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How to Avoid Being Tyrannized by Readability Formulas

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BY READABILITY FORMULAS

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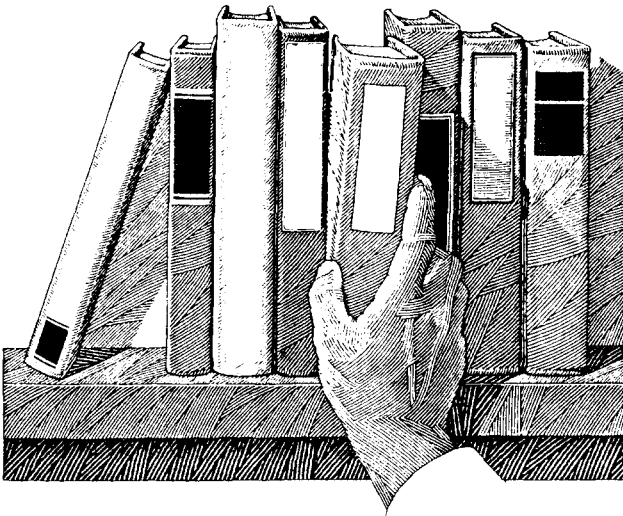
The use of readability formulas is widely recommended by many well intentioned educators, but use can become abuse if the limitations of the formulas are not understood. Supervisors and college instructors have encouraged teachers to check the readability levels of their instructional materials to be sure of a close match between reader and text. Publishers have required their writers to produce textbooks at specified readability levels to supply the current demand for readable texts. Teachers have even tried to simplify their own materials by rewriting them, using shorter words and sentences in an effort to meet the needs of all their students.

When educators who understand the limitations of

readability formulas attempt these ends, the results may indeed foster student gains. However, when educators match, write, and rewrite with blind faith in the power of the formulas to guide them, the results can be disastrous. The IRA and the NCTE consider the current misuse of readability formulas serious enough to warrant a joint statement warning that, if the formulas are to be used at all, they "MUST be used in conjunction with procedures that look at all parts of a text which affect comprehension" (Reading Today, December 1984/January 1985, p. 1).

We offer a real-life case study of how one teacher approached an aspect of this issue--selection of the most appropriate reading text for her students. By using most of the ten suggestions that follow the case study, this teacher did manage to avoid being tyrannized by readability formulas.

Case Study

An experienced and conscientious fifth grade teacher is using Fry's graph (1977) to estimate the readability of her grade-level basal reader. Following the instructions, she selects three 100-word passages and counts the number of syllables and sentences in each one. She finds the selection on page 42 has a 5.5 readability level, but the one on pages 338 and 339 has a level of 7.3. The passage on page 509 also has a readability level of 7.3! She is sure her counts are accurate, so she tests a fourth passage--from page 19--and finds it gets a 4.0 rating. This fifth-grade text seems to start off easy (below grade-level) but to end up well above grade-level. She begins to wonder if the text meets the needs of her students since its average readability (the figure normally used to rate a text) is 6.9, high even for her stronger group.

Working next with two reputable text evaluation checklists (Jevitz and Meints, 1979; and Irwin and Davis, 1980), she gives her reader high ratings for its new treatment of vocabulary and concepts. She also notes the wide range of types of selections included, the reasonably attractive format, and the especially useful ancillary materials that have made the text a valuable teaching tool for her.

Our teacher is a little perplexed at this point. On the one hand, she has been encouraged to match students

with texts of appropriate (average) readability level. But on the other hand, she feels she can and needs to judge the usefulness of the reader in more specific textual terms, rather than just with a scientific count of syllables and sentences. At this point, she is not sure what to do since these two assessments seem to conflict with each other.

Fortunately, this educator is experienced, knowledgeable, and flexible. She decides that she can continue to use the single reader for her multi-level class, in part because it does vary in readability level, but also because she gave it high ratings on key textual factors. The decision is very important to her because she has found that students reading on grade level or just below are more enthusiastic and successful when using the same text as the stronger group in their classroom. It does not seem to bother the lower group that they are working in another part of that text.

When she tries her hand at the new LAB Method (Bradley and Ames, 1984) to estimate her textbook's readability variation, she becomes even more comfortable with her decision. A set of 12 syllable/sentence counts yields an estimate of even wider readability range: third- to ninth-grade. This finding further supports her own professional judgment that the reader does indeed offer sufficient high quality material to satisfy the needs of her students--those who are reading at or slightly below grade level, as well as those who are reading above grade-level.

Recently, there has been increasing interest in analyzing the nature of written text as a communication medium (or code) used by the writer for conveying a message. Language researchers have also pointed out that before a reader can fully comprehend a writer's message, a reasonably good match must exist between the background information and language conventions possessed by the sender of the message (the writer) and the receiver of the message (the reader). Now that thea great complexity of the communication process has been exposed, many educators and writers are learning that readability, too, is a very complex and closely related concept.

Nonetheless, the unrelenting pressure by many public and educational groups for more easily readable textbook materials has increased the use (and often abuse) of read-

ability formulas. Fortunately, this same pressure has also encouraged the continued study of existing readability formulas and the development of new procedures (See Lange, 1982). Becoming familiar with these ideas, findings, and procedures can provide educators with the background information they need in order to make responsible decisions about textbook readability.

We offer ten basic suggestions on how to begin accumulating or to continue building a pool of information on text comprehension and readability. We feel that our case-study teacher was successful in resolving her readability dilemma largely because she was knowledgeable in nearly all of the following areas.

Ten Suggestions for Understanding

The Readability Issue

1. Keep in mind that reading is the receptive side of written language communication. The goal of the reader is to understand the writer's ideas. If communication is difficult or does not take place at all, the problem can be traced to (a) the complexity of the writer's ideas, (b) some inadequacy in the way the message is expressed, and/or (c) a lack of background information, purpose, or processing ability on the part of the reader. Thus, readability depends on far more than just the series of words that carry the writer's message.

2. Recognize that no readability formula can yield more than an estimate of text difficulty. Fry (1977) himself recommends that users of his graph extend any readability estimate to cover a range one year above and below the grade level plotted on the graph. Dreyer (1984) also argues this point convincingly.

3. Recognize that different formulas usually give different readability estimates for a given text. In fact, the variation among estimates can be amazingly high; this point is demonstrated well by Smith and Smith (1984).

4. Realize that the factors measured by readability formulas (usually word length or familiarity, and sentence length) merely reflect the difficulty of a text but do not measure it directly. The formulas do not measure text characteristics such as concept density. degree of abstractness,

word frequency, or organization of ideas. Nor do they assess factors such as page format, type-face, or illustrations. Dreyer (1984) presents a full discussion of these issues. When formulas are used to guide the simplification of a text, the results can produce varying readability estimates (depending on which formula is used) and can actually make a piece of text harder to read (Trapini and Walmsley, 1981).

5. Learn how to use the Fry graph, probably the simplest and best known of the formulas. Knowing exactly what is involved in using a formula removes the mystique from the procedure. Consult Fry's article in the December 1977 issue of the Journal of Reading or a reading methods text (for example Durkin, 1983; or Forgan and Mangrum, 1985).

6. Realize that the readability level can vary widely within a given textbook. You might try the LAB Method (Bradley and Ames, 1984) on one of your own textbooks. They you can decide whether you want to use an average of those readability levels as your guide or whether you might like to make that variability work for you, as our case-study teacher did.

7. Use detailed checklists as your primary method for evaluating the readability of a textbook. We have found the ones by Jevitz and Meintz (1979) and Irwin and Davis (1980) to be useful. In this way, you will be sure to consider the textual factors that the formulas cannot measure.

8. Develop your own informal inventories or cloze tests for placing students in texts. Forgan and Mangrum (1985) suggest using the informal inventory procedure to produce what they call an "informal suitability survey" for making the best possible match between student and text. This general approach is also recommended in the IRA/NCTE position paper on readability formulas.

9. Listen to your students. Learn how much background information they have on the topics they meet in their textbooks and how interested they are in these subjects. It is also very important to be aware of organizational practices that may be lowering student morale. Our case-study teacher wisely decided to deal directly with the fact that her lower group was very unhappy with their status as lower-level readers. When she put them in the same text-

REFERENCES

Bradley, John M., and Wilbur S. Ames. "Using the LAB to Estimate a Book's Readability Variation." Journal of Reading, vol. 28 (October 1984), pp. 28-32.

Dreyer, Lois G. "Readability and Responsibility." Journal of Reading vol. 27 (January 1984), pp. 334-338.

Durkin, Dolores. Teaching Them to Read, 4th ed., Boston, Mass.: Allyn and Bacon, 1983.

Forgan, Harry W., and Charles T. Mangrum. Teaching Content Area Reading Skills, 3rd e., Columbus, Ohio: Merrill, 1985.

Fry, Edward. "Fry's Readability Graph: Clarification, Validity, and Extension to Level 17." Journal of Reading, vol. 21 (Dec. '77), pp. 242-252.

"IRA, NCTE Take Stand on Readability Formulae." Reading Today, December 1984/January 1985, p. 1.

Irwin, Judith W., and Carol A. Davis. "Assessing Readability: The Checklist Approach." Journal of Reading, vol. 24 (November 1980), pp. 124-130.

Jevitz, Lucille, and Donald W. Meints. "Be a Better Book Buyer: Guidelines for Textbook Evaluation." Journal of Reading, vol. 22 (May 1979), pp. 734-738.

Lange, Bob. "Readability Formulas: Second Looks, Second Thoughts." Reading Teacher, vol. 35 (April 1982), pp. 858-861.

Smith, Ron F., and Kay L. Smith. "A Comparison of Readability Formulae as Applied to Newspaper Stories." Journal of Reading, vol. 28 (October 1984), pp. 21-23.

Trapini, Fred, and Sean Walmsley. "Five Readability Estimates: Differential Effects of Simplifying a Document" Journal of Reading, vol. 24 (February 1981), pp. 398-403.