TEACHING READING COMPREHENSION PROCESSES

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PREFACE

This is a book about teaching people how to understand what they read. The activities suggested are all based on the assumption that the students can already read the individual words. the purpose of these activities is to help people who can already read words to better understand sentences, paragraphs, articles, chapters, books, and so on.

Thus, this book is intended for all teachers. Elementary school teachers who overtly teach reading skills can use the material in this book to teach reading better. Secondary school and content-area teachers can use the suggestions in this book to help their students better understand the reading materials used in their courses.

This book is also intended for use as a college text for reading methods courses at both the undergraduate and graduate levels. For undergraduates preparing to be teachers, it will provide many useful ideas for their future teaching careers. For graduate students, reading researchers, and my colleagues who are training such, this book is intended to provide a review and synthesis of the current state of the art in comprehension research as well as a new application of theory to practice.

The title of this book, *Teaching Reading Comprehension Processes,* reflects the fact that the pedagogy suggested herein is based on recent dis-

course processing research in such fields as reading, cognitive psychology, information processing, and psycholinguistics. The premise is that now that we can describe some of the processes involved in comprehension, we can devise even more effective ways for helping students to use those processes. Thus, as the title suggests, this book is about teaching comprehension as a unified set of processes.

A second special feature of the pedagogy in this text is that it attempts to integrate discourse processing research with general principles of good teaching. Basic themes include the importance of providing each student with activities at his or her level of competence, using ongoing assessment for instructional choices, using direct instruction and modeling, teaching skills in a variety of meaningful contexts, integrating holistic and subskill approaches, and encouraging students to take an active role in their own learning.

Finally, the theory explained in this book represents an attempt to define comprehension in relation to all of the contexts that affect it. This is not an easy task! Comprehension involves a complex interplay of reader, text, and situational contexts that can be only partially specified.

Part One of this text presents a general model of the comprehension process that has emerged from recent research. This model is not the only one possible, nor is it final and complete; instead, I have tried to present a model that synthesizes current research in a way that is usable in the classroom. Thus, for each process described, specific teaching activities are suggested for both developmental and remedial situations. These suggestions are largely drawn from the plethora of recent articles presenting new and exciting ways to teach comprehension.

Part Two deals with the reader, text, and situational contexts each teacher must consider every time he or she teaches comprehension. A description of the importance of each context is followed by the implications for teaching. For instance, Chapter Seven presents ways for teachers to build background and increase motivation. Chapter Eight shows teachers how to examine reading materials critically, and Chapter Nine includes a demonstration of how to choose reading purposes and methods.

Part Three contains discussions of the general methodologies that can be used to teach reading comprehension. In Chapter Ten, a new taxonomy for questions is presented along with the distinction between product and process questions. Chapter Eleven describes an informal, multicontext approach to assessment, and Chapter Twelve presents an overall structure for organizing lessons.

In writing this book, I have attempted to describe, synthesize, and apply everything I know about reading comprehension. I have tried to make new research theories and terminology understandable and usable without losing the complexity of the analysis. Above all, I have tried to write a book

that will liberate teachers from being managers of meaningless activities as well as liberate students from being passive recipients of meaningless drill. There is much in current research that can help with this, and I have attempted to communicate it here.

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The author wishes to thank her students for their numerous helpful suggestions, Sarah Shaftman and Susane Karlin for their editorial assistance, Patrick Bidelman for his sample text material, and Kenneth Smith for his story, "The Magic Prince." She also wishes to thank her reviewers at Prentice-Hall, Inc., those who have kindly granted reprint permission for previously published material, and all the friends and colleagues who have contributed indirectly but substantially with their patient advice and support.

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CONTENTS

ONE
COMPREHENSION PROCESSES: *An Overview*

All good skill instruction is based on an understanding of the skill being taught. Thus, a book on teaching reading comprehension must include a description of the reading comprehension process itself. Indeed, one of the big problems in designing methods for teaching comprehension has been that comprehension is such a complex process that it has been difficult to understand fully.

In this chapter you will find an introduction to the new description of reading comprehension on which this book is based. First, the five types of processes that seem to occur during comprehension are briefly described. Following this is a discussion of the factors that influence what a reader understands when he or she reads. Finally, a definition of comprehension is presented.

Take some time to familiarize yourself with the new vocabulary introduced in this chapter, but don't be concerned if the new concepts are still a little unclear. This is just an introduction! All of these new terms will be discussed in more depth later in this book. In fact, you may wish to read this chapter again after you have finished reading all of Parts One and Two.

TRADITIONAL SUBSKILL MODELS AND METHODS

If we were to begin with an examination of how comprehension has traditionally been taught, we would see that it is usually taught in the form of isolable subskills. Students are given worksheets or are asked questions that require them to do things such as making comparisons, finding main ideas, recalling sequences, and so forth. Recently, however, this subskill model of comprehension has received considerable criticism. Though, certainly, some of the activities have been worthwhile, there are some problems with this approach worthy of note.

First, there is no available research to support any one list of skills or, indeed, to substantiate the theory that there are separable skills in the first place (see Rosenshine, 1980). As a result, lists of subskills vary considerably in terms of what skills they include. In a study of five commonly used lists, Rosenshine (1980) found that although there were several skills found on all the lists, there were many more that were unique to the separate lists. As a result, there has been very limited consistency in what has been taught as comprehension.

Another problem with the traditional subskills approach is the fact that the skill lists and the related activities tend to be based on the premise that comprehension is a passive, static process. Activities generally have a "one right answer" approach and are based on the assumption that the one right answer is to be found in the reading selection itself. There is little evidence of an awareness of the active nature of the reading process or of the facts that different people view things differently and that reading strategies are related to purposes and situations. Thus, many of these instructional programs produce passive readers who cannot comprehend in realistic situations that require active inference and strategy selection.

COMPREHENSION PROCESSES[1]

Perhaps, instead of lists of isolable subskills, we need a model of what is actually happening when a reader comprehends. Perhaps, if we can understand how comprehension occurs, then we can teach students to do it. The model presented in this book, though not necessarily a perfect replica of the process, represents an attempt to model comprehension in a way that is instructionally useful. It is largely based on the models presented by cognitive psychologists (Just & Carpenter, 1980; Kintsch & van Dijk, 1978; Rumelhart, 1976), although it also integrates much of the recent research conducted by reading educators.

[1] See Chapters Two through Six.

All of this research seems to indicate that there are at least five processes that proceed simultaneously during comprehension. Each of these processes involves a variety of subprocesses. The basic processes to be discussed in Part One of this book are diagrammed in Figure 1-1. Let's look at each one of the basic processes separately before discussing how they fit together in one unitary act. (Remember, don't worry if you find these hard to understand. Each will be discussed in more detail in future chapters.)

Microprocesses

The reader's first task is to derive meaning from the individual idea units in each sentence and to decide which of these ideas to remember. *The initial chunking and selective recall of individual idea units within individual sentences can be called* ***microprocessing***.

Assuming that the meanings of individual words are understood (see Chapter Seven), at least two processing skills are required for the understanding of individual sentences. The first is the ability to group words into meaningful phrases. This is often called "chunking," and it involves a basic understanding of syntax and its use in written language. For instance, in sentence 1a, a reader would need to realize that "red" should be grouped with "balloon" because it tells what kind of balloon, that "slowly" similarly modifies "disappeared" rather than "balloon," and so forth.

1a. The red balloon slowly disappeared into the blue sky.

A good reader would automatically "chunk" the sentence in this fashion while reading, and research indicates that good and poor comprehenders often differ in their responsiveness to these boundaries between meaningful phrases (Cohen & Freeman, 1978; Levin & Kaplan, 1970; and others).

A second major skill required for microprocessing is the ability to select what idea units to remember. For example, when reading sentence 1a, a reader might choose to remember only that a balloon disappeared. If another idea, such as the fact that the balloon was red, was particularly important to the progress of the narrative that fact might also be remembered. As students mature, they are asked to read longer and longer passages. It is clearly impossible to remember every detail (without extensive application of study strategies), and good readers select what is important in each sentence, retaining only that information in memory (Kintsch & van Dijk, 1978).

Integrative Processes

Readers can recall what they read only if the individual ideas are connected into a coherent whole (Kintsch & van Dijk, 1978; Thorndyke, 1976; and others). This means that the relationships between clauses and/or be-

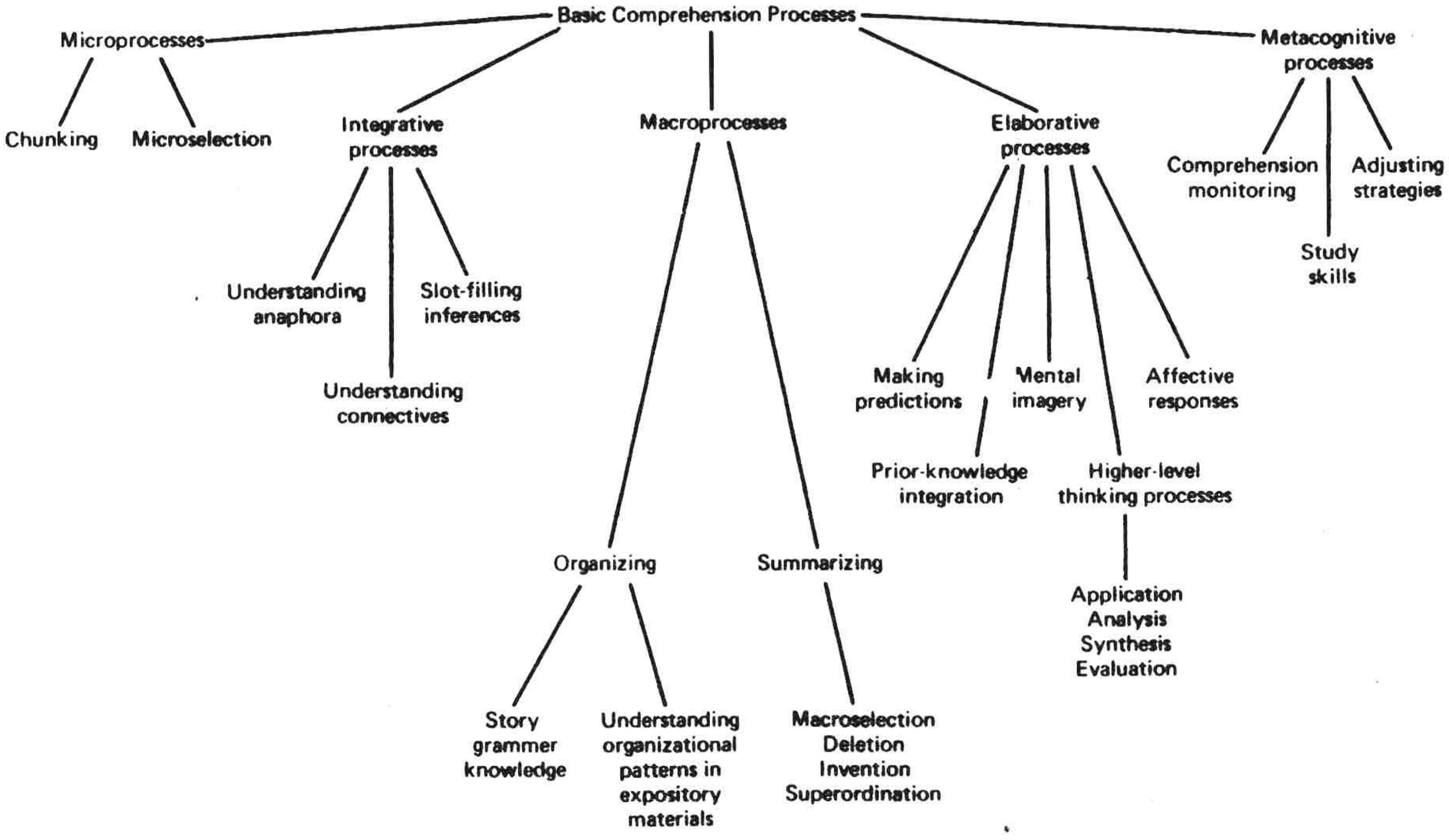
Basic Comprehension Processes
Microprocesses
Chunking
Microselection
Integrative processes
Understanding anaphora
Slot-filling inferences
Understanding connectives
Macroprocesses
Organizing
Story grammer knowledge
Understanding organizational patterns in expository materials
Summarizing
Macroselection
Deletion
Invention
Superordination
Elaborative processes
Making predictions
Prior-knowledge integration
Mental imagery
Higher-level thinking processes
Application
Analysis
Synthesis
Evaluation
Affective responses
Metacognitive processes
Comprehension monitoring
Study skills
Adjusting strategies

FIGURE 1-1

tween sentences must also be comprehended. *The process of understanding and inferring the relationships between individual clauses and/or sentences can be called* ***integrative processing***.

Integrative processing requires the ability to do such things as identifying pronoun referents, inferring causation and sequence, and making other relevant inferences about the total situation being described. For instance, for sentences 1b and 1c, several inferences could be made to integrate these ideas.

1b. John went to the store.
1c. He was hungry.

First, one must infer that "he" refers to John. Second, one might infer that he went to the store *because* he was hungry. This would involve the added inferences that the store sold food and that he was going to buy some. (Note the amount of active inferring necessary to understand the relationships between two very simple sentences!)

Macroprocesses

Ideas are connected and retained in memory more effectively if they are organized around an overall organizational pattern. The main topics in an organized text make up a kind of summary. *The process of synthesizing and organizing individual idea units into a summary or organized series of related general ideas can be called* ***macroprocessing***.

At least two skills are necessary for macroprocessing. The first is the ability to select the general ideas and to summarize the passage. This can also involve such things as deleting unimportant information and identifying or constructing general or main idea statements that summarize a large number of details.

The second major macroprocessing skill is the ability to use the author's general organizational pattern to organize one's own memory representation. Research has repeatedly shown that students who use the author's organizational pattern when they recall something they have read tend to recall more than those who do not (Meyer, Brandt, & Bluth, 1980).

Elaborative Processes

As we read, we often make inferences not necessarily intended by the author and not required for a literal interpretation. For instance, we may make a prediction about what might happen, we may form a vivid mental picture, or we may think about how the information relates to something similar we have experienced. *The process of making inferences not necessarily intended by the author can be called* ***elaborative processing***.

Research indicates that elaborations help us to recall the text. In gen-

eral, readers who make elaborations recall more than those who do not (see Reder, 1980). It is important to note, however, that elaborations must have some relationship to the text. Inappropriate elaborating may actually interfere with comprehension of the author's intended message.

Metacognitive Processes

Metacognition may be loosely defined as conscious awareness and control of one's own cognitive processes. This involves knowing when one does or does not understand something and knowing how to go about achieving a cognitive goal, such as successful comprehension or long-term recall. *The process of adjusting one's strategies to control comprehension and long-term recall can be called* ***metacognitive processing***.

Study skills are the most common of the metacognitive skills. Rehearsing, reviewing, underlining, and note-taking are all metacognitive processes that facilitate remembering. At a more basic level, checking an earlier part of the text to resolve an inconsistency, and even just being aware that something is unclear, are examples of ways that readers can have control over their own comprehension.

The Total Comprehension Process

We are now ready to begin to define comprehension itself. On the basis of the previous discussion, we can define comprehension as

> [the] process in which a reader understands and selectively recalls ideas in individual sentences (microprocesses), understands and/or infers relationships between clauses and/or sentences (integrative processes), organizes and synthesizes the recalled ideas into general ideas (macroprocesses), and make inferences not necessarily intended by the author (elaborative processes). The reader controls and adjusts these processes according to the immediate goal (metacognitive processes). All these processes occur virtually simultaneously, constantly interacting with each other (interactive hypothesis).

The *interactive hypothesis* was added to this definition to stress that these processes do not occur separately. We must assume that they occur almost simultaneously in no prespecified order, and that they interact with each other. This is reflected in the fact that each process can, in some situations, contribute to the success of another. For instance, understanding the organization (macroprocess) can help a reader to infer intersentential relationships (integrative process). Elaborating on one detail (elaborative process) can lead to recalling other details selectively (microprocess). This *interactive hypothesis* has important implications for teaching, which will be discussed throughout this book.

Now we have a definition that seems to describe comprehension in terms of what is actually happening when a reader comprehends. Can we