

WHAT WORKS?

Research into Practice

A research-into-practice series produced by a partnership between the Literacy and Numeracy Secretariat and the Ontario Association of Deans of Education

Research Monograph #44

Can teachers anticipate which texts will be too difficult or too easy for students?

Assessing Text Difficulty for Students

by Dr. Sharon Murphy
York University

Teachers often experience difficulty finding suitable texts for students even when following publishers' guidelines. The result can be frustration for students and teachers alike. Yet publishers draw on only certain elements when assigning difficulty levels to texts and these should be the starting point – not the ending point – for assessing text difficulty.¹

This monograph explores three key kinds of knowledge that may help teachers arrive at more informed and defensible judgments about the likelihood of a text's readability for children:

1. knowledge about the reader's characteristics and the reading task
2. knowledge about the surface features of a text
3. knowledge about the deeper features of texts and the modalities represented in the text.

All of these elements contribute to how difficult or easy a text may be for a reader at any one time.

Considerations in Assessing Text Difficulty

The Reader and the Reading Task

Readers come to a reading task with background knowledge and experiences that impact on their reading. Examples of the influence of background knowledge and experience on reading abound. Some of these are quite logical. The text will be easier for the reader to understand, for example, if it employs vocabulary that the reader is familiar with² or draws on a socio-cultural identity, experiences and knowledge similar to the reader's own.³ The reader's interest in the text and motivation to read it also contribute to textual understanding and are factors that mediate text difficulty.⁴ For example, readers' expectations of themselves as readers can impact on their competence in reading.⁵

Research Tells Us

- A range of factors contributes to how difficult or easy a text will be for a reader at any one time.
- Some of these factors relate to the surface features of the text such as sentence length and vocabulary.
- Other factors relate to deeper features of the text such as ideation and representational modes.
- Still, other factors reside in the relationship between a text and a reader.
- The interplay of these factors determines a text's readability.

SHARON MURPHY is a professor in the Faculty of Education at York University in Toronto. Prior to her appointment at York, Sharon taught special education in the school system in Newfoundland and Labrador. Sharon's current research and writing focuses on assessment and literacy.

The Student Achievement Division is committed to providing teachers with current research on instruction and learning. The opinions and conclusions contained in these monographs are, however, those of the authors and do not necessarily reflect the policies, views, or directions of the Ontario Ministry of Education or the Student Achievement Division.

On the dangers of relying solely on surface features of the text ...

“... consider the Platonic phrase, “What is, is.” It contains very simple words – words commonly found in vocabulary lists of very early reading materials. A three-word sentence is not an overly lengthy sentence. Yet, the meaning of the sentence is anything but simple and is not easily understood by adults, let alone young readers.”

Other examples of characteristics that influence reading engagement are more nuanced and may be surprising. For instance, a reader’s beliefs about whether or not a text is to be interpreted⁶ can affect the reader’s understanding of the text. The reader’s familiarity with the particular structure of a text also impacts how difficult or easy the text is to understand.⁷ These characteristics suggest that providing readers with appropriate texts is not simply a matter of looking at the words but also of thinking carefully about the reader’s background, dispositions and beliefs about reading.

Interwoven with the reader’s characteristics is the particular task confronting the reader. Sometimes readers can set their own purposes for reading – the reader may read for pleasure or for a pragmatic reason; however, in the context of classroom instruction, teachers often set specific purposes for readers in relation to specific texts. A teacher’s instructions tell readers which portions of text are important for a specific reading goal and influence the manner in which a reader reads a text.⁸ For example, if readers are provided with thematic organizers prior to reading, their literal and inferential comprehension increases and the text is found to be less difficult.

Surface Features of Text Complexity

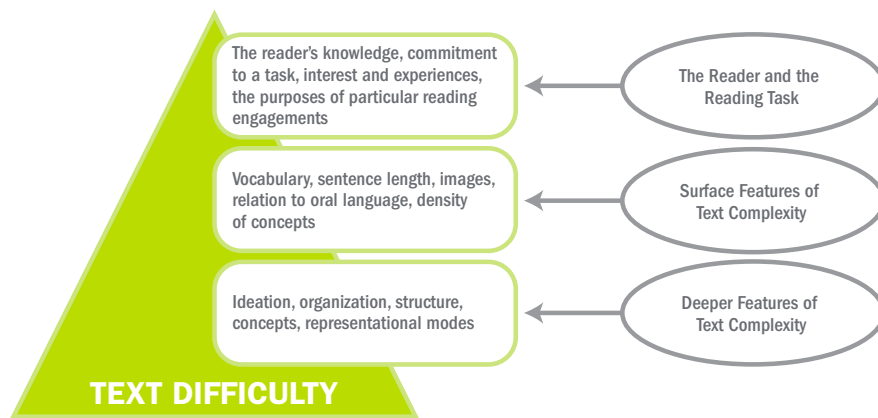
The surface features of a text are an obvious place to look when considering text difficulty. Surface features include elements such as vocabulary, word length, sentence length and accompanying images. Sometimes the publisher’s recommended grade level for a text is based on such features; however, such features are quite limited in predicting the difficulty of a text for a student.

Vocabulary is often gauged by comparing the vocabulary of a text with the vocabulary represented in published, graded word lists. Grammatical complexity, which is typically measured using sentence length, is calculated using the average number of words per sentence in a text.⁹ On the surface, vocabulary and sentence length seem uncomplicated and relatively transparent; however, in application, such simple measures are not very reliable. In fact, different formulas often provide widely varying estimates of the levels of a text. For example, one readability formula assesses *Rosie’s Walk*, the young children’s text by Pat McCutchen, as being written at a college level, because it is composed of a series of phrases forming one lengthy sentence. Similarly, the readability of one of Plato’s dialogues, *Parmenides*, ranges from Grade 6 to Grade 10 when using one formula, but from the fourth to eighth grade when using another.¹⁰

To illustrate more concretely the dangers of relying solely on surface features, consider the Platonic phrase, “What is, is.” It contains very simple words – words commonly found in vocabulary lists of very early reading materials. A three-word sentence is not an overly lengthy sentence. Yet, the meaning of the sentence is anything but simple and is not easily understood by adults, let alone young readers. One might argue that this sentence is an exception; however, reviews of the application of simple readability formulas suggest that they provide a very limited basis for estimating text difficulty both because of what is included in such formulas and because of what is absent from them. Nevertheless, researchers continue to be lured towards searching for simple formulas to describe texts.

Other levelling schemes use different surface features to think about text difficulty. The presence and role of illustrations, the repetitive nature of phrases and sentences, the relationship of text language to oral language and the presence of descriptive passages add a layer of complexity, compared to formulas that look only at vocabulary and sentence length. However, even with these features added for consideration, the levels assigned to texts at lower grade levels are far less reliable than those assigned for higher grade levels.¹¹ In essence, this means that other, less quantifiable text elements must also be considered in thinking about the difficulty of texts.

Figure 1. Considerations in Assessing Text Difficulty



Deeper Features of Text Complexity

The deeper features of texts include ideation, organization, structure, concepts and representational modes. These features overlap and intersect with each other and with the reader's characteristics so that it becomes difficult to disentangle specific influences.

The overall organizational structure of the text is often conceptualized through genre categorization. On the whole, narratives are less difficult for students to understand than non-fiction texts,^{3,12} but narratives come with their own set of challenges. For example, because oral storytelling styles vary from culture to culture, those that map more closely onto written stories likely facilitate text comprehension. Stories with more "traditional" narrative structures present fewer challenges for readers than, for instance, "postmodern" stories in which there may be elements such as multiple narrators whose narratives are threaded throughout the text. Not only do elements such as multiple narrations within a text affect reading but so, too, do organizational devices, such as flashbacks.¹³

Non-fiction texts place specific demands upon readers because of the high impact of background knowledge in relation to the content of the text. Because of the variability in children's experiences at an early age, it should come as no surprise that grade level estimates for non-fiction texts are not as reliable as for fiction, especially at the lower grade levels. But features in addition to conceptual load influence text difficulty for non-fiction texts. Because the organizational structures of non-fiction texts vary considerably, these texts are less predictable and more challenging structurally than narratives.

Further, the visual modalities of text – ranging from the kinds of graphics used, the length of lines and the use of elements such as pull quotes – contribute not only to the reader's perceived enjoyment but also to his or her comprehension of texts.¹⁴

Steps Towards Fostering Defensible Pedagogical Practices

1. Temper all publisher estimates of reading levels with professional judgment that will account for reader and task characteristics as well as surface and deep features of texts.
2. Think about "readerability" and not readability in making defensible recommendations of texts to readers. Understanding the reader's interests, background, knowledge and motivation should be the starting point for any decisions about readers and texts. Readers themselves can and should be participants in the process.
3. Avoid relying on overly simplistic indicators of text difficulty such as vocabulary and grammatical information. These indicators can provide contradictory

On cultivating a love of literature ...

"... teachers might do well by following the Ontario Ministry of Education's 1926 recommendations, which advise teachers to avoid "killing all interest in good reading" by "insist[ing] on teaching the meaning of every expression and ... mak[ing] the lesson an excuse for dragging in out-of-the-way information," and instead, from time to time, allow students to lose themselves "completely in the story ... feel the glow of pleasurable emotion ... and express appreciation in ... reading."

Implications for Practice

information and represent a small portion of what must be considered in assessing text difficulty.

4. Rather than use all-encompassing words like “appropriate” or “too hard” to describe texts, get in the habit of describing texts in terms of their features. For example, commenting that one non-fiction text has a high number of new ideas or words introduced in each sentence while another covering the same topic has fewer new concepts introduced per sentence conveys exactly what the differences between the texts are.
5. Anticipate issues with unusual text structures and plan for them through individual or small-group lessons, focusing on the structures or using targeted questions to help readers navigate texts.
6. Consider how the visuality of the text may impact on student perceptions of the text and, if need be, engage students in creating more inviting texts.
7. Understand that reading is always the reading of ideas. Providing experiences that extend and complement student knowledge can facilitate reading by building a conceptual point of departure for readers.
8. Cultivate a classroom of readers that views reading positively. Readers’ concepts of themselves as readers go a long way towards mediating their perceptions of text difficulty.

Learn More about LNS Resources ...

Online:

www.edu.gov.on.ca/eng/literacynumeracy/publications.html

Call:

416-325-2929
1-800-387-5514

Email:

LNS@ontario.ca

In Sum

A text’s difficulty resides not in a single component but in a number of factors, some of which are inherent in the text and others of which reside in the relationship between a text and a reader. A teacher’s professional judgment can go far towards evaluating the interplay of factors that account for placing a text of reasonable difficulty in the hands of a young reader. However, igniting the desire to read that text may offer other challenges. One way teachers can begin to meet these challenges is by cultivating a love of literature. Here, teachers might do well by following the Ontario Ministry of Education’s 1926 recommendations, which advise teachers to avoid “killing all interest in good reading” by “insist[ing] on teaching the meaning of every expression and ... mak[ing] the lesson an excuse for dragging in out-of-the-way information,” and instead, from time to time, allow students to lose themselves “completely in the story ... feel the glow of pleasurable emotion ... and express appreciation in ... reading.”¹⁵ After all is said and done, the whole point of helping children select texts of reasonable difficulty is to ensure they have access to the worlds offered by reading.

REFERENCES

- 1 Dzaldov, B.S., & Peterson, S. (2005). Book leveling and readers. *The Reading Teacher*, 59, 222–229.
- 2 Johnston, P. (1984). Prior knowledge and reading comprehension test bias. *Reading Research Quarterly*, 19, 219–239.
- 3 Fox, E. (2009). The role of reader characteristics in processing and learning from informational text. *Review of Educational Research*, 79, 197–261.
- 4 Applegate, A.J., & Applegate, M. D. (2010). A study of thoughtful literacy and the motivation to read. *The Reading Teacher*, 64, 226–234.
- 5 Moe, A. (2009). Expectations and recall of texts: The more able-more difficult effect. *Learning and Individual Differences*, 19, 609–614.
- 6 Mason, L., Scirica, F., & Salvi, L. (2006). Effects of beliefs about meaning construction and task instructions on interpretation of narrative text. *Contemporary Educational Psychology*, 31, 411–437.
- 7 Martens, P., Arya, P., Wilson, P., & Jin, L. (2007). Text structures, readings, and retellings: An exploration of two texts. *Literacy Teaching and Learning*, 11(2), 49–64.
- 8 Golden, J. M., & Pappas, C. C. (1990). A sociolinguistic perspective on retelling procedures in research on children’s cognitive processing of written text. *Linguistics and Education*, 2, 21–41.
- 9 Hiebert, E.H., & Pearson, P.D. (2010). An examination of current text difficulty indices with early reading texts (*Reading Research Report No. 10-01*). Santa Cruz: TextProject, Inc., University of California. Retrieved from <http://textproject.org/research/reading-research-reports/an-examination-of-current-text-difficulty-indices-with-early-reading-texts/>
- 10 Oakland, T., & Lane, H.B. (2004). Language, reading, and readability formulas: Implications for developing and adaptation tests. *International Journal of Testing*, 4, 239–252.
- 11 Fountas & Pinnell A to Z Benchmark Assessment System. (undated). *Field study of reliability and validity of the Fountas and Pinnell Benchmark Assessment Systems 1 and 2*. Portsmouth, NH: Heinemann. Retrieved from <http://www.heinemann.com/fountasandpinnell/research/BASFieldStudyFullReport.pdf>
- 12 Kucer, S. B. (2011). Going beyond the author: What retellings tell us about comprehending narrative and expository texts. *Literacy*, 45(2), 62–69.
- 13 Kucer, S. B. (2010). Readers’ tellings: Narrators, settings, flashbacks and comprehension. *Journal of Research in Reading*, 33, 320–331.
- 14 Dos Santos Lonsdale, M., Dyson, M.C., & Reynolds, L. (2006). Reading in examination-like situations: The effect of text layout on performance. *Journal of Research in Reading*, 29, 433–453.
- 15 Minister of Education for Ontario. (1926). Ontario teachers’ manuals: Notes on the Ontario readers books I, II, III, IV. Toronto, ON: Ryerson Press, pp. v–vi.