band, many students are likely to need at least some extra help as they work to comprehend texts at the high end of the range of difficulty appropriate to the band. For example, many students just entering grade 2 will need some support as they read texts that are advanced for the grades 2–3 text complexity band. Although such support is educationally necessary and desirable, instruction must move generally toward *decreasing scaffolding* and *increasing independence*, with the goal of students reading independently and proficiently within a given grade band by the end of the band's final year (continuing the previous example, the end of grade 3).

The Standards' Grade-Specific Text Complexity Demands

As illustrated in figure 4, text complexity in the Standards is defined in grade bands: grades 2–3, 4–5, 6–8, 9–10, and 11–CCR.⁵ Students in the first year(s) of a given band are expected by the end of the year to read and comprehend proficiently within the band, with scaffolding as needed at the high end of the range. Students in the last year of a band are expected by the end of the year to read and comprehend independently and proficiently within the band.

Figure 4: The Progression of Reading Standard 10

Grade(s)	Reading Standard 10 (individual text types omitted)
K	Actively engage in group reading activities with purpose and understanding.
1	With prompting and support, read prose and poetry [informational texts] of appropriate complexity for grade 1.
2	By the end of the year, read and comprehend literature [informational texts] in the grades 2–3 text complexity band proficiently, with scaffolding as needed at the high end of the range.
3	By the end of the year, read and comprehend literature [informational texts] at the high end of the grades 2–3 text complexity band independently and proficiently.
4	By the end of the year, read and comprehend literature [informational texts] in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
5	By the end of the year, read and comprehend literature [informational texts] at the high end of the grades 4–5 text complexity band independently and proficiently.
6	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
7	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.
8	By the end of the year, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 6–8 text complexity band independently and proficiently.
9–10	By the end of grade 9, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 9–10 text complexity band proficiently, with scaffolding as needed at the high end of the range.
	By the end of grade 10, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 9–10 text complexity band independently and proficiently.
11–12	By the end of grade 11, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] in the grades 11–CCR text complexity band proficiently, with scaffolding as needed at the high end of the range.
	By the end of grade 12, read and comprehend literature [informational texts, history/social studies texts, science/technical texts] at the high end of the grades 11–CCR text complexity band independently and proficiently.

⁵As noted above in “Key Considerations in Implementing Text Complexity,” K–1 texts are not amenable to quantitative measure. Furthermore, students in those grades are acquiring the code at varied rates. Hence, the Standards’ text complexity requirements begin formally with grade 2.

The Model in Action: Sample Annotated Reading Texts

The following examples demonstrate how qualitative and quantitative measures of text complexity can be used along with reader and task considerations to make informed decisions about whether a particular text is an appropriate challenge for particular students. The cases below illustrate some of the possibilities that can arise when multiple measures are used to assess text complexity and how discrepancies among those measures might be resolved. It is important to note that the conclusions offered below concerning the texts' appropriateness for particular grade bands are informed judgments based on qualitative and quantitative assessments of text complexity. Different conclusions could reasonably be drawn from the same data, and reader and task considerations may also warrant a higher or lower placement.

Example 1: *Narrative of the Life of Frederick Douglass* (Grades 6–8 Text Complexity Band)

Excerpt

The plan which I adopted, and the one by which I was most successful, was that of making friends of all the little white boys whom I met in the street. As many of these as I could, I converted into teachers. With their kindly aid, obtained at different times and in different places, I finally succeeded in learning to read. When I was sent of errands, I always took my book with me, and by going one part of my errand quickly, I found time to get a lesson before my return. I used also to carry bread with me, enough of which was always in the house, and to which I was always welcome; for I was much better off in this regard than many of the poor white children in our neighborhood. This bread I used to bestow upon the hungry little urchins, who, in return, would give me that more valuable bread of knowledge. I am strongly tempted to give the names of two or three of those little boys, as a testimonial of the gratitude and affection I bear them; but prudence forbids;—not that it would injure me, but it might embarrass them; for it is almost an unpardonable offence to teach slaves to read in this Christian country. It is enough to say of the dear little fellows, that they lived on Philpot Street, very near Durgin and Bailey's ship-yard. I used to talk this matter of slavery over with them. I would sometimes say to them, I wished I could be as free as they would be when they got to be men. "You will be free as soon as you are twenty-one, but I am a slave for life! Have not I as good a right to be free as you have?" These words used to trouble them; they would express for me the liveliest sympathy, and console me with the hope that something would occur by which I might be free.

I was now about twelve years old, and the thought of being a slave for life began to bear heavily upon my heart. Just about this time, I got hold of a book entitled "The Columbian Orator." Every opportunity I got, I used to read this book. Among much of other interesting matter, I found in it a dialogue between a master and his slave. The slave was represented as having run away from his master three times. The dialogue represented the conversation which took place between them, when the slave was retaken the third time. In this dialogue, the whole argument in behalf of slavery was brought forward by the master, all of which was disposed of by the slave. The slave was made to say some very smart as well as impressive things in reply to his master—things which had the desired though unexpected effect; for the conversation resulted in the voluntary emancipation of the slave on the part of the master.

In the same book, I met with one of Sheridan's mighty speeches on and in behalf of Catholic emancipation. These were choice documents to me. I read them over and over again with unabated interest. They gave tongue to interesting thoughts of my own soul, which had frequently flashed through my mind, and died away for want of utterance. The moral which I gained from the dialogue was the power of truth over the conscience of even a slaveholder. What I got from Sheridan was a bold denunciation of slavery, and a powerful vindication of human rights. The reading of these documents enabled me to utter my thoughts, and to meet the arguments brought forward to sustain slavery; but while they relieved me of one difficulty, they brought on another even more painful than the one of which I was relieved. The more I read, the more I was led to abhor and detest my enslavers. I could regard them in no other light than a band of successful robbers, who had left their homes, and gone to Africa, and stolen us from our homes, and in a strange land reduced us to slavery. I loathed them as being the meanest as well as the most wicked of men. As I read and contemplated the subject, behold! that very discontentment which Master Hugh had predicted would follow my learning to read had already come, to torment and sting my soul to unutterable anguish. As I writhed under it, I would at times feel that learning to read had been a curse rather than a blessing. It had given me a view of my wretched condition, without the remedy. It opened my eyes to the horrible pit, but to no ladder upon which to get out. In moments of agony, I envied my fellow-slaves for their stupidity. I have often wished myself a beast. I preferred the condition of the meanest reptile to my own. Any thing, no matter what, to get rid of thinking! It was this everlasting thinking of my condition that tormented me. There was no getting rid of it. It was pressed

upon me by every object within sight or hearing, animate or inanimate. The silver trump of freedom had roused my soul to eternal wakefulness. Freedom now appeared, to disappear no more forever. It was heard in every sound, and seen in every thing. It was ever present to torment me with a sense of my wretched condition. I saw nothing without seeing it, I heard nothing without hearing it, and felt nothing without feeling it. It looked from every star, it smiled in every calm, breathed in every wind, and moved in every storm.

Douglass, Frederick. *Narrative of the Life of Frederick Douglass, an American Slave. Written by Himself.*
Boston: Anti-Slavery Office, 1845.

Figure 5: Annotation of *Narrative of the Life of Frederick Douglass*

Qualitative Measures	Quantitative Measures
<p>Levels of Meaning</p> <p>While the apparent aim of the text is to convince readers of the day of the evils of slavery, there are other aims as well; among the latter, not fully revealed in the excerpt, are Douglass's efforts to assert his own manhood (and that of other black men) and to create an extended analogy between his own literal rise to freedom and a spiritual awakening.</p> <p>Structure</p> <p>The Narrative uses a fairly simple, explicit, and conventional story structure, with events largely related chronologically by a narrator recounting his past. There are some philosophical discussions that may, to the reader just looking for a story, seem like digressions.</p> <p>Language Conventinality and Clarity</p> <p>Douglass's language is largely clear and meant to be accessible. He does, however, use some figurative language (e.g., juxtaposing literal bread with the metaphorical bread of knowledge) and literary devices (e.g., personifying freedom). There are also some now-archaic and unusual words and phrasings (e.g., choice documents).</p> <p>Knowledge Demands</p> <p>The Narrative discusses moderately sophisticated themes. The experiences of slavery Douglass describes are obviously outside students' own experiences, but Douglass renders them vivid. The text is bound by Douglass's authoritative perspective. General background knowledge about slavery and race in mid-nineteenth-century America is helpful, as is knowledge of Christianity, to which Douglass makes frequent reference throughout the excerpt and the work as a whole.</p>	<p>Various readability measures of the Narrative are largely in agreement that it is of appropriate complexity for grades 6–8. A Coh-Metrix analysis calls attention to this excerpt's complex syntax and the abstractness of some of the language (e.g., hard-to-define concepts such as slavery and freedom). Helping to balance out that challenge are the text's storylike structure and the way the text draws clear connections between words and sentences. Readers will still have to make many inferences to interpret and connect the text's central ideas, however.</p> <p>Reader-Task Considerations</p> <p>These are to be determined locally with reference to such variables as a student's motivation, knowledge, and experiences as well as purpose and the complexity of the task assigned and the questions posed.</p> <p>Recommended Placement</p> <p>Both the qualitative and quantitative measures support the Standards' inclusion of the Narrative in the grades 6–8 text complexity band, with the understanding that the text sits at the high end of the range and that it can be reread profitably in later years by more mature students capable of appreciating the deeper messages embedded in the story.</p>

Example 2: *The Grapes of Wrath* (Grades 9–10 Text Complexity Band)

Excerpt

The man took off his dark, stained hat and stood with a curious humility in front of the screen. “Could you see your way to sell us a loaf of bread, ma’am?”

Mae said, “This ain’t a grocery store. We got bread to make san’widges.”

“I know, ma’am.” His humility was insistent. “We need bread and there ain’t nothin’ for quite a piece, they say.”

“F we sell bread we gonna run out.” Mae’s tone was faltering.

“We’re hungry,” the man said.

“Whyn’t you buy a san’widge? We got nice san’widges, hamburgs.”

“We’d sure admire to do that, ma’am. But we can’t. We got to make a dime do all of us.” And he said embarrassedly, “We ain’t got but a little.”

Mae said, “You can’t get no loaf a bread for a dime. We only got fifteen-cent loafs.”

From behind her Al growled, “God Almighty, Mae, give ‘em bread.”

“We’ll run out ‘fore the bread truck comes.”

“Run out then, goddamn it,” said Al. He looked sullenly down at the potato salad he was mixing.

Mae shrugged her plump shoulders and looked to the truck drivers to show them what she was up against.

She held the screen door open and the man came in, bringing a smell of sweat with him. The boys edged behind him and they went immediately to the candy case and stared in—not with craving or with hope or even with desire, but just with a kind of wonder that such things could be. They were alike in size and their faces were alike. One scratched his dusty ankle with the toe nails of his other foot. The other whispered some soft message and then they straightened their arms so that their clenched fists in the overall pockets showed through the thin blue cloth.

Mae opened a drawer and took out a long waxpaper-wrapped loaf. “This here is a fifteen-cent loaf.”

The man put his hat back on his head. He answered with inflexible humility, “Won’t you—can’t you see your way to cut off ten cents’ worth?”

Al said snarlingly, “Goddamn it, Mae. Give ‘em the loaf.”

The man turned toward Al. “No, we want ta buy ten cents’ worth of it. We got it figgered awful close, mister, to get to California.”

Mae said resignedly, “You can have this for ten cents.”

“That’d be robbin’ you, ma’am.”

“Go ahead—Al says to take it.” She pushed the waxpapered loaf across the counter. The man took a deep leather pouch from his rear pocket, untied the strings, and spread it open. It was heavy with silver and with greasy bills.

“May soun’ funny to be so tight,” he apologized. “We got a thousan’ miles to go, an’ we don’ know if we’ll make it.” He dug in the pouch with a forefinger, located a dime, and pinched in for it. When he put it down on the counter he had a penny with it. He was about to drop the penny back into the pouch when his eye fell on the boys frozen before the candy counter. He moved slowly down to them. He pointed in the case at big long sticks of striped peppermint. “Is them penny candy, ma’am?”

Mae moved down and looked in. “Which ones?”

“There, them stripy ones.”

The little boys raised their eyes to her face and they stopped breathing; their mouths were partly opened, their half-naked bodies were rigid.

“Oh—them. Well, no—them’s two for a penny.”

“Well, gimme two then, ma’am.” He placed the copper cent carefully on the counter. The boys expelled their held breath softly. Mae held the big sticks out.

Steinbeck, John. *The Grapes of Wrath*.
New York: Viking, 1967 (1939).

Figure 6: Annotation of *The Grapes of Wrath*

Qualitative Measures	Quantitative Measures
<p>Levels of Meaning</p> <p>There are multiple and often implicit levels of meaning within the excerpt and the novel as a whole. The surface level focuses on the literal journey of the Joads, but the novel also works on metaphorical and philosophical levels.</p>	<p>The quantitative assessment of <i>The Grapes of Wrath</i> demonstrates the difficulty many currently existing readability measures have in capturing adequately the richness of sophisticated works of literature, as various ratings suggest a placement within the grades 2–3 text complexity band. A Coh-Metrix analysis also tends to suggest the text is an easy one since the syntax is uncomplicated and the author uses a conventional story structure and only a moderate number of abstract words. (The analysis does indicate, however, that a great deal of inferencing will be required to interpret and connect the text’s words, sentences, and central ideas.)</p>
<p>Structure</p> <p>The text is relatively simple, explicit, and conventional in form. Events are largely related in chronological order.</p>	
<p>Language Conventinality and Clarity</p> <p>Although the language used is generally familiar, clear, and conversational, the dialect of the characters may pose a challenge for some readers. Steinbeck also puts a great deal of weight on certain less familiar words, such as faltering. In various portions of the novel not fully represented in the excerpt, the author combines rich, vivid, and detailed description with an economy of words that requires heavy inferencing.</p>	<p>Reader-Task Considerations</p> <p>These are to be determined locally with reference to such variables as a student’s motivation, knowledge, and experiences as well as purpose and the complexity of the task assigned and the questions posed.</p>
<p>Knowledge Demands</p> <p>The themes are sophisticated. The experiences and perspective conveyed will be different from those of many students. Knowledge of the Great Depression, the “Okie Migration” to California, and the religion and music of the migrants is helpful, but the author himself provides much of the context needed for comprehension.</p>	<p>Recommended Placement</p> <p>Though considered extremely easy by many quantitative measures, <i>The Grapes of Wrath</i> has a sophistication of theme and content that makes it more suitable for early high school (grades 9–10), which is where the Standards have placed it. In this case, qualitative measures have overruled the quantitative measures.</p>

 Example 3: *The Longitude Prize* (Grades 9–10 Text Complexity Band)

Excerpt

From Chapter 1: “A Most Terrible Sea”

At six in the morning I was awaked by a great shock, and a confused noise of the men on deck. I ran up, thinking some ship had run foul of us, for by my own reckoning, and that of every other person in the ship, we were at least thirty-five leagues distant from land; but, before I could reach the quarter-deck, the ship gave a great stroke upon the ground, and the sea broke over her. Just after this I could perceive the land, rocky, rugged and uneven, about two cables’ length from us . . . the masts soon went overboard, carrying some men with them . . . notwithstanding a most terrible sea, one of the [lifeboats] was launched, and eight of the best men jumped into her; but she had scarcely got to the ship’s stern when she was hurled to the bottom, and every soul in her perished. The rest of the boats were soon washed to pieces on the deck. We then made a raft . . . and waited with resignation for Providence to assist us.

—From an account of the wreck of HMS *Litchfield* off the coast of North Africa, 1758

The *Litchfield* came to grief because no one aboard knew where they were. As the narrator tells us, by his own reckoning and that of everyone else they were supposed to be thirty-five leagues, about a hundred miles, from land. The word “reckoning” was short for “dead reckoning”—the system used by ships at sea to keep track of their position, meaning their longitude and latitude. It was an intricate system, a craft, and like every other craft involved the mastery of certain tools, in this case such instruments as compass, hourglass, and quadrant. It was an art as well.

Latitude, the north-south position, had always been the navigator’s faithful guide. Even in ancient times, a Greek or Roman sailor could tell how far north of the equator he was by observing the North Star’s height above the horizon, or the sun’s at noon. This could be done without instruments, trusting in experience and the naked eye, although it is believed that an ancestor of the quadrant called the astrolabe—“star-measurer”—was known to the ancients, and used by them to measure the angular height of the sun or a star above the horizon.

Phoenicians, Greeks, and Romans tended to sail along the coasts and were rarely out of sight of land. As later navigators left the safety of the Mediterranean to plunge into the vast Atlantic—far from shore, and from the shorebirds that led them to it—they still had the sun and the North Star. And these enabled them to follow imagined parallel lines of latitude that circle the globe. Following a line of latitude—“sailing the parallel”—kept a ship on a steady east-west course. Christopher Columbus, who sailed the parallel in 1492, held his ships on such a safe course, west and west again, straight on toward Asia. When they came across an island off the coast of what would later be called America, Columbus compelled his crew to sign an affidavit stating that this island was no island but mainland Asia.

Dash, Joan. *The Longitude Prize*.
New York: Farrar, Straus and Giroux, 2000. (2000)

Figure 7: Annotation of *The Longitude Prize*

Qualitative Measures	Quantitative Measures
<p>Levels of Meaning</p> <p>There are multiple and often implicit levels of meaning within the excerpt and the novel as a whole. The surface level focuses on the literal journey of the Joads, but the novel also works on metaphorical and philosophical levels.</p> <p>Structure</p> <p>The text is relatively simple, explicit, and conventional in form. Events are largely related in chronological order.</p> <p>Language Conventionalty and Clarity</p> <p>Although the language used is generally familiar, clear, and conversational, the dialect of the characters may pose a challenge for some readers. Steinbeck also puts a great deal of weight on certain less familiar words, such as faltering. In various portions of the novel not fully represented in the excerpt, the author combines rich, vivid, and detailed description with an economy of words that requires heavy inferencing.</p> <p>Knowledge Demands</p> <p>The themes are sophisticated. The experiences and perspective conveyed will be different from those of many students. Knowledge of the Great Depression, the “Okie Migration” to California, and the religion and music of the migrants is helpful, but the author himself provides much of the context needed for comprehension.</p>	<p>The quantitative assessment of <i>The Grapes of Wrath</i> demonstrates the difficulty many currently existing readability measures have in capturing adequately the richness of sophisticated works of literature, as various ratings suggest a placement within the grades 2–3 text complexity band. A Coh-Metrix analysis also tends to suggest the text is an easy one since the syntax is uncomplicated and the author uses a conventional story structure and only a moderate number of abstract words. (The analysis does indicate, however, that a great deal of inferencing will be required to interpret and connect the text’s words, sentences, and central ideas.)</p> <p>Reader-Task Considerations</p> <p>These are to be determined locally with reference to such variables as a student’s motivation, knowledge, and experiences as well as purpose and the complexity of the task assigned and the questions posed.</p> <p>Recommended Placement</p> <p>Though considered extremely easy by many quantitative measures, <i>The Grapes of Wrath</i> has a sophistication of theme and content that makes it more suitable for early high school (grades 9–10), which is where the Standards have placed it. In this case, qualitative measures have overruled the quantitative measures.</p>