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Assessing Reading Materials for Students Who Are Learning Disabled

RAYNE A. SPERLING

This article presents a checklist that teachers and other education professionals can use when deciding which instructional materials to include in their content area instruction. The checklist addresses several considerations, such as the learners' prior knowledge, vocabulary levels, and motivation. In addition, characteristics of the text source, such as the inclusion of supplemental instructional materials, readability, and the use of objectives, examples, and analogies, are also addressed.

Once learners are faced with the challenge of learning from what they have read versus the challenge of learning to read (e.g., Chall, 1983; Chall & Jacobs, 2003; Manke, 1999; Snow, 2002), much of what they are expected to learn in content-area classrooms is text-based and requires effective independent comprehension. Furthermore, many researchers believe that for content-area instruction to be effective, a variety of materials and sources should be incorporated (e.g., Allington, 2002; Drecktrah & Chiang, 1997; Ivey, 2002). As a result, the instructional materials often used in classrooms include not only traditional difficult-to-read textbooks but also other heavily text-based materials that students must independently integrate and comprehend.

Assessing Materials

With this in mind, a focus of our instructional preparation must be to assess the nature of the instructional materials we select for our learners. To that end, I have designed a brief checklist (see sidebar) to assess the nature of the materials that we might provide to students who are low achieving and who have learning disabilities within the context of content area instruction.

Checklist

The checklist is brief, easily used, and addresses several critical components to determine the appropriateness of potential instructional sources (see sidebar). The checklist can be used to evaluate materials for a single learner or for small or large groups of students in most any instructional context. One challenge we face when designing instruction for students with special needs is that materials must be made accessible for a wide range of learners. The checklist is also helpful prior to making any adaptations or modifications to instruction to accommodate all our learners. I briefly discuss each question on the checklist in the following sections. I also provide many suggestions for strategies to use if concerns or limitations are found in a particular text.

Question 1

First, it is important to consider why we might include a particular instructional material. With the increased accessibility of applicable trade books and Internet sources, it is tempting to include numerous resources for our students on topics that we are addressing in content area instruction. Many of the materials available, however, may not directly relate to our objectives. One guide is to assess whether the material under consideration is transfer-appropriate. That is, does the instructional material match

Evaluating a Text Source for Learners in the Content Areas

- ___ 1. Is the text source appropriate for your objectives?
- ___ 2. Are objectives stated, or are students clearly told what they are to learn from the text?
- ___ 3. Does students' prior knowledge support comprehension of the content?
- ___ 4. Is the readability of the text appropriate for the learners?
- ___ 5. Is the vocabulary level appropriate for the students? Consider both domain-specific vocabulary and domain-general vocabulary.
- ___ 6. Is information that is provided only from this text source something that the learners will need to independently comprehend?
- ___ 7. Are there appropriate text-based activities?
- ___ 8. Are text supplements redundant or independent of the text content?
- ___ 9. Is this text source commensurate with other sources that might be provided to either more- or less-able learners?
- ___ 10. Is this text source interesting or motivating for the learners?

the predetermined objectives we have set for the learners, and is the material also commensurate with how we will assess the learners' understanding (e.g., Kiewra, 1988)?

In the current standards-based instructional environment, these predetermined objectives likely include state- and district-level objectives, Individualized Education Program (IEP) objectives, and objectives that we—as the content area teacher or the special educator—have for a given learner or group of learners. The appropriateness of the materials should be considered as to how they relate to the content and objective, as well as to how that material will be assessed. For example, sometimes as

teachers we are exposed to exciting examples or demonstrations that are only tangentially related to our instructional objectives. Some teachers may hold the belief that these examples or demonstrations will motivate learners. Unfortunately, inclusion of such materials may confuse or distract learners, hinder comprehension, and decrease the learners' attainment of the pertinent objectives (e.g., Harp & Mayer, 1998; Schraw, 1998). Such materials should be reconsidered, and alternative sources that better fit the instructional needs should be used.

Question 2

Students learn more when learning objectives are shared and they are told what it is that they are supposed to learn from a given lesson or assignment (Eggen & Kauchak, 2003). Many sources that are used in classrooms, such as marketed instructional materials and instructional Web sites, include written objectives. If the instructional material does not include objectives, the objectives should be presented to the learners verbally, in writing, or both prior to or during instruction.

If the text source does include objectives, it is critical that we assess these given objectives within the context of the predetermined and existing instructional objectives to assure that these multiple objectives are commensurate. Assigned instructional materials should not be provided without sound instructional objectives.

Question 3

The critical role of learners' prior knowledge in understanding new content cannot be overlooked (e.g., Langford, Rizzo, & Roth, 2003). For learning to occur, new information must be tied to what the learner already knows. Text sources that provide examples that are appropriate given learners' ability and knowledge can serve as excellent conduits for learning content area information. Text sources that are not congruent with learners' existing knowledge or are either too difficult or simplistic are inappropriate for inclusion.

For example, recently when working with a classroom teacher and some source materials for a unit of instruction on volcanoes, I considered a particular Web site for use. The Web site included excellent technical information and color film clips that would be of illustrative benefit. Unfortunately, however, the site also included extensive domain-specific vocabulary and provided examples and analogies unfamiliar to the students in the lower-achieving fifth grade class for which I was considering the site. Therefore, I determined that the lack of connection to learners' prior knowledge rendered the Web site inappropriate for the given instructional context. Instead of having children independently access the site, we incorporated the film clips into our classroom instruction.

Question 4

Although readability formulas have some limitations, they remain a useful tool to quickly assess the difficulty of a text and many are available. Consistent with Crawley and Mountain (1995), I suggest the following three formulas. The first, and one of the most common, is the Fry formula (1977, 2002), which is used to determine the instructional reading level of a text, that is, the level of text that can be used with instructional support.

The second formula, the Rix (Anderson, 1983), is a lesser-known formula. One great advantage of the Rix is that it is easily calculated. A second advantage is that it is also appropriate for use with shorter texts. The Rix is also used for assessing the readability of a text with instructional support.

The SMOG formula (McLaughlin, 1969) is used to determine the independent reading level of a text. Therefore, this formula is often helpful in assessing the role of text source information for content area instruction with

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learners who are assigned outside-of-class reading. Kathleen Schrock's (2004) guide for educators at Discovery.com (<http://school.discovery.com/schrockguide/index.html>) provides links that assist in determining the readability of a given text, based upon the SMOG and the Fry formulas. Another Web site (<http://csep.psyc.memphis.edu/cohmetrix/readabilityresearch.htm>) provides information about the readability formulas commonly found in word processing programs, such as the Flesch measures. In addition, Web sites, such as <http://www.juicystudio.com/FOG/>, can help us determine the readability of HTML documents.

Readability can be an important check for determining the appropriateness of a particular text source. For example, as is often the case, instructional texts are difficult for learners to comprehend. Recently a seventh-grade struggling learner with whom I was working shared her science class text with me. In this case the text was a primary information source for the learners. When assessing the appropriateness of the heavily marketed, popular class textbook, it was noted that by two formulas' estimates, the seventh-grade text was written at the ninth-grade level. No wonder the learner who reads at a fourth-grade level was struggling with the text! Classroom teachers who are using even grade-appropriate or grade-level texts should consider the difficulty of the text sources for all learners

but especially for lower-achieving and learning disabled readers.

In this case, the possibility of alternative text sources or adaptation of the text might be considered. Supplemental vocabulary instruction is an additional means to support text comprehension, as general and domain-specific vocabulary are often primary reasons for the difficulty of a text.

Question 5

As noted, part of what makes a text difficult to comprehend is the vocabulary. Many low-achieving and special needs learners lack assumed general vocabulary. When we are including multiple and varied instructional materials, it is also important to ascertain that the domain-specific vocabulary used is consistent across sources.

If the domain-specific vocabulary in a given source is too difficult, additional direct supplemental vocabulary instruction should be included (e.g., Graves & Slater, 1996). In addition to direct vocabulary instruction, an instructional strategy appropriate for both domain-general and domain-specific vocabulary is to construct an analogy sheet that provides known synonyms for unknown or challenging words. An additional controversial and more time-consuming option is to provide an adaptation of the text source with learner-appropriate vocabulary.

Question 6

One of the most crucial considerations we must make when selecting instructional materials for students with disabilities in content areas is to determine the extent to which these materials will be supported by additional instruction. If additional instructional support, such as classroom instruction, supplemental instruction, or peer-assisted learning, is not provided for comprehension, multiple text sources should be avoided. It is better to select fewer and more easily integrated sources than to include multiple references and materials.

When multiple sources are used, our learners are required to engage in the very challenging task of integrating information found across various instructional materials. This is in addition to the expectation that our students integrate new text source information with their existing prior knowledge. When determining how many text sources to include, it is more important to consider quality than quantity.

Question 7

Both traditional and technology-enhanced text sources often provide additional learner activities, such as multiple-choice questions, instructional games designed to assess vocabulary or comprehension, or extension or applica-

tion activities (e.g., additional experiments for a science source, role playing parts for a literature source, or letter writing to political representatives for a social science source). We should limit the assignment of these activities only to those that are transfer-appropriate and directly related to predetermined objectives and assessment procedures. These text-based activities can draw our learners' attention away from pertinent information and may be detrimental for new learning.

Question 8

Unfortunately, sometimes enhancements, such as pictures, included within text information can be a detriment to the comprehension of the text itself. Levin and others (1989) noted this problem with pictures. Rieber (1996) and Sperling and colleagues (2003) also reported this phenomenon with animation in technology-enhanced instructional materials. Additional pictures, graphs, animation, and colors, for example, can draw students' attention away from important information that needs to be learned, thereby impairing students' ability to comprehend and generalize the content.

One strategy we can use to address this is to assess the degree of overlap between any additional enhancements and the text itself. From observing and assessing lower achieving readers' behaviors, it appears that when given a text and a supplement, a graph for example, these learners attend to either one or the other but are unlikely to integrate these two types of text source information. As is evident, this is particularly problematic if the learner attends to an enhancement that serves a decoration function (Levin, 1989) and does not relate or help the learner understand the important information found within the corresponding text.

Question 9

When selecting materials for individual learners or groups of learners, it is important to select materials that increase the likelihood for student success. Sometimes we water down and make adaptations of instructional texts to the point that we decrease the ability of the text to convey information or to engage learners. As one example, consider an intermediate grade-level text that addresses the topic of Native American homes. The text states that northwest coast Native Americans lived in homes made of wooden planks, southwest Native Americans lived in homes of dirt and brush, and Native Americans on the plains lived in homes made of hides. The text, however, does not give enough prior context for students to understand that information and requires the reader to resort to memorization of these facts. If the text, instead, reminded the reader that there are many trees in the northwest but more desert conditions in the southwest and that the plains have few trees but many an-

imals, the reader is better able to comprehend the provided text. In short, in our efforts to make learning easier for our students we sometimes reduce the instructional materials to isolated facts that are instead very difficult for learners to comprehend.

Therefore, when considering adapted text or when selecting instructional text sources that may be intended for uses that are not consistent across all learners, it is important to consider not only the difficulty level of the materials but also the “meat” that is within the materials. By providing bare bones text, we hinder both student motivation and comprehension.

Question 10

Interest and motivation are both factors in learners’ engagement with instructional materials (e.g., Ainley, Hidi, & Berndoff, 2002). Components of text that are generally motivating for learners include visual features such as color, pictures and other enhancements, examples, and relations with learners’ prior knowledge. The downfalls of considering text with enhancements that may distract the learner has already been addressed, as has the relation of the text content to learners’ prior knowledge. As practitioners working with children, we are best advised to select sources that include supplements that are directly related to text content and that have a considerable amount of overlap with information presented in the text. Further, we should select materials that are written with the learners’ prior knowledge in mind. Texts with these important

characteristics are most likely to elicit student motivation, interest, and engagement.

This checklist of questions to consider when selecting instructional materials is both brief and easily used. The questions found in the checklist are grounded in theory of and research on learners’ processing and effective instructional techniques. This checklist caters to those educators working with low-achieving and special education learners and is appropriate for various types of text sources. The checklist can also be used to determine whether an instructional material may be appropriate enough for use that teachers might consider investing time and resources in modifying the material if necessary for instruction with a broader range of learners. Keeping in mind that teachers often incorporate numerous sources, such as tradebooks and Internet resources, into their instruction, this checklist can serve as a tool to assist in determining the appropriateness of most any text-based instructional resource.

ABOUT THE AUTHOR

Rayne A. Sperling, PhD, is a faculty member in the Department of Educational and School Psychology and Special Education at The Pennsylvania State University. She studies the effects of reading strategies, instructional material design, and motivation on learners’ comprehension. She is particularly interested in at-risk learners’ early reading skills and motivation and older struggling readers’ comprehension in the content areas.

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AUTHOR'S NOTES

1. The author thanks Cynthia Bochna for reading a draft of this manuscript prior to publication.
2. The Native American text example is similar to one used within learning strategies classes designed and supervised by Ken Kiewra of the University of Nebraska-Lincoln.

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SELECTED RELATED RESEARCH

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