

ELA-CCSS: Text Complexity in Upper Elementary Grades



KAREN WIXSON, PHD
UNIVERSITY OF MICHIGAN/UNCG

With thanks to Freddy Hiebert & TextProject, Inc (textproject.org)

The Goal of the Text Complexity Standard of the ELA-CCSS



- By the time they complete high school, students must be able to read and comprehend independently and proficiently the kinds of complex texts commonly found in college and careers.

WHY: Rationale for Text Complexity

- **Reported decline in high-school level text:** More 8th & 10th graders are on track for college-level reading than late juniors/early seniors (ACT, 2006, *Reading between the lines*)
- **Increase in text difficulty of college/career texts:** College professors assign more periodical reading than high school teachers (Milewski, Johnson, Glazer, & Kubota, 2005). Difficulty of scientific journals and magazines increased from 1930 to 1990 (Hayes & Ward, 1992).
- **Claimed decline in school texts overall:** “K–12 reading texts have actually trended downward in difficulty in the last half century.” (ELA-CCSS, Appendix A, p. 2)
 - Decrease from 1963 to 1975 in difficulty of Gr. 1, 6, & 11 texts (Chall, Conard & Harris, 1977).
 - Decline in sentence length and vocabulary in reading textbooks (Hayes, Wolfer, & Wolfe (1996)

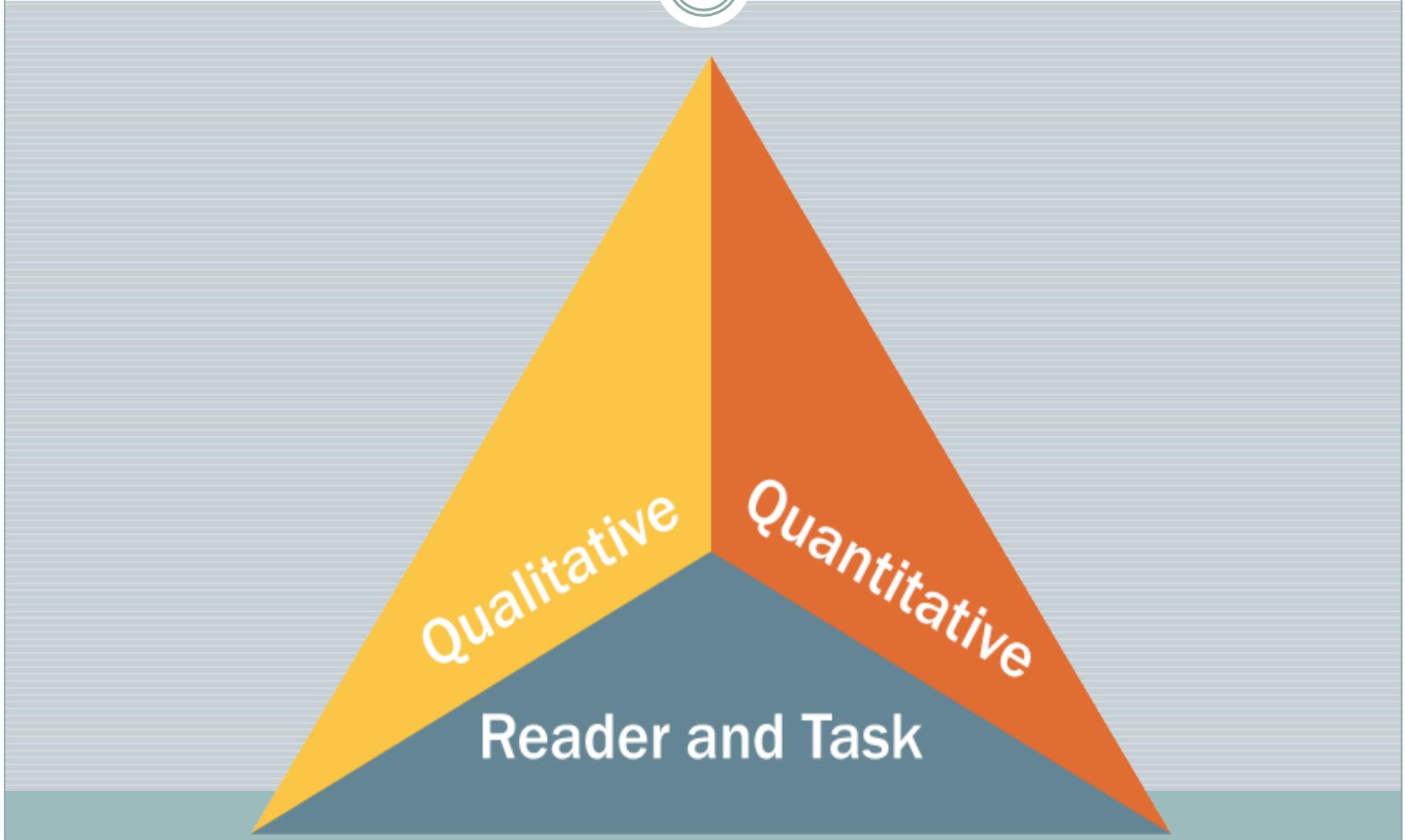
WHAT? The view of text difficulty



Qualitative

Quantitative

Reader and Task

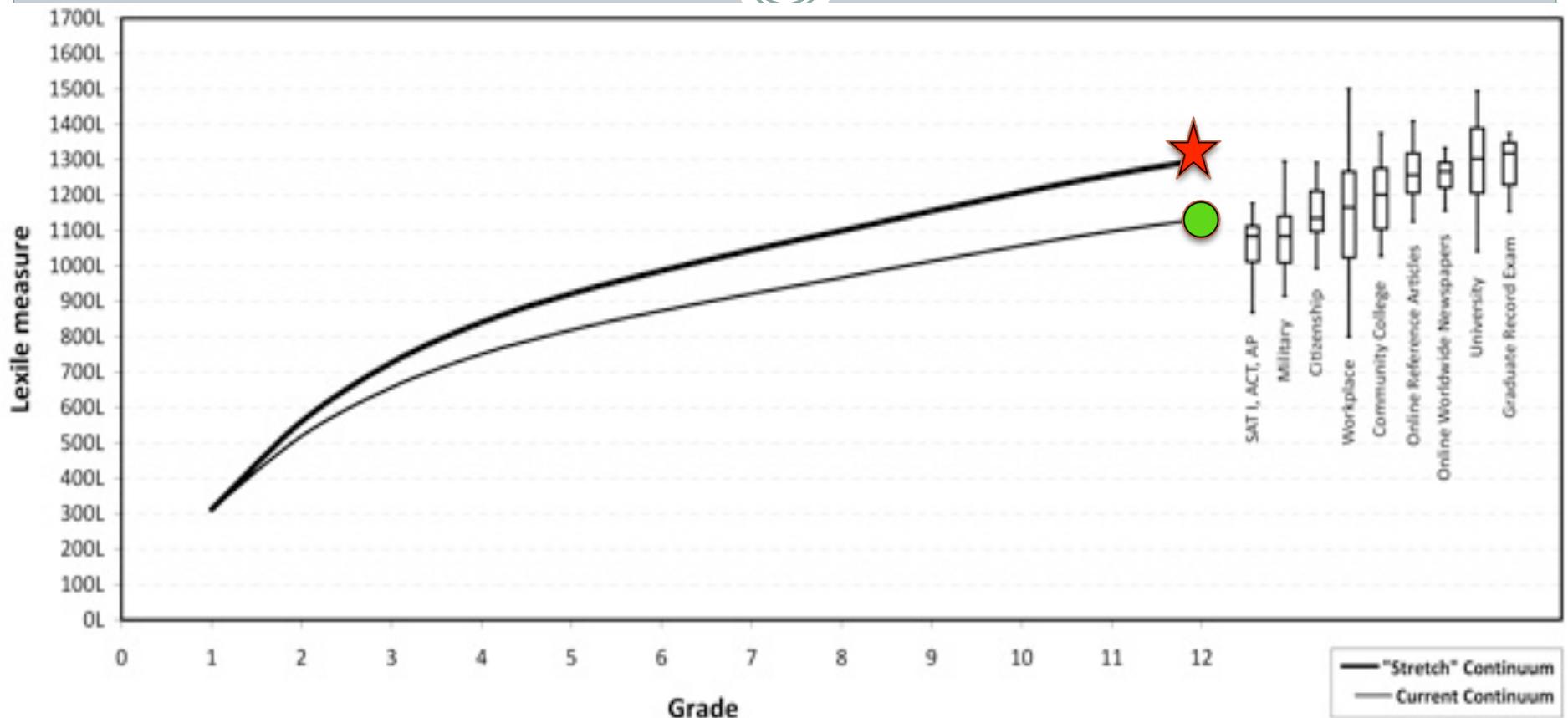


Quantitative Measures: Lexiles



- Lexile units are based on word frequency and sentence length. Word frequency is calculated based on words in Lexile databank (almost one billion).
- Lexiles range from 0 (beginning reading) to 2000 (highly technical texts). A grade level difference is approximately 100 Lexiles. However: reliable scoring does not begin until second grade (Lexile range of 350-400).

Metametrics Solution



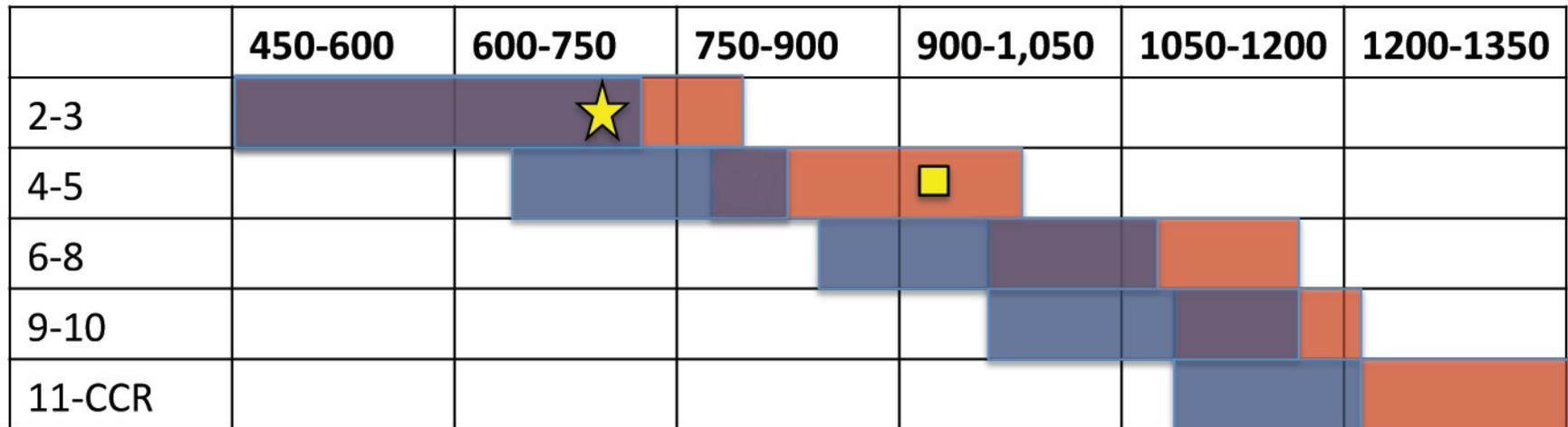
New (Common Core State Standards) & Old (Metametrics)



	450-600	600-750	750-900	900-1,050	1050-1200	1200-1350		
2-3	Old Text Difficulty Range (Metametrics)		New/CCS Text Difficulty Range					
4-5		Old Text Difficulty Range (Metametrics)		New/CCS Text Difficulty Range				
6-8				Old Text Difficulty Range (Metametrics)		New/CCS Text Difficulty Range		
9-10				Old Text Difficulty Range (Metametrics)		New/CCS Text Difficulty Range		
11-CCR					Old Text Difficulty Range (Metametrics)		New/CCS Text Difficulty Range	

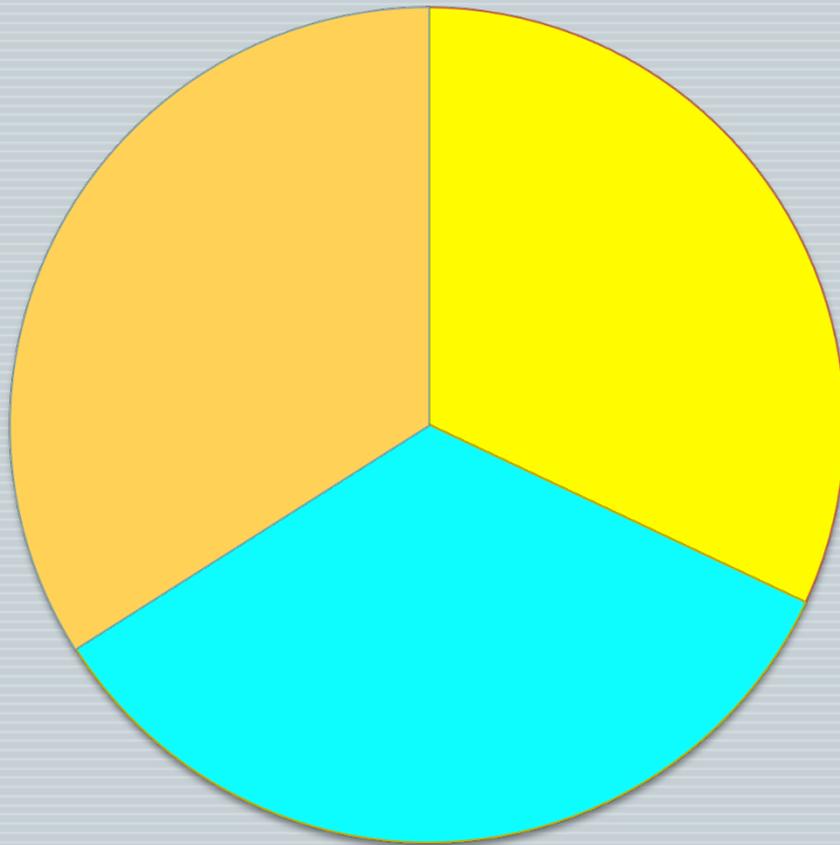
	New/CCS Text Difficulty Range
	Old Text Difficulty Range (Metametrics)

Summary of Text Difficulty: Elementary Exemplars



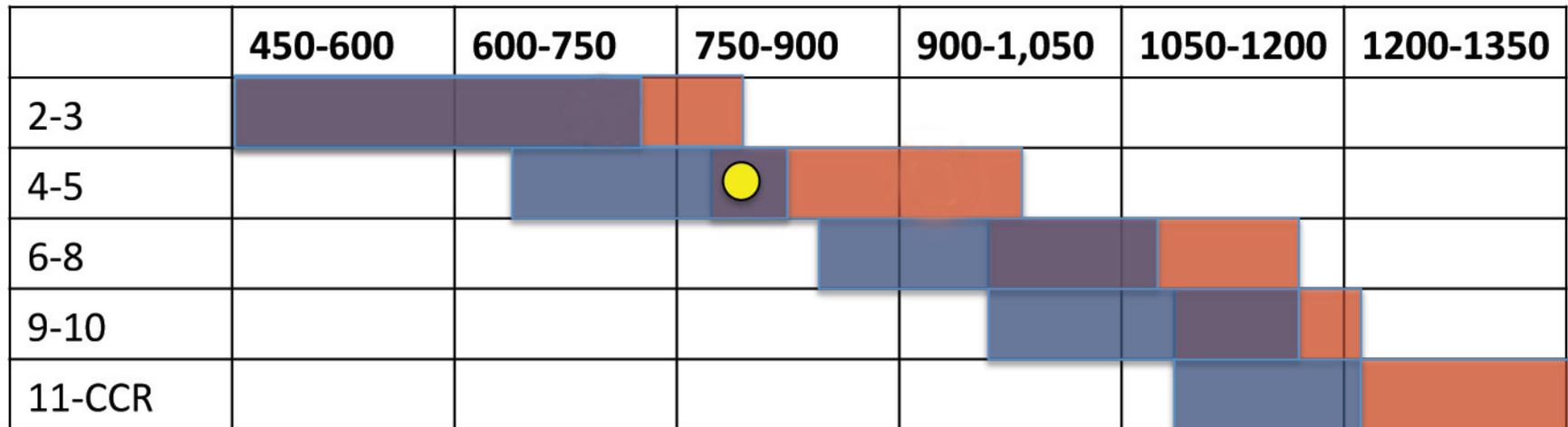
★	Average level of Gr. 2-3 exemplars provided by CCS
□	Average level of Gr. 4-5 exemplars provided by CCS

Students Proficiency Relative to Goal: NAEP



- **Proficient & Above**
- **Basic**
- **Below Basic**

Comparison between NAEP and ELA-CCSS Lexile Levels



	<p>Average Level: National Assessment of Educational Progress (Gr. 4)</p>
---	---

First Look, ACT



- Relative to the Common Core, only 31% of students are performing at a college- and career ready level with respect to successfully understanding complex text.

ELA-CCSS Exemplar Texts



Gr. Band	Narrative		Informational	
	Wd. Freq	Sent Length	Wd Freq	Sent. Length
2	3.7-3.9	8-10	3.6-3.8	9-11
3	3.6-3.8	9-11	3.5-3.75	10-12
4	3.5-3.8	10-12	3.4-3.6	11-13
5	3.4-3.7	11-13	3.3-3.6	12-14

Quantitative Measures: Genre Concerns



- Concern of ELA-CCSS: Concern that Lexiles underestimate the difficulty of narrative texts as in “simple, familiar language to convey sophisticated ideas, as is true of much high-quality fiction written for adults and appropriate for older students.”
- Traditional concern of researchers: Readability overestimate the difficulty of expository texts in that every appearance of a content word is counted uniquely.

Quantitative Measures: Coh-Metrix



- *Narrativity*—Narrative text tells a story with events & language closely related to everyday conversation.
- *Referential cohesion*—overlap of words btw & across sentences (argument) & proportion of adjacent sent that share one or more root words (stem)
- *Situation model cohesion*—Causal, intentional, & temporal connectives that lead to coherence
- *Syntactic complexity*—longer, more complex/unfamiliar structures
- *Word abstractness*—concepts that are not easily represented visually

Referential Cohesion: Text Exemplars



LOW (Ar .11, Stem .37)	MEDIUM (Ar. .5, Stem .55)	HIGH (Ar .7, Stem .7)
<p>This island is covered with snow. No trees grow. Nothing has green leaves. The land is white as far as you can see.</p> <p>Then something small and round and black pokes up out of the snow.</p> <p>A black nose sniffs the air. Then a smooth white head appears. A mother polar bear heaves herself out of her den. (2-3)</p>	<p>Horses move in four natural ways, called gaits or paces. They walk, trot, canter, and gallop. The walk is the slowest gait and the gallop is the fastest.</p> <p>When a horse walks, each hoof leaves the ground at a different time. It moves one hind leg first, and then the front leg on the same side; then the other hind leg... (4-5)</p>	<p>Most plants make seeds. A seed contains the beginning of a new plant. Seeds are different shapes, sizes, and colors. All seeds grow into the same kind of plant that made them.</p> <p>Many plants grow flowers. Flowers are where most seeds begin.</p> <p>(2-3)</p>

Identifying Malleable (teachable) Factors that Contribute to Text Difficulty



I. Text Features

- Syntax?*
- Vocabulary*
- Cohesion
- Length

*Variables that are part of Lexiles/typical readability formulas

II. Genres

- Narrative
- Informational

Texts equated on vocabulary (MLWF = 3.4) but different syntax

**The Birchbark House: 700
Lexile, 9.94 (SL)**

Startled, Omakayas slipped and spun her arms in wheels. She teetered, but somehow kept her balance. Two big, skipping hops, another leap, and she was on dry land. She stepped over spongy leaves and moss, into the woods where the sparrows sang nesting songs in delicate relays.

**King Midas: 910 Lexile,
12.87 (SL)**

There once lived a very rich king called Midas who believed that nothing was more precious than gold. He loved its soft yellow hue and comforting weight in the palm of his hand. The chink of gold coins dropped into a leather purse sounded sweeter to him than the songs of his finest musicians.

Texts equated on vocabulary (MLWF = 3.4) but different syntax



The Birchbark House: 700 Lexile, 9.9 (SL)

Marvelously Meaningful Maps: 1080 Lexile, 16.1 (SL)

Startled, Omakayas slipped and spun her arms in wheels. She teetered, but somehow kept her balance. Two big, skipping hops, another leap, and she was on dry land. She stepped over spongy leaves and moss, into the woods where the sparrows sang nesting songs in delicate relays.

We make maps of more than just our own planet Earth. We make sky maps that show the constellations of stars of different times of the year. We have mapped the surface of the moon. Satellites sent out into space even help us make maps of other planets.

Teaching Syntax: What do we know?



- Features of complex sentences such as clauses, phrases, and modifiers can influence comprehension (DiStefano & Valencia, 1980).
- Instruction in writing with a focus on combining sentences has been shown to affect comprehension (e.g., Hunt, 1965).
- However, research on “intervening in syntax” as part of reading instruction is almost nonexistent.

Texts equated on syntax (9.9) but different vocabulary

**The Birchbark House: 700
Lexile, 3.4 (MLWF)**

Startled, Omakayas slipped and spun her arms in wheels. She teetered, but somehow kept her balance. Two big, skipping hops, another leap, and she was on dry land. She stepped over spongy leaves and moss, into the woods where the sparrows sang nesting songs in delicate relays.

**Dishpan Ducks: 630 Lexile,
3.6 (MLWF)**

Rosa walked home from school slowly. The rows of apartment buildings and the streets full of cars looked all the same. And it was cold.

Rosa missed her country. She had begun to learn some English, but she did not know what to say or what to do when other kids were around.

Teaching Vocabulary: What do we know?



- We know a substantial amount about *how* to teach vocabulary (although *what* to teach has been more elusive).
- But significant effects on standardized tests have not been extensive. One explanation may be that the selection of vocabulary on assessments, like instruction, assessment is ungrounded & inconsistent (Nagy & Hiebert, 2010; Pearson, Hiebert, & Kamil, 2007)

Texts equated on syntax (SL=16.1) but different MLWF

When the mountain meets the moon: 1000 Lexile, 3.6 (MLWF)

Ma sighed a great deal, an impatient noise usually accompanied with a frown at their rough clothes, rundown house, or meager food. Minli could not remember a time when Ma did not sigh; it often made Minli wish she had been called a name that meant gold or fortune instead.

Marvelously Meaningful Maps: 1080 Lexile, 3.4 (MLWF)

- We make maps of more than just our own planet Earth. We make sky maps that show the constellations of stars of different times of the year. We have mapped the surface of the moon. Satellites sent out into space even help us make maps of other planets.

Malleable Factors II: Genre



	Lexile	MSL	MLWF
Narrative	749.7	11.9	3.6
Expository	884.5	13.3	3.4

Teaching Genre: What do we know?



- We know a lot about the characteristics of different types of texts—e.g., structure, organization, text features, literary devices
- We know that young children’s comprehension of expository texts lags behind their comprehension of narrative texts
- We know that teaching story grammar and expository text structure enhances comprehension

Summary: Teaching Malleable Text Factors



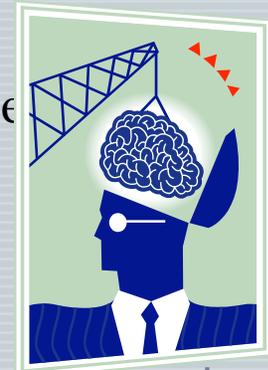
- Syntax predicts lexiles to a greater degree than word frequency. The “teachability” of syntax is uncertain (although it remains a topic that requires investigation).
- Vocabulary can be developed (although the ability of this construct to influence lexiles may be unreliable).
- Facility with different genres can be guided and developed.

Reader Factors: Knowledge Demands



Specific examples:

- Life Experiences/Cultural/Literary/Content & Discipline Knowledge
 - Simple theme vs. complex or sophisticated theme
 - Single theme vs. multiple themes
 - Single perspective vs. multiple perspectives
 - Perspective(s) like one's own vs. perspective(s) unlike or in opposition to one's own
 - Everyday knowledge vs. cultural and literary knowledge
 - Few allusions to other texts vs. many allusions to other texts
 - Low intertextuality (few or no references to other texts) vs. high intertextuality (many references or citations to other texts)



Task Factors



- Purpose for Reading
- Mode of Response—written, oral, graphic
- Cognitive demand
- Degree of Scaffolding
 - Free Recall
 - Open Ended Questions
 - Forced choice questions

Grapes of Wrath (9-10 Complexity Band)



Qualitative Measures

Levels of Meaning

- 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.

Structure

- The text is relatively simple, explicit, and conventional in form. Events are largely related in chronological order.

Language Conventionality and Clarity

- 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.

Knowledge Demands

- 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.

Quantitative Measures

The quantitative assessment of *The Grapes of Wrath* 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.)

Reader-Task Considerations

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.

Recommended Placement

Though considered extremely easy by many quantitative measures, *The Grapes of Wrath* 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.

ELA-CCSS Highlights—Text Issues

29

- CCSS establish “staircase” of increasing complexity to prepare students for college & career-level reading
- Students expected to read diverse array of classic and contemporary literature along with challenging info texts in a range of subject areas
- CCSS mandate certain critical types of content for all students including classic myths, foundational U.S. docs, seminal works of American lit, Shakespeare
- CCSS intentionally do not offer reading list/s, but do offer sample texts to help guide and inform

Implications



- Begin now to bring more informational text into the curriculum and focus on “disciplinary” reading
- Make an effort to “bridge the gap” for students by making up to 20% of classroom reading grade-level texts with necessary levels of scaffolding
- Provide frequent opportunities to work “across” texts

At a Minimum



- Students need to engage with:
 - Age/Grade appropriate materials for exposure to structures, content, vocabulary
 - Instructional level materials that allow them to progress
 - “Easy” materials that allow them to practice
 - ✦ If familiar/interesting can be more “challenging”
 - ✦ If unfamiliar/uninteresting may need to be less “challenging”

When Determining Suitability of Text



“Such assessments are best made by the ***teachers*** employing their professional judgment, experience, and knowledge of their students and the subject.”

ELA-CCSS, Appendix A, pg. 4

When determining whether a text is suitable for use in your class:

“Such assessments are best made by the teachers employing their professional judgment, experience, and knowledge of their students and the subject.”

*Common Core
State Standards for English,
Appendix A, p. 4*

