

# The Role of Strategies In Reading and Writing

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Together with several co-workers I have been trying to model the psychological processes that are involved in reading comprehension (Kintsch & van Dijk, 1978; Miller and Kintsch, 1980). The focus of this work has been on processes of comprehension rather than production — on reading rather than writing, and on listening rather than speaking. However, from the very beginning we have tried not to limit ourselves to processes of comprehension, in part because experimental evaluation of a comprehension model is impossible without some complementary production component, and in part because consideration of text production often illuminates parallel problems in comprehension. This is not to say, of course, that production is nothing but the reverse of comprehension. Such a view might be suggested if our concern were only with analysis of linguistic structures, for such structures are often considered to be neutral with respect to comprehension or production. Since our concern is not with linguistic structures but with the processes involved in producing or comprehending them, we observe that production is much more than a simple reversal of comprehension.

Although the problems faced by readers and writers are different, they are not unrelated; and although it is certainly not the case that a good theory of text comprehension will also serve as a model of text production, a theory of comprehension can provide useful constraints for a theory of production, and vice versa. The two processes will have to share the same framework. If a theory of comprehension describes processes in terms of such levels as the (1) analysis of surface structure, (2) construction of a semantic representation, (3) integration of knowledge, and (4) formation of the macro-structure — the gist of a text — then a production model will have to deal with the same levels of processing. The same propositional format will have to be used for a production theory as for a comprehension theory, and the same sources of knowledge will have to be accessible, retrievable, and useful in both.

It is not only obvious that comprehension and production must be compatible at some levels, but it is also clear that another more subtle connection exists: Successful production requires that comprehension be monitored, just as comprehension itself requires an understanding of production. As many researchers have observed, comprehension is not entirely determined by texts, but is in part the constructive product of active readers. Readers form expectations about what they are going to read and these expectations, in turn, determine how texts will be understood. Readers not

only passively absorb ideas but they also actively produce their own ideas as they interpret and organize text.

In the most recent version of our model (van Dijk & Kintsch, forthcoming) this interplay between the processes of comprehension and production is reflected in the parallels between their strategies. The model assumes both processes to be strategic. In our view, a text contains well-structured, highly-redundant, and hierarchically organized sets of cues on the basis of which readers can reconstruct messages intended by writers. Effective readers learn to use efficient strategies to infer meaning from the cues writers provide, cues such as the words which signal concepts readers know, the syntactic structure, topicalization, and organization of paragraphs which make clear to readers how texts are to be interpreted. Experienced readers know how to make interpretations because they have learned strategies of interpretation based on the cues present in a text. At the sentence level, such strategies are well known and have been studied widely in experimental research (Clark & Clark, 1977); strategies at the text level are described in detail in a forthcoming book by van Dijk & Kintsch in which some initial experimental investigations in the use of these strategies are also reported.

Writers also work with strategies which are different from but complementary to those of readers. The purpose of writing is to provide readers with sufficiently clear cues to enable readers to reconstruct the messages writers intend. Suppose, for instance, that a writer wants to de-emphasize the agent of a sentence and to promote a non-agent to function as a clausal topic. A strategy for doing this in English is to use a truncated passive. Thus, instead of writing *The scholar reviewed the book*, which puts undue emphasis on *the scholar*, the writer uses *The book was reviewed by the scholar*. The reader, in turn, applies a complementary strategy and takes the passive form to mean that the writer wants *the book* to be topical in this sentence.

Accurate descriptions of writing strategies must take into account the multi-level character of the production process. Although finished writing appears to be simply a linear string of words, grouped into phrases and sentences, that is only what meets the eye. According to our model, the actual task of writers is much more complex: Writers must implicitly generate not only a coherent semantic representation, but also a complete hierarchical macro-structure along with their words. Indeed, it is their underlying meanings that writers try to communicate — their words are merely

the means to that end. To describe writing strategies we must describe strategies at all of these levels: strategies for arranging words and sentences appropriately, strategies for generating ideas to be communicated in the first place, and strategies for organizing ideas.

First we must consider planning strategies, which take into account writers' situations and motivations for writing, and result in writing goals. These resultant writing goals then control the next stages in the process of writing: The generation of ideas and their organization at both the micro- and macro-levels. The process of generating ideas is in part one of retrieving knowledge from memory and in part one of generating inferences. At present in our laboratory we are simulating the process of generating ideas in so far as it involves retrieving knowledge from memory by means of a model derived from laboratory research on memory for non-textual materials. The processes of drawing inferences in the generation of ideas are quite complex and are not as yet fully understood. In part, these inferences simply supply inferable information on the basis of information from memory which has already been retrieved. For example, if several people are talking about a flight to New York, each one can add a lot of detail as well as complete action sequences and can invent appropriate particulars simply on the basis of experience in similar situations and knowledge

about air travel. This type of elaboration is easily accounted for, but inferential processes in generating ideas go far beyond elaboration in ways not yet analyzed. Ideas which have been generated and organized according to some scheme, are finally expressed verbally according to the actual strategies of text production. Note that these processes are not sequential: We do not form a plan and then a gist, then get the right ideas and write down the words — all of these processes occur in parallel. Numerous occasions for interactions occur: A felicitous phrase will lead to a new idea, and a new idea will cause a reorganization in the over-all plan. A complex process, indeed, quite unpredictable in its details, but not beyond our understanding in principle.

An important aspect of the strategies of comprehension and production is that they are learned, and hence they can be taught. Once we know explicitly what cues readers respond to and writers strive to provide, then we can figure out appropriate teaching methods. (Implicitly, of course, we have always known cues, in so far as we are experienced readers and writers.) More often than not we shall find, of course, that wise practitioners have advocated and used those methods since antiquity. But even if we can do no more than that, knowing why these methods work or why they do not work can only help us to employ them more effectively.