

## GUIDELINES FOR WRITING GLOSS NOTATIONS WITH A FOCUS ON COMPREHENSION SKILLS AND STRATEGIES

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Otto (1980) described a technique for improving the understanding of expository text, which he termed "gloss". Gloss employs marginal notations to direct readers' attention to places in text where the application of specific behaviors would be appropriate. The development of gloss has been motivated by a confidence that comprehension skills can be taught and a concern that students need help making the transition from *learning* skills to *applying* them when they read content-area materials.

Gloss notations are written on pages separate from the text and keyed to the text by numbered brackets. These brackets appear on the left edge of the gloss page and—when the gloss page is placed to the right of the text page—they set off sections of text to which the gloss notations refer (see Figure 1).

Figure 2 depicts gloss as the product of a dual-focused process that operates within certain constraints and considerations and provides possible instructional excursions. The figure is explained in detail elsewhere (Otto, White, Camperell, 1980). Very briefly we are suggesting that (a) the behaviors to be directed by gloss notations may include strategies as well as skills; (b) the gloss may focus on the *content* of the text as well as comprehension *processes*; (c) students may need preparatory or additional instruction (excursions) in comprehension skills and strategies or in content-area subject matter; and (d) the form gloss takes depends upon such constraints and considerations as expected results, elements of the instructional milieu and characteristics of both the reader and the text.

This paper identifies skills and strategies which we have selected as the foci for the process gloss notations we have prepared, and describes guidelines for others who would prepare such notations.

### Skills

Reading with understanding involves an interaction between reader and text. In order for the interaction to be productive,

the reader must bring certain capabilities to the reading task. In *learning-to-read* situations students usually receive some type of skill instruction, and in many instances they are required to demonstrate competency with reading-learning skills on criterion-referenced tests and/or norm-referenced tests. In *learning-from-text* situations, however, merely "having" a skill in one's repertoire is not sufficient; the successful reader must be able to make appropriate application of the skills in a variety of contexts. We have found that skills usually are not applied spontaneously. "Application" must be demonstrated and nurtured in content-area classrooms as students use reading skills to learn from text.

Reading skills should be practiced and applied, in whatever combination is appropriate for a given task, with the expectation that they will help the reader deal with the main task of getting meaning from the text. In developing specifications for glossing content-area texts, then, one basic step has been to identify a list of skills that we feel are important to reading content-area texts. We selected a list of skills that seem to be both teachable and useful for learning from text. The skills can be clustered as follows:

1. Skills for getting the meaning from words
  - a. determining word meaning from word parts
  - b. determining word meaning from context clues
2. Skills for getting the meaning from sentences
  - a. paraphrasing (synthesizing)
  - b. attending to details (analyzing)
3. Skills for getting the meaning from selections
  - a. determining the central thought of a passage
  - b. identifying relationships and conclusions
4. Skills for identifying sequence.

### Strategies

Specific skills, we believe, are a legitimate focus of instruction to enhance students' understanding of content-area materials. But we acknowledge the need for a broader focus. Consideration of emerging research and theory (Otto and White, in press), interviews of students (Camperell, 1980; White & Camperell, 1980), and surveys of teachers (Morrison, 1980) provide us with a basis for giving attention to more general strategies as well as specific skills.

Of the general strategies we have identified, we have selected four that are frequently described by successful readers and that appear to have high utility in reading most content-area texts. These strategies are: establishing a *purpose* for reading, relating what is being read to *prior knowledge*, attending to text *organization* and/or imposing organization on both new information and prior knowledge, and *monitoring* one's own comprehension. A brief rationale for choosing each of these strategies follows.

**Establishing Purpose.** About three-fourths of the respondents to Morrison's (1980) survey of post-elementary teachers thought that the following "skills"—which together amount to a purpose-setting strategy—were important to reading their subject matter:

1. The student sets a purpose for reading.
2. The student formulates questions relevant to his/her purpose for reading.
3. The student adjusts reading speed to his/her purpose for reading.

In addition, about half of the respondents thought that they would need to help students learn how to apply these "skills." Interviews with students indicate that students, as well as teachers, recognize a need to read for a specific purpose (White & Camperell, 1980).

From a more theoretical-empirical stance, Rothkopf (in press) claims that establishing purposes for reading (or "learning goals," as he calls them) controls the mathemagenic process of selection (i.e., differentiation of processing of a text which results in differences in what is learned from that text). Appropriate control of the selective mechanisms is, according to Rothkopf, necessary for learning.

Establishing a purpose may either be initiated by the teacher or be self-imposed by the student. According to Robinson

(1978), the only strategy that is as effective in improving study-reading as having the teacher establish purposes for reading is having students identify their own purposes. Robinson goes on to suggest that once a purpose is set, a reader can initiate other strategies for comprehending that are consistent with the purpose. This is in line with the aspects of the productive purpose-setting strategy identified by Morrison: (a) once a purpose has been set by the students or the teacher, (b) the students are in a position to develop questions relevant to their purpose, and (c) then the students can determine and adjust their reading speed in view of the purpose.

Establishing a purpose is an important strategy that must be developed systematically. A well-defined purpose goes beyond simply "gaining understanding" to identifying specific goals and reasons for reading. One way to help students develop their purpose-setting strategy is to provide gloss activities which deal specifically with the three related aspects identified in the Morrison study.

**Prior Knowledge.** Recent studies related to schema theory provide a rationale for developing a strategy for *relating prior knowledge to what is being read*. Taken together, the studies make a basic point: what is known affects one's understanding of new material. Results of interview studies conducted by Camperell (1980) and White and Camperell (1980) suggest that students seek to use their prior knowledge to gain understanding in at least three ways: (1) by *relating* the new information in a passage to ideas they have read in preceding passages, (2) by *contrasting* the information they are reading to their prior knowledge and experience, and (c) by *comparing* the information they are reading to their prior knowledge and experience (Camperell, 1980, p. 107).

Smirnov (1973) also suggests that "using" prior knowledge is an important strategy: He talks directly about relating the content of the text to existing knowledge: "... the greater the knowledge with which the new is correlated, the more it is connected with it, and the more recognized are their connections, the deeper is comprehension" (p. 143). The subjects of his interviews said they engage in the following actions when they try to understand text:

1. composing a plan
2. correlating the text with existing knowledge
3. correlating the content of various parts of the text
4. utilizing images
5. translating the content of the text into "one's own language" (p. 148).

Based on Camperell's and White's interviews and Smirnov's work, then, we feel it is important to consider two processes—correlating text content with existing knowledge and correlating content of various parts of the text—in preparing gloss to help students develop the strategy of using prior knowledge. In other words, gloss notations that are intended to develop the strategy of actually using prior knowledge, should help students learn how to relate what they are reading to (a) what they already know or to familiar experiences and (b) information they have just read in a previous paragraph or passage of the same text.

**Organization.** At least 75% of the respondents to Morrison's (1980) survey indicated that students need to develop the "skill" of attending to the organization of material in order to learn content-area subject matter. In addition to *attending*, however, students must actively organize new information as they read; that is, they must organize what they are reading in relation to what they already know. Students must develop strategies for making use of the organization provided in texts.

Herber (1978) suggests that students need to be aware of both the internal organizational patterns of textbooks—such as cause/effect, comparison/contrast, time order, and simple listing patterns (p. 78)—and the external organization of a text, which involves format (e.g., formulas and problems characteristic of math texts or the typographical style characteristic of poetry

or drama texts) and physical features (e.g., graphic aids, tables of contents, and chapter headings). Kintsch (in press) identified six types of expository text organization: identification, definition, classification, illustration, comparison and contrast, and analysis (structural analysis, functional analysis, causal analysis).

If a text does not provide a consistent easy-to-follow organization, students may have to impose organization on the information in order to comprehend. Schallert (in press) speaks of "the human propensity to impose organization upon input." And Smirnov (1973) found in his interviews that one process used by his subjects is the composition of a plan which involves breaking up the material into parts, grouping thoughts, and isolating meaningful points.

To develop an overall strategy of attending to organization, gloss notations could help students recognize and make use of (a) different text formats and external features of text, such as headings and subheadings, that are used in organizing information, and (b) types of text organizations or "text types." After reviewing Herber's organizational patterns and Kintsch's text types, and after studying a variety of expository texts, we identified six types of organizational schemes that we believe may be important in helping students comprehend content-area material: cause-effect, comparison/contrast, sequential order, simple listing, definition, and classification. Gloss notations that are intended to help students develop the strategy of attending to organizational cues and imposing organization on information could make use of such schemes.

**Comprehension Monitoring.** All of the strategies we have discussed so far—establishing a purpose, relating prior knowledge, and both *attending to* and *imposing* organization—are synthesized when the strategy of comprehension monitoring is applied. Comprehension monitoring is a "metacognitive" activity, which, according to Baker and Brown (in press), "entails keeping track of the success with which one's comprehension is proceeding, ensuring that the process continues smoothly, and taking remedial action if necessary." *Active* comprehension monitoring must, however, involve "acting upon" such metacognitive experiences in order to improve comprehension. "Acting upon," according to Yussen, *et al.* (in press) and Winograd and Johnston (1980), amounts to selecting reading strategies that will be most effective in fulfilling the needs of the particular reading situation. "A good comprehension monitor will select whatever strategy is most appropriate to the situation at hand" (Baker and Brown, in press). To monitor comprehension successfully, then, students must not only recognize when they are having problems with understanding, but also (a) be familiar with a variety of strategies, such as the ones discussed above, that can be applied to overcome comprehension problems; (b) be able to select strategies that are appropriate to a particular situation; and (c) know how to apply the strategies to overcome the specific problem.

It follows from these requirements that the comprehension monitoring strategy stands in a special relation to each of the three other strategies we have described. Gloss notations written to develop the ability to monitor comprehension would focus on the interdependence among comprehension monitoring per se and the other strategies we have identified. The monitoring strategy is related to setting a purpose in that—as Winograd and Johnston (1980) have pointed out—assessment or control of the subject's purpose for reading is a prerequisite to making generalizations about a reader's ability to detect errors. In order to have criteria for judging their success in comprehending, students must set a purpose for reading. On the basis of (a) the established purpose and (b) their ability to answer the questions they have formulated in line with the purpose (see the discussion of establishing a purpose for reading), students should be in a position to evaluate the adequacy of their comprehension. Gloss notations would, first, help students develop the ability to establish purposes and goals as outlined earlier. Next, gloss

notations would help students (1) become *aware of the need to* evaluate their comprehension in terms of the purpose they set, and (2) learn techniques for evaluating their comprehension in line with the purpose.

Prior experience in performing a particular task and prior knowledge about specific content are also important to successful comprehension monitoring. The purpose of related gloss notations would be to bring about an awareness of the importance of prior experience in evaluating comprehension.

Organization of knowledge, according to Markman, improves comprehension monitoring. Relevant gloss notations could be designed to develop the strategies of attending to the organization of text and of imposing organization on the information presented in text. As Markman (1981) suggests, students should be given "ample opportunity" to work with clearly organized material.

### Guidelines for Glossing

Preparing gloss is a process of making selections. If gloss is to enhance readers' understanding of a given text, then choices must be made as the gloss notations are prepared. The choices include such matters as deciding what aspects of the text's subject matter are most important, what components of the complex process of comprehending the subject matter require emphasis, and what purposes are to be served by this particular reading. We have tentatively identified five guidelines for making the basic choices. The guidelines are consistent with the constraints and considerations (expectations, the reader, the text, and the milieu) depicted in Figure 2, and they pertain to preparation of gloss for any text. (NOTE: For convenience we refer to "the person who prepares gloss" as "the glosser.")

1. *Decide what specific skills and strategies are important.* This broad guideline calls for the most critical choice to be made in preparing gloss. (Of course a crucial *prior* decision—to be made by the teacher or, if someone else prepares the gloss, the glosser or, preferably, the glosser in collaboration with the teacher—has to do with the expected outcomes related to the particular reading assignment. Without such a decision, there can be no next steps. All of these guidelines, then, pertain to the preparation of gloss notations once a decision regarding expected outcomes has been made.) We presented a tentative list of skills and strategies earlier in this paper. We think that they are important and that they are ones used by mature readers. The point here is that anyone who expects to write process-related gloss notations must have a specific list of skills and/or strategies in mind, whether it be ours or somebody else's.

2. *Consider the reader's status with regard to the skills and strategies identified in Guideline 1.* The glosser must be guided by the reader's process-related knowledge. In a given text-reader interaction, the reader presumably will have been introduced to the critical skills or strategies, either through classroom instruction or a process-related excursion. His/her degree of mastery of those skills or strategies will determine the focus and nature of the gloss-directed instruction, e.g., the level of explanation and amount of practice to be provided through gloss notations.

3. *Consider the prior knowledge of content required.* The glosser must be guided by the reader's content-related knowledge. The reader's previous exposure to and mastery of information relevant to the subject area of the text-in-hand must guide choices about the focus and nature of gloss in the same way that facts about his/her process knowledge do. Differing levels of expertise about subject matter—obtained from personal experience, previous classroom instruction, or a content-related excursion—help determine the appropriate level of gloss-directed instruction.

4. *Identify the skills and strategies demands of the text.* Both formal (e.g., the text analyses of Kintsch, 1974, 1979, in press, and Meyer, 1975) and informal (e.g., mapping and outlining

techniques) analyses of the text can yield information that is relevant to the preparation of gloss. This information must be used together with information related to Guidelines 1, 2, and 3. The glosser may be guided, for example, by a variety of text-related questions about organization, such as whether the text is well or poorly organized; whether the reader is skilled in recognizing good or poor organization and knows how to benefit from good, or, overcome poor, organization; and whether the teacher's objectives for the student include his/her mastery of strategies for dealing with text organization.

5. *Be sensitive to the physical and personal realities of the reader and of the classroom.* The glosser must be guided by practical knowledge of what will work in a given milieu. Among the factors that are relevant to this consideration are the amount of time available to read gloss notations and

perform accompanying activities; the nature of grouping arrangements, which acknowledges, in practice, that gloss notations are often written—and the choices prescribed above are made—with “readers” rather than “the reader” in mind; the student’s willingness to work with glossed materials; and the technology that is available for producing glossed materials.

Glossing is not a new procedure—as Otto (1980) has pointed out, it dates at least to medieval times, when theologians glossed scripture. We have described guidelines for using this old procedure in new ways: to improve readers’ understanding of expository texts by developing and encouraging application of comprehension skills and strategies. We have selected skills and strategies that we believe are important to understanding the text and which seem to be the ones applied by the mature reader.

1. | | 2. | | 3. | | | | 4. | | | |

1 2 3 4

10

GLOSS

TEXT

Figure 1. Text page and accompanying gloss page.

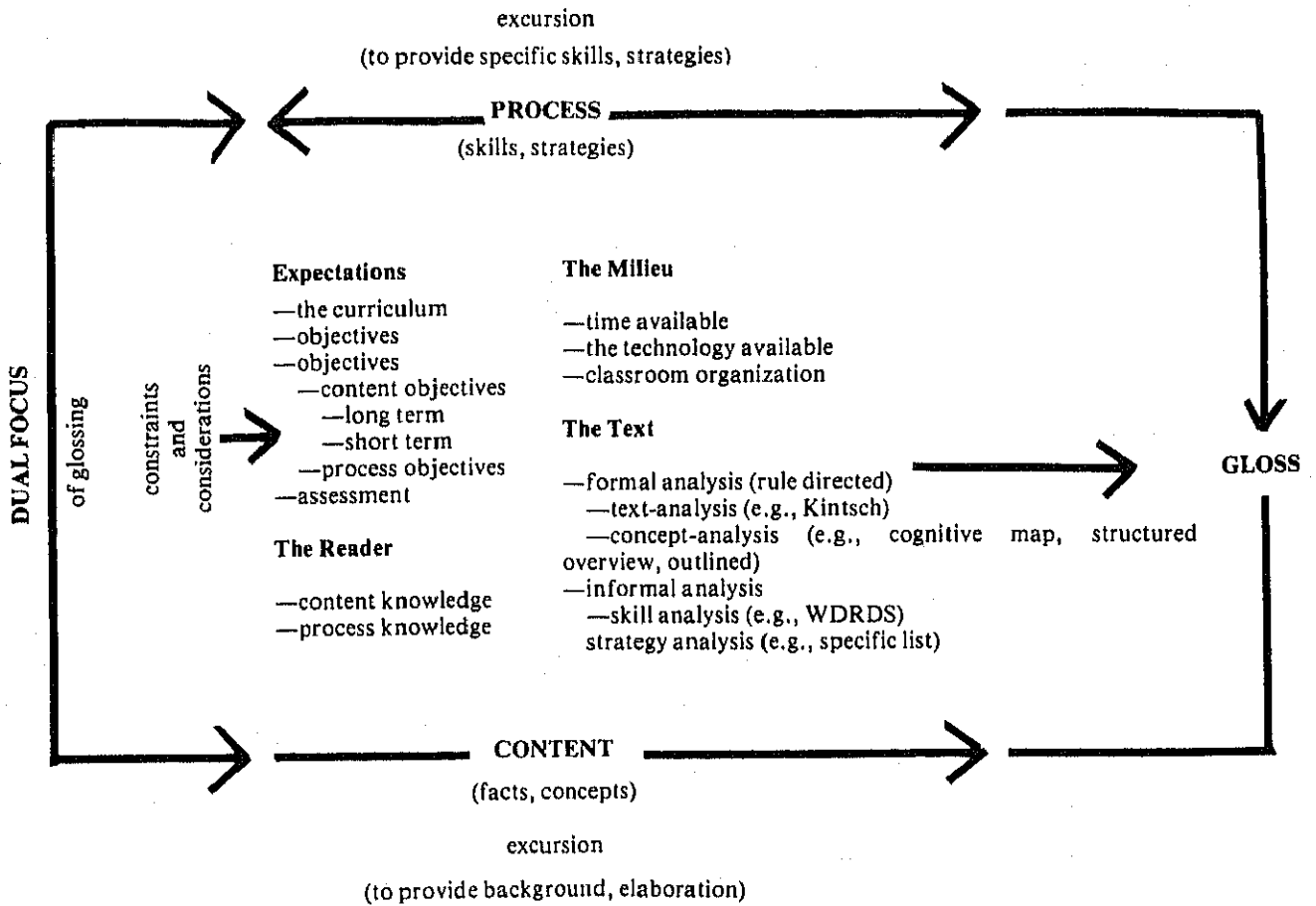


Figure 2. Foci, constraints and considerations for glossing.

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