Introduction: Interactive approaches to second language reading

Patricia L. Carrell

For many students, reading is by far the most important of the four skills in a second language, particularly in English as a second or foreign language. Certainly, if we consider the study of English as a foreign language around the world – the situation in which most English learners find themselves – reading is the main reason why students learn the language. In addition, at advanced proficiency levels in a second language, the ability to read the written language at a reasonable rate and with good comprehension has long been recognized to be as important as oral skills, if not more important (Eskey 1970). In second language teaching/learning situations for academic purposes, especially in higher education in English-medium universities or other programs that make extensive use of academic materials written in English, reading is paramount. Quite simply, without solid reading proficiency, second language readers cannot perform at levels they must in order to succeed, and they cannot compete with their native English-speaking counterparts. Thus, for at least these three groups of students (those in EFL contexts, those at advanced levels of proficiency, and those with a need for English for academic purposes), effective reading in a second language is critical. Professionals in second language education should be vitally concerned with approaches that can improve the reading skills of learners. Interactive approaches to reading hold much promise for our understanding the complex nature of reading, especially as it occurs in a second or foreign language and culture.

In order to understand the interactive approach to reading in a second language that is promoted in this book, it is helpful to understand a bit about the recent history of theories of reading in a second language.

That reading is not a passive, but rather an active, and in fact an interactive, process has been recognized for some time in first or native language reading (Goodman 1967, 1971; Kolers 1969; Wardhaugh 1969; Smith 1971; Rumelhart 1977; Adams and Collins 1979). However, only recently has second language or foreign language reading been viewed as an active, rather than a passive process. Early work in second language reading, specifically in reading in English as a second language, assumed a rather passive, bottom-up, view of second language reading;

that is, it was viewed primarily as a decoding process of reconstructing the author's intended meaning via recognizing the printed letters and words, and building up a meaning for a text from the smallest textual units at the "bottom" (letters and words) to larger and larger units at the "top" (phrases, clauses, intersentential linkages). Problems of second language reading and reading comprehension were viewed as being essentially decoding problems, deriving meaning from print (see, for example, Rivers 1964, 1968; Plaister 1968; Yorio 1971).

Furthermore, before 1970, reading in a second language was viewed primarily as an adjunct to oral language skills (Fries 1945, 1963, 1972). The strong influence of the audiolingual method dictated the primacy of listening over reading and of speaking over writing. The importance assigned to phoneme-grapheme relationships by structuralists such as Fries and Lado (1964) was also responsible for the promulgation and implementation of the decoding perspective on second language reading. Even among those who had a somewhat broader conception of the second language reading process (Rivers 1968), decoding sound-symbol relationships and mastering oral dialogues were considered to be the primary steps in the development of reading proficiency.

At the same time, there was recognition of the importance of background knowledge and in particular of the role of sociocultural meaning in second language reading comprehension. According to Fries (1963), a failure to relate the linguistic meaning of a reading passage to cultural factors would result in something less than total comprehension. Rivers (1968) also recognized that the strong bond between culture and language had to be maintained for a nonnative reader to have a complete understanding of the meaning of a text. However, despite the acknowledged importance of the role of background knowledge, and, in particular, culture-specific knowledge (what today we call "schemata," although the term was not in use at the time), these concepts played no real role in early theories of second language reading, and the methodological and instructional focus remained on decoding, or bottom-up processing.

About a decade ago, the so-called psycholinguistic model of reading, which had earlier exerted a strong influence on views of first or native language reading (Goodman 1967, 1971; Smith 1971), began to have an impact on views of second language reading. Goodman had described reading as a "psycholinguistic guessing game," in which the "reader reconstructs . . . a message which has been encoded by a writer as a graphic display" (Goodman 1971:135). In this model, the reader need not (and the efficient reader *does* not) use all of the textual cues. The better the reader is able to make correct predictions, the less confirming via the text is necessary (Goodman 1973:164). According to this point of view, the reader reconstructs meaning from written language by using

the graphophonic, syntactic, and semantic systems of the language, but he or she merely uses cues from these three levels of language to predict meaning, and, most important, confirms those predictions by relating them to his or her past experiences and knowledge of the language.

Although Goodman did not characterize his theory as a top-down model, and continues to resist this characterization himself (Goodman 1981), several other reading experts (Anderson 1978; Cziko 1978) have recently characterized it as basically a concept-driven, top-down pattern in which "higher-level processes interact with, and direct the flow of information through, lower-level processes" (Stanovich 1980:34). In any event, the impact that Goodman's psycholinguistic theory had on both first or native language reading, and later on second or foreign language reading, was to make the reader an active participant in the reading process, making and confirming predictions, primarily from his or her background knowledge of the various linguistic levels (graphophonic, syntactic, and semantic, in the broadest sense of that term).

Goodman did not initially relate his theory to ESL readers, but by the early 1970s the first of what was to become a flood of articles making this connection began to appear in the literature. Among the first of the most widely distributed, and, one assumes, most widely read articles, were those of Eskey (1973) and Saville-Troike (1973). According to Eskey (1973), the decoding model was inadequate as a model of the reading process because it underestimated the contribution of the reader; it failed to recognize that students utilize their expectations about the text based on their knowledge of language and how it works. Other second language reading specialists such as Clarke and Silberstein (1977), Clarke (1979), Mackay and Mountford (1979), and Widdowson (1978, 1983) began to view second language reading as an active process in which the second language reader is an active information processor who predicts while sampling only parts of the actual text.

At this same time, dissatisfaction was growing with the audiolingual method and teachers were becoming aware that aural-oral proficiency did not automatically produce reading competency. Reading researchers began to call for teaching reading in its own right, rather than merely as an adjunct to the teaching of oral skills (Eskey 1973; Saville-Troike 1973).

In 1979 Coady elaborated on this basic psycholinguistic model for ESL reading and suggested a model in which the ESL reader's background knowledge interacts with conceptual abilities and process strategies to produce comprehension (Coady 1979:5–12). Only since 1979 has a truly top-down approach been advanced in second language reading (Steffensen, Joag-dev, and Anderson 1979; Carrell 1981, 1982; Carrell and Eisterhold 1983 – reprinted as Chapter 5 in this volume; Johnson 1981, 1982; Hudson 1982 – reprinted as Chapter 13 in this volume).

In the top-down view of second language reading, not only is the reader an active participant in the reading process, making predictions and processing information, but everything in the reader's prior experience or background knowledge plays a significant role in the process. In this view, not only is the reader's prior linguistic knowledge ("linguistic" schemata) and level of proficiency in the second language important, but the reader's prior background knowledge of the content area of the text ("content" schemata) as well as of the rhetorical structure of the text ("formal" schemata) are also important. Research done by and reviewed by Carrell (1983a, 1983b, 1983c, 1984a, 1984b, 1984c, 1985; Carrell and Eisterhold 1983; Carrell and Wallace 1983) within the general framework of schema theory has shown the significant roles played in ESL reading by both content and formal schemata.

The introduction of a top-down processing perspective into second language reading has had a profound impact on the field. In fact, it has had such a profound impact that there has been a tendency to view the introduction of a strong top-down processing perspective as a *substitute* for the bottom-up, decoding view of reading, rather than its complement. However, as schema theory research has attempted to make clear, efficient and effective reading – be it in a first or second language – requires *both* top-down and bottom-up strategies operating *interactively* (Rumelhart 1977, 1980; Sanford and Garrod 1981; van Dijk and Kintsch 1983). The purpose of this book is to present approaches to second language reading which involve *both* top-down *and* bottom-up processes functioning interactively.

This book presents a timely collection of theoretical, empirical, and pedagogical perspectives on interactive approaches to second language reading, particularly in relation to reading in English as a foreign or second language. The chapters in this volume integrate earlier, traditional, so-called bottom-up approaches to reading with more recent, contemporary approaches (e.g., schema theory), which include top-down processing perspectives. The purpose of the collection is to demonstrate that both top-down and bottom-up processing, functioning interactively, are necessary to an adequate understanding of second language reading and reading comprehension.

The book is organized into four major sections. Part I presents models of reading in general, and interactive models in particular. This section contains four chapters – by Goodman, Samuels and Kamil, Anderson and Pearson, and Grabe.

Part II presents interactive approaches to second language reading from a theoretical perspective. This section contains four theory or position chapters – by Carrell and Eisterhold, Eskey, Carrell, and Clarke.

Part III contains six chapters dealing with empirical investigations of second language reading conducted within an interactive framework –

by Devine, Steffensen, Cohen et al., Alderson and Urquhart, Hudson, and Rigg.

Part IV presents the classroom implications and applications of interactive approaches to second language reading. This section contains three chapters, each addressing pedagogical issues related to the introduction of interactive approaches to second language reading into ESL reading classrooms. These chapters are by Eskey and Grabe, Carrell, and Devine.

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PART I: INTERACTIVE MODELS OF READING

The chapters in this section introduce, develop, and then further explore the notion that reading is not a passive but rather an active process, involving the reader in ongoing interaction with the text. Goodman's chapter introduces the idea that reading, far from being passive, is an active process, with emphasis on both *active* and *process*. In presenting his macro model of the reading process, Goodman situates reading within the broader context of communicative, meaning-seeking, information processing. He further highlights both the psycholinguistic aspects of reading (how language and thought interact), as well as the sociolinguistic aspects of reading (language operating in a social context including writers as well as readers). Whether or not one agrees with Goodman that there is indeed a *single* reading process, or that miscue analysis is the best or even an appropriate way to access this process, Goodman's model sets the stage for approaching reading as an *active process*.

The chapter by Samuels and Kamil presents an overview of several models of reading, all from the perspective of reading as an active process. Depending on the particular foci or interests of the specific model builders, different aspects of reading as an active process are emphasized in these different models. Samuels and Kamil not only touch on various aspects of a number of models, but they go into some detail on two models in particular – Rumelhart's interactive-activation model, and Stanovich's interactive-compensatory model. In discussing these two models, Samuels and Kamil introduce the notions of top-down and bottom-up processing, and *interactive* models, models that have interacting hierarchical stages, rather than discrete stages that are passed through in a strictly linear fashion. In terms of the desired characteristics of any model, Samuels and Kamil show how interactive models of reading, models which allow processing at one level or stage (e.g., word perception) to interact with processing at another level or stage (e.g., semantic knowledge), are superior to linear models in either direction (either strictly bottom-up, decoding or strictly top-down, predicting).

The Anderson and Pearson chapter details another type of interactive model of reading, namely a schema-theoretic model. In a state-of-the-

art presentation on schema theory, these authors show how reading comprehension involves the interaction between old and new information. They focus on, as they say, "how the reader's *schemata*, or knowledge already stored in memory, function in the process of interpreting new information and allowing it to enter and become a part of the knowledge store."

Part I concludes with Grabe's chapter relating interactive models of reading, which were developed primarily with native reading in mind, to the domain of second language reading. In making this connection to second language reading, Grabe also highlights the different senses in which a model may be *interactive* – that is, it may focus on the relation of the reader to the text, or it may focus on the processing among the various component skills and stages, or it may even focus on features of the text itself.

In reading the chapters in this section, the reader may find it useful to keep the following questions in mind, and to read the chapters with the purpose of learning the answers to these questions: (1) How have models of the reading process evolved recently, from passive, to active, to interactive? (2) What are the different senses in which the term *interactive* is used to describe and to think about reading? (3) What are some of the different levels, stages, factors, and aspects of reading that "interact"? (4) What is meant by *bottom-up* and *top-down* processing of text? (5) What is the particular role in reading comprehension of prior background knowledge already stored in memory?

1 *The reading process*

Kenneth Goodman

In a very real sense this chapter is a progress report. Some years ago I decided that a major reason for the lack of forward motion in attempts to develop more effective reading instruction was a common failure to examine and articulate a clear view of the reading process itself. Knowledge, I felt, was non-cumulative in improving reading instruction largely because we either ignored the reading process and focussed on the manipulation of teacher and/or pupil behaviors or because we treated reading as an unknowable mystery.

Ironically two opposite views were and still are widely found in the professional literature:

1. Reading is what reading is and everybody knows that; usually this translates to 'reading is matching sounds to letters.'
2. 'Nobody knows how reading works.' This view usually leads to a next premise: therefore, in instruction, whatever 'works' is its own justification.

Both views are non-productive at best and at the worst seriously impede progress.

My effort has been to create a model of the reading process powerful enough to explain and predict reading behavior and sound enough to be a base on which to build and examine the effectiveness of reading instruction. This model has been developed using the concepts, scientific methodology, and terminology of psycholinguistics, the interdisciplinary science that is concerned with how thought and language are interrelated. The model has also continuously drawn on and been tested against linguistic reality. This reality has taken the form of close analysis of miscues, unexpected responses in oral reading, produced by readers of widely varied proficiency as they dealt with real printed text materials they were seeing for the first time.

The model isn't done yet. No one yet claims a 'finished' model of any language process. But the model represents a productive usable view of

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