1 The Roots of Reading Comprehension Instruction*

P. David Pearson

University of California, Berkeley

This volume is a watershed in the field of reading. That we have reached the point in our history when an entire handbook could be devoted to the topic of reading comprehension is gratifying, especially for those (many of whom are authors in the volume) who have worked across the last 40 years to ensure that reading comprehension has a home in the field's portfolio of theory, research, curriculum, and assessment. Lest we dwell too long in celebratory mode, we would do well to remind ourselves that it has not been easy to secure a foothold for reading cornprehension in these conversations about reading, especially around the question of early reading pedagogy. As I will document in this chapter, it was not until the 1980s that it really started to take hold especially as a fact of everyday classroom instruction informed by theory and research. And then suddenly, after 15 years of prominente in conversations of theory, research, and practice—and for a post of reasons, many having to do with curricular politics (Pearson, 2004, 2007), reading comprehension was placed on a back burner from the mid-1990s to the mid-2000s. It is time it returned to a central role in discussions of reading pedagogy. To assure its return, we will have to give it our rapt and collective attention.

Reading comprehension, both its instruction and its assessment, is arguably the most important outcome of reform movements designed to improve reading curriculum and instruction—or at least it ought to be. The trends over the past 5 or 6 years are encouraging (e.g., this volume; Snow, 2003). The emphasis on comprehension has been reinforced by atrention to the plight of older readers, for whom comprehension is the both the central goal and barrier (Biancarosa & Snow, 2006). The time is right to undertake a new initiative in the area of reading comprehension, and this volume marks our professional commitment to do so. By taking stock of our past and present, we pave the way for future lines of inquiry, curriculum, and professional development to make sure we will all keep comprehension in olear professional focus.

The process of text comprehension has always provoked exasperated but nonetheless enthusiastic inquiry within the research comrnunity. Comprehension, or "understanding", by its very nature, is a phenomenon that can only be observed *indirectly* (Pearson & Johnson, 1978; Johnston, 1984). We talk about the "click" of comprehension that propels a reader through a text, yet we never see it directly. We can only rely on indirect symptoms and artifacts of its occurrence. People tell us that they understood, or were puzzled by, or enjoyed, or were upset by a text. Or, more commonly, we quiz them on "the text" in some way—requiring them to recall its gist or its major details, asking specific questions about its content and purpose, or insisting on an interpretation

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and critique of its message. All of these tasks, however challenging or engaging they might be, are little more than the residue of the comprehension process itself. like it or not, it is precisely this residue that scholars of comprehension and comprehension assessment must work with in order to improve our understanding of the construct. The transparency of the act of comprehension is not much better for instruction than assessment. We talk about activities that foster reading comprehension and those that allow students to monitor their comprehension (Palinesar & Brown, 1984), we teach skills and strategies explicitly (Afflerbach, Pearson, & Paris, 2008), and we engage in rich talk about text (Nystrand, Gamoran, Kachur, & Prendergast, 1997; Nystrand, Wu, Gamoran, Zeiser, & Long, 2003), but we are seldom privy to the "aha!" that occurs when there is a "meeting of the minds" between author and reader (King, 2000).

Most of this chapter is history—a history that attempts to weave together threads from research, theory, and curricular practice for the expressed purpose of understanding what we do inside schools and classrooms to support and promote reading comprehension. But in an introductory chapter, all I can do is to highlight themes, trends, and insights with the broadest of brush strokes. The real history, enlivened by all of the excruciating detail of research studies and deep analyses of theory, comes in the remainder of the volume. In the pages that follow, I try to provide a systematic unpacking of those themes, trends, and insights. My goal is to provide sufficient detail to bring you to the brink of the current era, roughly, the latest turn of the century, as a way of providing a baseline for what comes in the rest of the volume. 1 have divided the world of reading comprehension instruction into three periods with deeidedly and admittedly overlapping boundaries; the one observation I am sure of is that any divisions made in the historical timeline are doomed to misrepresentation. Ideas and practices come with ancestors and precedents, even when they appear to emerge suddenly, and they persist long after their theoretical and research foundations appear to have been overturned. But some rough divisions are helpful, even if they obscure some of the truth. The first period tracks the evolution of reading comprehension instruction before the beginning of the revolution in cognitive psychology that led to a paradigm shift in how we think about comprehension and its instruction—roughly the first 75 years of the 20th century. The second period is a short 15 years, from 1975 to the early 1990s; it examines the theoretical and research bases of the instructional activities and routines spawned by the cognitive revolution. The last period is even shorter, from the early 1990s, but with strong roots in the 1980s and even the 1970s, to the end of the century, spilling over into the early years of the 21st century.

READING COMPREHENSION INSTRUCTION BEFORE 1975

Reading comprehension has been a part of classrooms as long as there have been schools, texts, students who desire (or are required) to read them, and teachers wanting to both promote and assess their understanding. Throughout the history of reading instruction, every assignment given by a teacher, every book report or chapter summary, and every conversation about a book, story, article, or chapter has provided an opportunity promoting comprehension. However, it was not until well into the 20th century that comprehension arrived as a modal index of reading competence and performance. There are two plausible explanations for the relatively late arrival of comprehension as an indicator of reading accomplishment. First, the default indicator of reading prowess in the 17th to19th centuries was definitely oral capacity, indexed either by accuracy or by expressive fluency, in the tradition of declamation and oratory (see Smith & Miller , 1966, or Mathews, 1966, for accounts of this emphasis). Second, within ecclesiastical circles, comprehension, at least in the sense of personal understanding, was not truly

valued; if it mattered, it mattered largely as a stepping stone to the more valued commodity of text memorization.

An indirect look inside classrooms To get a handle on how reading comprehension was "taught" in classrooms in the early half of the 20th century, one can examine what is asked of students in their reading anthologies, which date back to the 1840s, by the way, and what is suggested to teachers in training manuals and textbooks. Given the emphasis on accuracy and expressive fluency, the answer, "not much," is not surprising. But there were some consistent threads. Dating back to late 1890s, basal authors included right in the student books (at the end of each selection) several types of "study aids" for students: words to study, phrases to study, and questions to use in preparing for a discussion and/or quiz (Elson & Keck, 1911; Gates & Ayer, 1933). As early as 1912, Longmans Green & Co published a separate book of *Daily Lesson Plans* with suggested vocabulary and comprehension probes to use in introducing and discussing selections. Scott Foresman, the publisher of the Elson Readers from 1909 through the 1930s, also published teacher manuals with answers to the questions in the student books. They added William S. Gray, who made his mark in the field with one of the earliest standardized tests, the Gray Oral Reading Test (Thorndike, 1914), to the roster in the 1920s. The Gray-Elson collaboration resulted in the *Curriculum Foundation Series,* most famous, of course, for Dick and Jane (who were actually Elson's creation, not Gray's), but even more influential in shaping the course of reading instruction over four decades from the early 1930s through the late 1960s. By the 1940s (Gray, Arbuthnot, et al., 1940-1948; Gray, Arbuthnot, Artley, Monroe, et al., 1951-1958), after Elson's death, Gray became the driving force in this influential series. An examination of the manuals (e.g., 1946-47) during this period is instructive because it is clear that the implicit theory behind promoting comprehension (as well as response to literature) was to have the teacher use a range of questions to guide students in conversation during page-by-page guided reading and in a post-reading discussion.

Testing as a catalyst for comprehension The scientific movement and the changing demoraphic patterns of schooling in the United States conspired, albeit inadvertently, to bring reading comprehension into instructional focus in the first third of the 20th century. Schools had to accommodate to rapid increases in enrollment due to waves of immigration, a rapidly industrializing society, the prohibition of child labor, and mandatory school attendance laws. The spike in school enrollment, coupled with a population of students with dubious literacy skills, dramatically increased the need for a cheap, efficient screening device to determine students' levels of literacy. During this same period, psychology struggled to gain the status of a "science" by employing the methods that governed physical sciences and research. In the United States, the behaviorist schools of thought, with their focus on measurable outcomes, strongly influenced the field of psychology (Johnston, 1984; Resnick, 1982; Pearson, 2000); quantification and objectivity were the two hallmarks to which educational "science" aspired. Thus, when psychologists with their newfound scientific lenses were put to work creating cheap and efficient tests for beleaguered schools, the course of reading assessment was set. More efficient, group administered, multiple-choice, standardized tests would be the inevitable result. And while there were curricular forces campaigning for a shift away from skills, phonics and oral reading, the need for efficiency certainly served as a catalyst for accelerating the move to more silent reading in our classrooms. Unlike oral reading, which had to be tested individually and required that teachers judge the quality of responses, silent reading comprehension (and rate) could be tested in group settings and scored without recourse to professional judgment; only stop watches and multiple choice questions were needed. In modern parlance, we would say that they moved from

a "high inference" assessment tool (oral reading and retelling) tú a "low inference" tool (multiple choice tests or timed readings). Thus, it fit the demands for efficiency (spawned by the move toward more universal education for all students) and objectivity (part of the emerging scientism of the period). The practice proved remarkably persistent for at least another 50 or 60 ycars. And, of course, just like in today's world, if a phenomenon can be assessed, then curriculum and pedagogy to teach it will soon follow.

Early forays into theorizing comprehension Both Edmund Burke Huey (1908) and Edward Thorndike (1917) undertook early efforts tú understand the comprehension process. Huey, a theorist, researcher, and practitioner anticipated constructivist views of reading development (the reader creates the meaning from the traces left on the page by the author) but regarded comprehension as a somewhat mysterious, unapproachable phenomenon, suggesting (1908, p. 163) that

> The consciousness of meaning itself belongs in the main to that group of mental states, the feelings, which 1 regard wíth Wundt as unanalyzables, or at Test as having a large unanalyzable core or body.

Huey also foreshadowed the constructivist turn in psychology, literary theory, and pedagogy that would come in the 1970s and 1980s, arguing for a model of sense-making rather than accurate rendition as the hallmark of expert reading:

> And even if the child substitutes words of his own for sorne that are on the page, provided that these express the meaning, it is an encouraging sign that the reading has been real, and recognition of details will come as it is needed. (Huey, 1908, p. 349)

Huey went on to irgue that teachers need tú rid themselves of the false ideal that had taken over reading pedagogy: "that to read is to say ¡just what is upon the page, instead of to think, each in his own way, the meaning that the page suggests" (Huey, 1908, p. 349).

Thorndike was probably the first educational psychologist to try ro launch inquiry into the complex thought processes associated with comprehension. He regarded reading "as reasoning," suggesting there are many factors that comprise it: "elements in a sentence, their organization...proper relations, selection of certain connotations and the rejecrion of others, and the cooperation of many forces" (Thorndike, 1917, p. 323). He proposed ideas about what should occur during "correct reading," claiming that a great many misreadings of questions and passages are produced because of under- or over-potency of individual words, thus violating his "correct weighting" principie:

> Understanding a paragraph is like solving a problem in mathematics. It consists in selecting the right elements in the situation and putting them together in the right relations, and also with the right amount of weight or influence or force of each." (Thorndike, 1917, p. 329)

Of course, Thorndike assumed that there are such things as "correct" readings. He argued further that in the act of reading, the mind must organize and analyze ideas from the text. "The vice of the poor reader is to say the words to himself without actively making judgments concerning what they reveal" (Thorndike, 1917, p. 332). Clearly for Thorndike, reading was an active and complex cognitive process. Thorndike's account of reading as meaning making, like Huey's epic treatment of all aspects of reading (1908), is best viewed as an interesting and curious anomaly. It did not become domi-

nant in this early period, either for the field or for Thorndike, but it certainly antici-pared, as did Huey's account, the highly active view of the reader that would become prominent during the cognitive revolution of the 1970s.'

Text difficulty and readability Text difficulty, codified as readability, emerged as an important research arca and curricular concept in the first half of the 20th century. Unlike the developments in testing, which were grounded in the scientific movement in psychology, readability was grounded in child-centered views of pedagogy dating back to theorists such as Pestalozzi, Froebel, and Herbart and championed by the develop-mental psychology emerging in the 1920s and 1930s. [2] The motive in developing read-ability formulas was to screen texts so that they could be matched students' interests and developmental capacities rather than to baffle them with abridged versions of adult texts. The first readability formula, created to gauge the grade placement of texts, appeared in 1923 (Lively & Pressey), and it was followed by some 80 additional formu-las over the next 40 years until the enterprise drew to at least a temporary close in the late 1960s. [3] Irrespective of particular twists in individual formulas, each more or less boiled down to a sentence difficulty factor, typically instantiated as average sentence length, and a word factor, typically codified as word frequency. These formulas were critical in the production of commercial reading materials from the 1920s through the 1980s. For reasons that will become apparent later in this chapter, readability formulas did not survive the cognitive revolution in reading instruction in the 1970s and 1980s, although there are sigas of their recovery in the last decade. [4]

Reading skills The most influential construct influencing the comprehension cur-riculum of schools in this period was the "reading skill"—that discrete unit of the curriculum that ought to be learned by students and taught by teachers. It is hard to fix the precise genesis of the "reading skill," but it is clearly and hopelessly confounded with the testing movement. Tests liad to measure something, and the something they measured looked a lot like skills that were a part of the basal reading programs for elementary and secondary schools of the period. As an example of this relationship, consider the groundbreaking psychometric work of Frederick Davis (1944) to estab-lish an infrastructure of reading comprehension skills (see Leslie, chapter 19, this volume, for a more extensive treatment of Davis' work). He was able to develop test items for nine separate categories, which, when he examined the degree of interrelat-edness among them reduced to two—a word factor (something like vocabulary) and a reasoning factor (something like drawing inferences between the text and knowledge). But the key question is, where did those nine candidato skills come from? The answer is straightforward: he reviewed the literature describing reading comprehension as a construct and commonly used elementary and high school curricula of the times. He found literally hundreds of labels to narre the skills, but they all reduced to these nine conceptual categories (see Table 1.1) that he felt constituted conceptually distinct groups; from these, as I indicated, he deduced two independent factors—word knowl-edge and reasoning.

Table 1.1 Davis' Nine Potential Factors

1. Word meanings	6. Text based questions with paraphrase
2. Word meanings in context	7. Draw inferences about content
3. Follow passage organization	8. Literary devices
4. Main thought	9. Author's purpose
S. Answer specific text-based questions	

While we cannot be sure where the skills came from, for either instruction or assessment, it is clear that both domains were using the same infrastructure of tasks; clearly, what happened in either domain influenced the other. These tasks/labels—finding main ideas, noting important details, determining sequence of events, cause-effect relations, comparing and contrasting, and drawing conclusions—are noteworthy for their persistence for they are all a part of current curricula and assessments in the early part of the 21st century.

An important related construct was the notion of a scope and sequence of skills, a linear outline of skills that if taught properly ought to lead to skilled reading. While skills have always been a part of reading instruction (witness all the bits and pieces of letter sounds and syllables in the alphabetic approach), the skill as a fundamental unit of curriculum and the scope and sequence chart as a way of organizing skills that extend across the elementary grades are 20th-century pbenomena

The basal experience with skills led quite directly to two additional curriculum mainstays—the teachers manual and the workbook.' Throughout the 19th century and at least up through the first three decades of the 20th century, basal programs consisted almost entirely of a set of student books. Teachers relied on experience, or perhaps normal school education, to supply the pedagogy used to teach lessons with the materials. Occasionally, for students who had progressed beyond the primer to one of the more advanced readers, questions were provided to test understanding of the stories in the readers. In the early 1900s, publishers of basals began to include supplementary teaching suggestions, typically a separate section at the front or back of each book with a page or two of suggestions to accompany each selection. In one common practice of the period, publishers provided a model lesson plan for two or three stories; for later stories, they referred the teacher back to one of the models with the suggestion that they adapt it for the new story. By the 1930s, the teachers' manuals had expanded to several pages per selection!' The other significant development in the 1930s was the workbook, often marketed with titles like *My Think and Do Book* or *Work Play Books*

Both of these developments were symptomatic of the expansion of scope and sequence efforts: the more skills included, the more complicated the instructional routines and the greater the need for explicit directives to teachers and opportunities for students to practice the skills. From the 1930s until at least tbe 1980s, this approach to skills development increased in intensity and scope. It was gradually extended beyond phonics to include comprehension, vocabulary, and study skills. [8] As I indicated earlier, the comprehension skills tbat made their way into basal workbooks and scope and sequence charts were virtually identical to those used to create comprehension tests. The trend toward heftier and more complex manuals and workbooks for teachers has continued virtually unchecked since it began in the 1930s until today, when the manual for each grade consists of a small library rather than a single book.

Theory and professional thinking were not divorced from this expansion of the skills in Nasals and on tests. The practice in each succeeding generation is mirrored by research-based accounts of reading curricula in influential yearbooks published by the National Society for Studies in Education; in this series, reading research and curriculum is syntbesized every decade or so. So, for example, in the 24th Yearbook of the Society (1925), William S. Gray's chapter on objectives for teaching reading included both simple and complex "interpretation habits." Among the simple were:

• Concentrating attention on the content
• Associating meanings with symbols
• Anticipating the sequence of ideas
• Associating ideas together accurately
• Recalling related experiences

- Recognizing the important elements of meaning
- Deriving meanings from the context and from pictures (Gray, 1925, p. 14)

Among the more complex were these:

- Analyzing or selecting meanings;
  - To select important points and supporting details
  - To find answers to questions ...
- Associating and organizing meanings; for example,
  - To grasp the author's organization
  - To associate what is read with previous experience
  - To prepare an organization of what has been read
- Evaluating meanings; for example,
  - To appraise tbe value or significance of statements
  - To compare facts read with items of information from other sources
  - To weigh evidence presented
  - To interpret critically
- Retaining meanings; for example,
  - To reproduce for others
  - To use in specific ways (Gray, 1925, pp. 14-15)

Durrell (1949), writing the first chapter devoted exclusively to comprehension in any NSSE Yearbook (by that time 10 yearbooks had been partially or exclusively devoted to reading) provided a perspective that focused on skills but acknowledged that reader knowledge, motivation, and attention would exert strong influences on comprehension. He outlined the following general characteristics of a skills program in reading comprehension:

- Selection of essential skills to be observed and taught
- Analysis of difficulties of those skills
- Intensive teaching of those skills through graded exercises in suitable material
- A motivation program which shows the child the importance of those skills and enables him to see his progress in them. (Durrell, 1949, p. 200)

Durrell never outlined the specific skills with tbe detail and precision provided in the 1920s by Gray, but it is clear that an approach that decomposed comprehension into a set of teachable skills was assumed in his general approach. As close as he comes to defining skills (pp. 200-202) is in discussing the difficulties in text at the word (vocabulary and word meaning), sentence (overcoming the barriers of complex syntax by careful analysis), and paragraph and passage (discovering tbe often implicit organization of ideas) levels that teachers must attend to in diagnosing and remediating students' problems in comprehension. He also pointed to the importance of a solid program in decoding and fluency as a firm basis for comprehending, implying, of course, that he believed, at least in part, in the simple view of reading—that decoding words to an auditory code would enable oral language competence to enact text comprehension (i.e., that reading comprehension is the product of decoding and listening comprehension).

McKee (1949) in the chapter on reading in grades 4-8 for the same 48th Yearbook, also mentioned "comprehension" fostering activities, although he used the word comprehension only once in his 20-page chapter. In discussing what students needed to become independent readers who could cope with difficulty on their own, he mentioned knowing lots of word meanings (including navigating multiple meanings), using context to infer word meanings, figurative language, using syntax to relate ideas to one another

in a sentence, linking ideas across sentences, and distinguishing emotive from informative expressions (p. 135). He also acknowledged—and this is the first mention of it I can find in any of the NSSE volumes up until that time—the role of text discussion as contributing to understanding; interestingly, he pled for open rather than closed conversations about text:

> The discussion which follows the reading of a given selection should be, not a quizzing activity in which the teacher tests the pupil's retention of what has been read, but rather an informal conversation in which pupils make comments and raise queries about the selection, just as an individual and his friends discuss a hook they have read or a movie they have seen.

In 1968, just on the cusp of the cognitive revolution in psychology that would spawn a paradigm shift in our views of comprehension, the NSSE Yearbook on reading would have a different character. What is most striking in the cbapter most clearly related to comprehension (Clymer, 1968) is how much the development of theory over the 1950s and 1960s had altered the views of comprehension presented. Clymer cited the empirical theories of scholars such as Holmes (sub-strata factor theory), the emerging cognitive work in Project Literacy at Cornell, and the instructional framework of Barrett to ponder the question, What is reading? In privileging the emerging work of Barrett, he placed comprehension at the center of the answer to that question. He also provided some indirect evidence that Gray was moving toward a more comprehension-centric view of reading processes.

The centerpiece of Clymer's chapter is Barrett's taxonomy, which is loosely coupled to Bloom's (1956) Taxonomy of Educational Objectives. Essentially, he borrowed liberally, whenever there was a comfortable fit, from Bloom's constructs of knowledge, comprehension, application, analysis, synthesis, and evaluation, as well as from the key descriptors Bloom used to "enact" those basic constructs—words like recall, recognize, infer, and summarize. Perhaps even more important, he used the taxonomic frame established by Bloom to unpack his infrastructure for reading comprehension. According to Clymer, "The type of comprehension demanded and the difficulty of the task is a product of (a) the selection, (b) the questions, and (c) the reader's background" (p. 19). Barrett then embedded some familiar terms into his taxonomy—popular standards such as main idea, sequence, comparison, cause-effect relationships, and character traits. While he did not choose a tabular format for presenting, three of the major categories certainly invite a matrix presentation, as depicted in Table 1.2.

His other categories—Reorganization, Judgment, Evaluation, and Appreciation— are idiosyncratic in nature. But Barrett's taxonomy and Clymer's treatment of it and other conceptions of reading are notable not so much for their particular content as for

Table 1.2 A Tabular Account of a Part of Barrett's Taxonomy

	Literal Comprehension		
	Recognition	Recall	Inferential Comprehension
Main Ideas	√	√	√
Supporting Details	√	√	√
Sequence	√	√	√
Comparison	√	√	√
Cause Effect	v	√	√
Character Traits	√	√	√

serving as harbingers of things to come a half decade later with the onset of the cognitive revolution and a major paradigm shift in comprehension.

A portend of things to come: psycholinguistics Beginning in the late 1950s, and marked most vividly by the publication of Chomsky's groundbreaking work in linguistics (1957) and critique of behaviorist views of language, psycholinguistics had tremendous appeal for three reasons. Part of its appeal stemmed from the feeling that it would constitute a paradigm shift. Based upon studies like that of Gough (1965), there was a genuine feeling that behavioristic views of language development and processing would have to be supplanted witb views that were both nativistic (people are born with a genetic capability to learn language) and cognitive (something really does go on inside that black box) in orientation. Furtbermore, these research studies seemed to suggest that the transformational generative grammar created by Chomsky (1957, 1965) might actually serve as a model of human language processing. Thus, there was a ready-made theory waiting to be applied to reading comprehension. Psycholinguistics was also appealing to educational scholars because it commanded academic respectability. There was sometbing appealing about standing on the shoulders of the new psychology, working within a paradigm for which there was a model that made fairly precise predictions and thus had testable hypotheses.

Hence it was that beginning in the late 1960s and extending into the mid-1970s, considerable empirical and theoretical work was completed within tbe psycholinguistic tradition. The influence of psycholinguistics on reading is nowhere better demonstrated than in the work of Kenneth Goodman (1965) and Frank Smith (1971). For both Goodman and Smith, looking at reading from a psycholinguistic perspective meant looking at reading in its natural state, as an application of a person's general cognitive and linguistic competence. It seems odd even to mention their names in discussing the influence of psycholinguistics on comprehension research because neither Goodman nor Smith distinguisbes between reading and reading comprehension. Their failure to make tbe distinction is deliberate, for they would argue that reading is comprehending (or that reading without comprehending is not reading). A distinction between word identification and comprehension would seem arbitrary to them. For otbers, the influence of the psycholinguistic tradition (particularly the use of transformational-generative grammar as a psycbological model) on views of reading comprehension was quite direct. The work of Bormuth (1966), Bormuth, Manning, Carr, and Pearson (1971), Fagan (1971), and Pearson (1974-75) reveals a rather direct use of psycholinguistic notions in studying reading comprehension. Such was the scene in the early seventies. The conventional modes of research, while still strong, were being challenged by a new interloper from the world of linguistic research—psycholinguistics.

Several points about the teaching and learning of reading comprehension during the 75 years of the century seem warranted from this perspectives presented thus far:

1. Whatever theorizing about reading comprehension might have been done by a few early scholars and by psycholinguistics very late in the period, tbe bulk of the writing and activity focus on comprehension focus comprehension skills as a way of organizing curriculum (what gets taught) and assessment (what gets tested).
2. Most scholars thought that comprehension skill resulted from practicing separable skills within a balanced scope and sequence. The most common criterion for sequencing comprehension skill was from literal to inferential to some beyond the text activity, such as creative, aesthetic, or critical.
3. Curriculum and assessment were tightly bound together, so much so that they present a classic chicken and egg problem.

4. Notably absent in discussions of curriculum was any advice about pedagogy supporting the development of these skills.'
5. The role of discussion and questions about text were not well-represented in the professional literature on comprehension, but questions and talk about text were ubiquitous in the materials throughout this period. Thus an implicit theory, evident in practice is that the ability to answer questions was considered to be the most basic piece of evidence that students could comprehend, and asking them to practice answering lots of questions was thought by many to be the best path to nurturing comprehension
6. Implicit in much of the presentation of comprehension (save Huey's account) was an assumption that the simple view of reading (RC = Dec * LC) is accurate, so that if we can get those lower order skills in place and provide students with lots of opportunity to practice skills in text discussions and workbooks, reading comprehension will take care of itself.

READING COMPREHENSION INSTRUCTION AFTER THE COGNITIVE REVOLUTION: 1975-1990

The cognitive turn in psychology

In comparison to what happened in the space of 5 years from roughly 1975 to 1980, the sum total of developments in the first 75 years of the 20th century pale. Rooted, as suggested, in the Chomskian revolution in linguistics (Chomsky, 1957, 1959, 1965) and experiencing a trial run in the young field of psycholinguistics in the late 1960s, the cognitive perspective allowed psychologists to re-embrace ° and extend constructs such as human purpose, intention, and motivation to a greater range of psychological phenomena, including perception, attention, comprehension, learning, memory, and executive control or "metacognition" of all cognitive process. All of these would have important consequences in reading pedagogy.

The most notable change within psychology was that it became fashionable for psychologists, for the first time since the early part of the century, to study complex phenomena such as language and reading." And in the decade of the 1970s, works by psychologists flooded the literature on basic processes in reading. One group focused on characteristics of the text and a second on the nature of the knowledge students bought to the reading task. Those who privileged text comprehension tried to explain how readers come to understand tbe underlying structure of texts. They offered story grammars—structural accounts of the nature of narratives, complete with predictions about how those structures impede and enhance story understanding and memory (Rumelha rt, 1977; Stein & Glenn, 1977). Others chose to focus on the expository tradition in text (e.g., Kintsch, 1974; Meyer, 1975). Like their colleagues interested in story comprehension, they believed that structural accounts of the nature of expository (informational) texts would provide valid and useful models for buman text comprehension. And in a sense, both of these efforts worked. Story grammars did provide explanations for story comprehension. Analyses of the structural relations among ideas in an informational piece also provided explanations for expository text comprehension (see Pearson & Camparell, 1981). But neither text-analysis tradition really tackled the relationship between the knowledge of the world that readers bring to text and comprehension of those texts. In other words, by focusing on structural rather than the ideational, or content, characteristics of texts, they failed to get to the heart of comprehension. That task, as it turned out, fell to one of the most popular and influential movements of the 1970s, schema theory.

The emergence of schema theory The most prevalent metaphor to emerge from this revolutionary period was the "reader as builder"—an active meaning constructor (Anderson, 1977; Collins, Brown, & Larkin, 1980), an aggressive processor of language and information who filters the raw materials of reading (the clues left by the author on the printed page) through her vast reservoir of knowledge to continuously revise a dynamic, ever-emerging model of text meaning. The reader assumed greater importance in the p riod, and the text assumed less: the builder became more important than the materials ued to do the building. This is not to say that text was neither appreciated nor studied during this period; what occurred is better characterized as a shift in emphasis from the dominance of text variables in the reading models leading into 1970s.

Schema theory (see Anderson & Pearson, 1984; Rumelhart, 1981) is not a theory of reading comprehension but rather a theory about the structure of human knowledge as it is represented in memory. In our memory, schemata are like little containers into which we deposit the particular traces of particular experiences as well as the "ideas" that derive from those experiences. So, if we see a chair, we store that visual experience in our "chair schema." If we go to a restaurant, we store that experience in our "restaurant schema," if we attend a party, our "party schema," and so on.

Even so, schema theory was readily appropriated to provide a credible account of reading comprehension, which probably, more than any of its other features, accounted for its popularity within the reading field in the 1970s and 1980s. Schema theory struck a sympathetic note with researchers as well as practitioners. It provided a rich and detailed theoretical account of the everyday intuition that we understand and learn what is new in terms of what we already know. It also accounted for the everyday phenomenon of disagreements in interpreting stories, movies, and news events—we disagree with one another because we approach the phenomenon with very different background experiences and knowledge. Anderson (1984) provided us with the most elaborate account of the uses that we, as readers, can make of schemata:

a. Schemata provide ideational scaffolding for assimilating text information. Schemata have slots that readers expect to be filled with information in a text. Information that fills those slots is easily learned and remembered.
b. Schemata facilitate the selective allocation of attention. Put simply, schemata guide our search for what is important in a text, allowing us to separate the wheat from the chaff.
c. Schemata enable inferential elaboration. No text is ever fully explicit. Schemata allow us to make educated guesses about how certain slots must have been filled.
d.
   asked to remember what he did at a recent cocktail party. He can use his cocktail party schema, a specification of what usually happens at cocktail parties, to recall what he ate, what he drank, wbo he talked to, and so on.
e. Schemata facilitate editing and summarizing. By definition, any schema possesses its own criteria of what is important. These can be used to create summaries of text that focus on important information.
f. Schemata permit inferential reconstruction. If readers have a gap in their memory, they can use a schema, in conjunction witb tbe information recalled, to generate hypotheses about missing information. If they can recall, for example, that the entree was beef, they can infer that the beverage was likely to have been red wine.

So powerful was the influence of prior knowledge on comprehension that Johnston and Pearson (1982; see also, Johnston, 1984) found that prior knowledge of topic was a better predictor of comprehension than either an intelligence test score or a reading achievement test score.
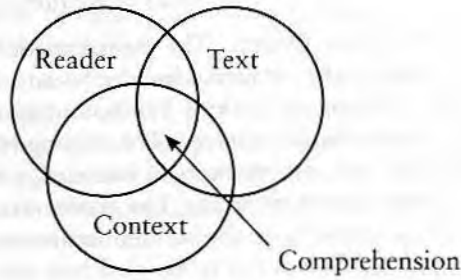
Figure 1.1 Comprehension occurs at the intersection of reader, text, and context.

With respect to reading comprehension, schema theory did not ignore text. Instead, it encouraged educators to examine texts from the perspective of tbe knowledge and cultural backgrounds of students in order to evaluate the likely connections that they would be able to make between ideas inscribed" in the text and the schema that they would bring to the reading task. Schema theory also promoted a constructivist view of comprehension; all readers, at every moment in the reading process, construct the most coherent model of meaning for tbe texts they read." Perhaps the most important legacy of this constructivist perspective was that it introduced ambiguity about the question of where meaning resides. Does it reside in the text? In the author's mind as she sets pen to paper? In the mind of each reader as she builds a model of meaning unique to her experience and reading? In the interaction between reader and text? Schema theory raised, but did not settle tbese questions. But it did privilege the interaction metaphor in suggesting that comprehension occurs at the intersection of reader, text, and context (see Figure 1.1).

Metacognition Nearly as popular as the builder was the metaphor of the "fixer"—the person who uses a variety of comprehension-enabling and -repairing strategies.'⁴ Most commonly referred to as the strategic reader (Paris, Lipson, & Wixson, 1983), she is a paragon of adaptability and flexibility. She immediately sizes up the potential influence of relevant factors in the reading environment (particular attributes of the text, the situation, which can be construed to include other learners, and the self) and then selects, from among a healthy repertoire of strategies that enable and repair comptehension, exactly that strategy or set of strategies that will maximize comprehension of the text at hand.

Sometime during the late 1970s, this new interloper burst onto the research stage, hearing the cumbersome but intellectually appealing label of metacognition. It seemed a logical extension of the rapidly developing work on both schema theory and text analysis. These latter two traditions emphasized declarative knowledge, knowing that X or Y or Z is true, but were scant on specifying procedural knowledge, knowing how to engage a strategy for comprehension or memory. This is precisely the kind of knowledge that metacognitive research has emphasized. The key phrases associated with metacognition reveal its emphasis: awareness, monitoring, control, and evaluation. Two parallel strands of research dominated the early work in metacognition. The first, meta memory research, is most typically associated with Flavell and his associates at Stanford. They discovered that along with the capacity to remember more information, human beings develop tacit and explicit strategies for remembering. The second line of research, meta-comprebension, was more typically associated with Brown and Campione and their colleagues at Illinois, and with Paris at Michigan. It emphasized the strategies that readers use on-line in monitoring, evaluating and repairing their comprehension of written text (see Paris, Lipson, & Wixson, 1983; also Baker & Beall, chapter 17, this volume).

The metacognitive turn helped us understand that reading involves many different kinds of knowledge (Paris, Lipson, & Wixson, 1983). First, declarative knowledge, knowing *that,* includes our knowledge of the world at large and our knowledge of the world of text (prototypical structures and authorial devices). Procedural knowledge, knowing *how,* includes all of the strategies we use to become aware of, monitor, evaluate, and repair our comprehension. To these more transparent sources of knowledge, Paris, Lipson, and Wixson (1983; also Paris & Hamilton, chapter 2, this volume) argued convincingly that we should add conditional knowledge, knowing *when* and *why* we would call up a particular strategy (in preference to others) to aid our comprehension. The real contribution was helping us understand that we cannot characterize comprehension or comprehension instruction without including all of these kinds of knowledge.

From *process to pedagogy: the impact of cognitive research on reading comprehension instruction*

Research on reading comprehension instruction in the 15 years following the onset of the tevolution tended to fall into one of two categories (see Pearson & Gallagher, I 983)—descriptions and interventions. Some studies attempted to describe what is going on in the name of reading comprehension, either in our schools or our textbooks. Other studies attempted to try out different ways of teaching or allowing students to practice reading

experiments; their goal was (and is) to evaluate competing practices over relatively sbort but intensive treatment periods (1-10 weeks). A few, very few, of these experiments had more of a program evaluation flavor and examined a practice or set of practices embedded into a larger curriculum and usually for a longer period of time.

Descriptions The descriptions in this period taught us more about what is not being done than what is. The landmark study in the period was Durkin's (1978-79) documentation of the paucity of instruction inside classrooms and a follow-up (1981) examination of the comprehension instruction pedagogy recommended in teacher manuals. In short, she found very little direct instruction of comprehension in intermediate grade classrooms (1978-79) or suggested in teacher manuals (1981). Instead of offering students advice about how to employ reading skills, teachers and manuals tend to assess comprehension by asking or suggesting many questions about the selections students read and by providing enormous quantities of practice materials in the form of worksheets and workbooks. Sometimes, teachers or manuals "mention," or say just enough about the skill so that students understand the formal requirements of the task. Rarely do teachers or manuals require application of the skill to reading real texts. Even more rarely do they discuss the kind of conditional knowledge suggested by Paris, et al. (1983). Durkin (1981) found tbat teachers rarely use that section of the teachers' manual suggesting background knowledge activities but rarely skip the story questions or skillsheet activities.

Beck and her colleagues at Pittsburgh (Beck, McKeown, McCaslin, & Burkes, 1979) have found several features of commercial reading programs that may adversely affect comprehension. Among them are the use of indirect language (using high frequency words such as "this" or "him" instead of lower frequency but more image-evoking words like garbage can or Mr. Gonzalez), elaborate but misleading pictures, inappropriate story divisions, misleading prior knowledge and vocabulary instruction, and questions that focus on unimportant aspects of the stories students read.

Other descriptive studies of the era concentrated more on pupil texts than on teacher manuals or classroom instruction. For example, Davison and Kantor (1982) studied the kinds of adaptations publishers make when they rewrite an adult article for students

in order to meet readability guidelines. They found a number of examples of practices that may actually make passages harder rather than easier to understand: (a) reducing sentence length by destroying interclausally explicit connectives, (b) selecting simpler but less descriptive vocabulary, (c) altering the flow of topic and comment relations in paragraphs, and (d) eliminating qualifying statements that specify the conditions under which generalizations are thought to hold. Anderson and Armbruster (Armbruster & Anderson, 1981, 1982, 1984; Anderson, Armbruster, & Kantor, 1980) examined a number of dimensions of student text material in social studies and science that may cause unintentional difficulty. Among their observations are that content area texts often (a) fail to structure the information within a predictable and recurrent frame (like a schema for text), (b) use subheadings that do not reveal the macrostructure of the topic, (c) avoid using visual displays of information, particularly to summarize information presented textually, (d) use obscure pronoun references, and (e) fail to use obvious connectives, such as because, since, before, after, etc., when they clearly fit. To make the picture even drearier, Bruce (1984) compared basal stories to those found in trade books and concluded that basal stories avoid features commonly found in stories, such as inside view, internal conflict, and embedded narratorship. An apt summary of the descriptive research of this period is pretty dismal: texts with counterproductive features, teacher manuals with scant, misleading, or unhelpful suggestions, teachers who do not teach comprehension skills and strategies in any explicit way.

Experiments The experimental work was more encouraging (see Pearson & Fielding, 1991; or Tierney & Cunningham, 1991 for elaborate summaries of this work). More comprehension instruction research was conducted between 1980 and 1990 than in all of the previous history of reading research. Examined in the broadest strokes, this body of work was strongly supportive of instructional applications of schema theory and the new work on metacognitive development.

1. Whether it comes packaged as a set of questions, a text summary, a story line, or a visual display of key ideas, students of all ages and abilities benefit from conscious attempts by teachers to focus attention either on the structure of the text to be read or the structure of the knowledge domain to which the text is related (see Pearson & Camparell, 1981).
2. Students' disposition to draw inferences or make predictions improves when they and their teachers make a conscious effort to draw relationships between
3. When students learn how to monitor their reading to make sure it makes sense to them, their comprehension skill improves (Palincsar & Brown, 1984; Paris, Cross, & Lipson, 1984). This third generalization is predictable from the first two because the only criterion readers can use to evaluate the "sense" of the model of meaning they are building is their own knowledge.
4. When strategies are taught in explicit, transparent ways, students can learn to apply them in ways that improve both their comprehension of the texts in which they are embedded and texts they have yet to encounter

Taken together, these general findings supported instruction that is based upon the driving metaphors of the new comprehension paradigm—the reader as builder and the reader as fixer; these findings are support a "generative" view of comprehension and learning (Wittrock, 1992), a view that in which comprehension is facilitated by the transformation of ideas from one form into another. It may be in this transformation process that what began as the author's ideas become the reader's ideas (Pearson & Fielding, 1991).
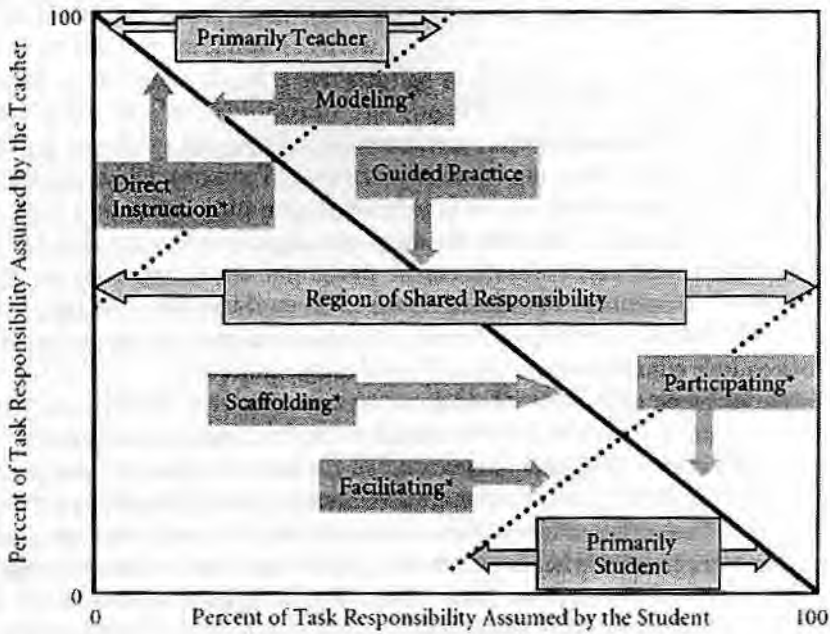
Figure 1.2 Updated gradual release of responsibility model.

Another outcome of these early pedagogical experiments was the evolution of an instructional model that has persisted from the early 1980s. The model, which defines the dynamic role of the teacher as instruction ensues, was implicit in virtually all of the

Pearson and Gallagher (1983) [15] as a tool for explaining commonalities across a range of research efforts from the late 1970s and early 1980s. Dubbed the gradual release of responsibility model, the idea is that as teachers move from the teacher roles of modeling and direct instruction to scaffolding and guided practice and onto facilitation and participation, they release more arid more responsibility to students for completing key tasks. An updated version reprinted here (Figure 1.2) is an adaptation of the original Pearson and Gallagher graphic from Duke and Pearson (2002).

FROM REVOLUTION TO RECONTEXTUALIZATION
AND REVISIONISM: THE 1990S

The impact of schema theory and metacognition on pedagogy continued into at least the middle 1990s. But it did begin to lose its hold as the dominant theory of comprehension processing. It was not as though schema theory died, but it is probably best to regard the decade from of the 1990s as the era in which reading, including schema theory, was recontextualized as a process that is intimately related to its sibling linguistic processes of writing, listening, and speaking and to the social and cultural contexts underlying.[16] In fact, it became increasingly common for scholars to refer to literacy research rather than either reading or writing research. A telling example of this change in perspective occurred in the latter part of the decade when the National Reading Conference changed the name of its journal from the

trends toward contextualizing reading. We moved from conferences about reading or writing to conferences about the dynamics of language learning, the contexts of school-

based literacy, and multidisciplinary perspectives on literacy research. In the eighties we were arguing for integration; in the 1990s, we were assuming it.

Advances in research on comprehension processes

Cognitive shifts If schema theory (see Anderson & Pearson, 1984), with its twin emphases on the importance of knowledge in determining comprehension and the central role of inference in helping to build complete models of text meaning was the conventional wisdom leading us into this post-paradigm shift period, beginning in the mid-1980s, then the rest of the decade, and indeed most of the following decade, is best viewed as a series of attempts to account for weaknesses attributed to schema-theoretic accou nts of reading comprehension. In fact, the theme of this period might be labeled, moving beyond schema theory.

The more general notion of building mental models (see McNamara, Miller, & Bransford, 1991 for a summary of this work has characterized basic research on comprehension processes completed by the cognitive science community in the latter part of the decade. Mental models, which appear to be more spatial, episodic, and almost cinematic in character, as least when compared to abstract, semantically-based schemata, provide readers with alternatives to propositional and schema models for representing emerging models of text meaning. The purported advantage (Johnson-Laird, 1983) of mental models over schema models is that they can handle both heavily scripted events like going to a restaurant or a movie, which schema models also handle quite well, and unique, unscripted activities, which schema models can accommodate only with great strain. The comprehension research evaluating the efficacy of mental models (see McNamara et al., 1991) suggests that they are quite useful in accounting for the dynamic course of comprehension during reading. For example, the mental models approach is quite sensitive to subtle shifts in comprehension focus (e.g., when a reader shifts from an hypothesis that character A rather than character B is the likely candidate for protagonist). This work on mental models reached its zenith in the middle 1990s in the work of Kintsch, fully summarized in his 1998 book on comprehension and featuring his highly influential constructs of the text base and the situation model. The text base is a largely veridical map of the key ideas in tbe text that is hammered out with deliberate bottom-up processes that involve decoding in a central way. The situation model is akin to t

model of meaning put forward in the early 1980s by tbat ever evolving, always elusive model built at the intersection of prior knowledge and the text base and providing the momentarily best account

Another attempt to accommodate for problems with schema theory came from the work of Spiro and his colleagues (Spiro, Vispoel, Schmitz, Smarapungavan, Boerger, 1987). Operating out of a Wittgensteinian perspective, Spiro argued that tbe schema model of comprehension so dominant in prior period runs the risk of seducing us into oversimplified notions of comprehension and learning by implying that schema have a fixed, static character. According to Spiro's Cognitive Flexibility Theory, we need to expand schema theory to account for the dynamic nature of comprehension and learning, especially in domains of knowledge that have an ill-structured character, where the category distinctions are fuzzy and the operational rules have numerous exceptions. We need to view the development of these fundamental cognitive processes from multiple perspectives. It is not enough to facilitate the understanding of a text, for example, by helping readers adopt tbe most appropriate schema for understanding it. Instead, we must encourage learners to approach the comprehension of a text and the learning of a new domain of knowledge by examining each from as many perspectives as possible. Spiro is wary of the process of schema selection, or activation. Consistent with his preference for multiple perspectives, Spiro prefers to talk about assembling   schemata

to fully comprehend a specific text, topic or situation rather than *selecting* a particular schema to do the job.

Working simultaneously in a wide range of domains of knowledge, Spiro and his colleagues were able to demonstrate the constricting, oversimplifying, and conceptually misleading effects of singular perspectives, including simplifying analogies, when students try to understand or learn information in a complex, ill-structured domain of inquiry. In arguing for multi-perspectival approaches to learning and comprehension, Spiro takes a "case well-studied" approach. To that end, he uses the Wittgensteinian metaphor of criss-crossing a landscape from many directions in order to achieve an understanding and appreciation of it. For example, in examining the ways in which medical students acquire (or fail to acquire) knowledge about the heart and what causes heart attacks, Spiro and his colleagues have found that students develop misconceptions whenever they cling to a single concept, analogy, or model. In order to overcome misconceptions, students must confront multiple models and analogies, even though they may sometimes logically contradict one another. In learning about heart muscles, part of the truth is captured by the "crew analogy"—a bunch of rowers all pulling and relaxing in unison, while part of the truth is captured by the "turnbuckle" analogy—tension from within creates external stretching. And to counteract the unison and synchrony implied by the crew analogy, a Roman galley ship analogy, with more emphasis 'on the voluntary, and bence asynchronous (maybe even chaotic), actions of individual oars, must be provided. According to Spiro and his colleagues, it is only when a single, complex construct is informed by these multiple, sometimes contradictory, perspectives that adequate comprehension and learning can occur.

A third initiative, dubbed situated cognition, with strong roots in the Vygotskian tradition of learning theory (see Gavalek & Bresnahan, chapter 7, this volume) emerged from the work of Brown, Collins and Duguid (1989). They argued that our approaches to nurturing cognitive development are so abstract and divorced from the "authentic activity" that they are designed to nurture, that they cannot and do not promote adequate comprehension of either a particular text or the more general topic exemplified by a particular text. Even an inherently abstract domain such as mathematics has a specific context of application and "practice." In our zeal to develop context-free, transferable concepts and skills, we have inadvertently and inappropriately focused upon the teaching and learning of explicit but abstract rules and conceptual features. What we need, they argued, is a "situated" view of cognition and epistemology. If cognition, including comprehension and learning, is regarded as a situated phenomenon, then we will accept and take advantage of the fact tbat most events and concepts derive most of wbat we regard as meaning from the contexts in which we encounter them. Meaning is as much "indexical" (i.e., contextually bound) as it is conceptual. Notice that while the rationale for moving beyond schema theory is different from that proposed by Spiro and his colleagues, the final recommendation for "teaching" is quite similar: in order to help learners develop useful models of meaning for text or experience, teachers need to design work that situates students in the specific rather than the abstract. In the end, both of these positions argue, we are faced with the paradox that in order to learn what is abstract, general, and context-free, we have to behave as though understanding phenomena as they exist within their natural context is all that mattered.

The social turn Perhaps the most important development in this period was the increased prominence of a range of social perspectives on reading and learning more general; they came with a range of hyphenated names, such as socio-cultural, social-historical, and even soci-psycholinguistic. These scholars (e.g., Harste, Burke, & Woodward, 1984) provided more socially oriented critiques, with constructs like the social construction of reality imported from sociology. They also provided new research

methodologies that emphasized the social and cultural and even political contexts of teaching, learning, and understanding (see Pearson & Stephens, 1993), but that most interesting and controversial topic is beyond the scope of this analysis. Suffice it to say that the shift in methods used by doctoral students and presented at national conferences in this era revealed a marked trend toward understanding understanding in its highly contextualize, situated, and particular aspect.

The rediscovery of the Russian psychologist Vygotsky (1978) alluded to earlier and the Russian literary theorist Bakhtin (1981) provided even more ammunition for socially based views of cognition, learning, and development. From Vygotsky (see Gavalek & Besnahan, chapter 17, this volume) reading researchers fixed their attention on the social nature of learning and the key role that teachers and peers play in facilitating individual learning. Vygotsky's "zone of proximal development," that range defined by the difference between the learning a child can accomplish on her own and what she can accomplish with the assistance of someone else (a teacher, a mentor, a parent, or a knowledgeable peer), may be the most popular learning construct of the 1980s. From Bakhtin's dialogical perspective, scholars forged a preview of coming attractions in what is destined to become a classic perspective of the future—an intertextual view of reading comprehension and the basic premise that we understand each new "text"—be it written, oral, or experiential—in relation to all the previous "texts" we have experienced (see Hartman, 1995). While some observers have questioned whether these more socially driven views of cognition represent a substantial departure from schema theory, they nonetheless shifted the attention of reading researchers from the individual and the text to the situational context surrounding the act of reading.

But one cannot understand the changes in pedagogy that occurred in the late 1980s and early 1990s without understanding the impact of literary theory, particularly reader response theory. From literary theory came the reincarnation of Rosenblatt's (1978) Deweyian-inspired transactional view of the relationship between reader and writer and Bleich's (1988) concept of the intersubjective negotiation of meaning; these constructs were eagerly and readily repositioned in pedagogical language and activity (e.g., Langer, 1990). In our secondary schools, the various traditions of literary criticism have always had a voice in the curriculum, especially in guiding discussions of classic literary works. Until the middle 1980s, the "New Criticism" (Richards, 1929) that be an its ascendancy in the depression era dominated the interpretation of text for several decades. It had sent teachers and students on a search for the one "true" meaning in each text they encountered." With the emergence (some would argue the re-emergence) of reader response theories, all of which gave as much authority to the reader as to either the text or the author, theoretical perspectives, along with classroom practices, changed dramatically. The basals that had been so skill-oriented in the 1970s and so comprehension oriented in the 1980s, became decidedly literature-based in the late 1980s and early 1990s. Comprehension gave way to readers' response to literature. Reader response emphasized affect and feeling that can either augment or replace cognitive responses to the content. To use the terminology of the most influential figure in the period, Louise Rosenblatt (1978), the field moved from efferent to aesthetic response to literature. And a "transactive model" replaced the "interactive model" of reading championed by the cognitive views of the 1980s. According to Rosenblatt, meaning is created in the transaction between reader and text. This meaning, whicb she refers to as the "poem," is a new entity that resides above the reader-text interaction. Meaning is therefore, neither subject nor object nor the interaction of the two. Instead it is transaction, something new and different from any of its inputs and influences."

In the most fully articulated version of this perspective, Smagorinsky (2001) borrowed heavily from the reader response theory of Rosenblatt (1978) and the activity theories emanating from the Vygotskian tradition (e.g., Wertsch, 1993) to create what

he called a cultural model of reading, in wbich be argued that the meaning in understanding resides not within the text or within the reader but witbin tbat transactional (borrowing from Louise Rosenblatt) zone it which reader, text, and context meet and become something more than their sums or products. The fundamental argument in Smagorinsky's model is that readers quite literally compose new texts in response to texts they read; their recompositions are based upon the evocations (links to prior texts and expetiences) that occur during the act of reading within a context that also shapes the type and manner of interpretations they make. Tbese evocations hearken back to both Bakhtin's notion of intertextuality (for they are, even in a literal sense, connections to other texts), the cultural practices notions of writers such as Wertsch (1993) and Gee (1992), and the reading as writing models of the middle 1980s (e.g., Tierney & Pearson, 1983).

Developments in comprehension instruction

A new generation of strategy instruction research   Gathering momentum from landmark studies (e.g., Palincsar & Brown, 1984; Hansen, 1981; or Paris, Cross, & Lipson, 1984) early in the 1980s, strategy instruction expanded rapidly over the next 15 years, so rapidly indeed that it was the frequent object of review throughout the 1990s and into the early part of the 21st century (e.g., Dole, et al., 1991; Duke & Pearson, 2002; NICHD, 2000; Pearson & Fielding, 1991; Pressley, 2000; Pressley et al., 1994; Rosenshine & Meister, 1994; Rosenshine, Meister, & Chapman, 1996). [20] Two basic findings, also present in tbe earlier iteration of strategy instruction research were these: (a) when students are taught to apply strategies to text, their comprehension of those texts improves, and (b) often their comprehension of new texts (transfer tasks) in which they are required to apply the strategies, also improves. A major question in strategy instruction research is whether strategies should be taught as singletons, one by one, until many are acquired (this is the logic of the approach taken by Ellen Keane in her very popular book, *Mosaic of Thought* (1997) or as a "suite" of strategies from which a reader select the strategy most appropriate to a problem confronting them, which is the underlying logic of two of the most popular and well-studied approaches to strategy instruction—reciprocal teaching (RT; see Rosenshine & Meister for an extensive review of studies on RT) and transactional strategies instruction (Pressley et al., 1994). [21] Of all the approaches to strategy instruction tbat emerged in the 1980s and 1990s, none has had more direct impact tban Reciprocal Teaching, mainly because it has been appropriated and adapted by a number of instructional researcbers for a variety of pedagogical contexts (virtually all subject areas) and ages (from kindergarten through community college (see Rosenshine and colleagues, 1994, 1996). The line of work on Transactional Strategies Instruction is noteworthy for two reasons. First, it was created as a collaboration between university researcbers (i.e., Michael Pressley and his colleagues at the University of Maryland) and a host of teachers from Montgomery County Maryland; hence it embodied the connection between theories of metacognition and comprehension processes and the problems of practice and implementation. Second, it surrounded the four strategies of Reciprocal Teaching with a few more cognitive strategies (text and story structure analysis) and a host of interpretive strategies that were closely allied with literary analysis—character development, figurative language, point of view, personal connections, thematic analysis, intertextual connections, and a range of literary elements. The inclusion of the interpretive strategies was a brilliant stroke because its literary patina softened what might otherwise have been construed as a highly cognitive and routinized approach, and directly appealed to teachers who were adopting literature-based reading approaches in the late 1980s and early 1990s.

The Achilles heel for strategy instruction, both in tbis period and even today, is finding a way to make it a part of "daily life" in classrooms. It is one thing to implement strategy instruction for a certain number of minutes each day for the ten weeks of a pedagogical experiment, but it is quite another to sustain a strategy emphasis over an entire school year (see Hacker & Tenent, 2002). In short, it is easy to teach strategies in short spurts, but it is hard to curricularize them. Should a teacher have students use the four strategies of RT every day? For every text segment they read? Or should they encourage students to "select" the optimal strategy for a particular situation or problem? And if a teacher encourages such flexible use, how will she make sure students select useful strategies, i.e., strategies that actually solve their problems. Even so, the consistent pattern of findings favoring the explicit teaching of strategies over a period of 15 years virtually guaranteed them a place in the curriculum of the early to mid 1990s.

Literature-based reading Even though selections from both classical and contemporary children's literature have always been a staple of basal selections dating hack to the 19th century (especially after grade 2 when the need for strict vocabulary control diminished), literature virtually exploded into the curriculum in the late 1980s and early 1990s. Beyond basals, children's literature has played an important supplementary role in the classrooms of teachers who believed that they must engage their students in a strong parallel independent reading program. Often this has taken the form of each child selecting books to be read individually and later discussed with the teacher in a weekly one-on-one conference. And even as far back as the 1960s, there were a few programs which turned this individualized reading component into the main reading program."

But in the late 1980s and early 1990s, literature was dramatically repositioned. Several factors converged to pave the way for a groundswell in the role of literature in elementary reading. Surely the resurgence of reader response theory as presented by Rosenblatt was important, as was the compatibility of the reader response theory and its emphasis on interpretation with the constructivism that characterized both cognitive and sociolinguistic perspectives. Research also played a role; in 1985, for example, in the watershed publication of the Center for the Study of Reading, *Becoming a Nation of Readers,* Richard Anderson and his colleagues documented the importance of just plain reading" as a critical component of any and all elementary reading programs."
But perhaps most influential were the perspectives of practitioners who championed literature. And no one was more influential than Nancie Atwell, who, with the publication of her influential book In the Middle (1987), brought many teachers into the world of literature in their classrooms. In her account she laid out her story, as a middle school teacher, of how she invited readers, some of whom were quite reluctant, into a world of books and reading. The credibility of her experience and the power of her prose were persuasive in convincing thousands of classroom teachers that they could use existing literature and "reading workshops" to accomplish_ anything that a basal program could accomplish in skill development while gaining remarkable advantages in students' literary experience.

In terms of policy and curriculum, the most significant event in promoting literature-based reading was tbe 1987 California Reading Framework. The framework called for reading materials which contained much more challenging texts at all levels. More important, it mandated the use of genuine literature, not the dumbed-down adaptations and excerpts from children's literature that had been the staple of basal programs for decades. Publishers responded to the call of California's framework and produced a remarkably different product in the late 1980s and early 1990s than had ever appeared before on the basal market. [24] Gone were excerpts and adaptations, and with them almost any traces of vocabulary control. Skills that had been front and center in the

basals of the 1970s and 1980s were relegated to appendix-like status. Comprehension questions were replaced by more interpretive, impressionistic response to literature activities. All this was done in the name of providing children with authentic literature and authentic activities to accompany it. The logic was that if we could provide students with real literature and real motivations for reading it, much of what is arduous about skill teaching and learning will take care of itself.

Book Clubs and literature circles are the most visible instantiations of the literature based reading movement.25 The underlying logic of Book Clubs is the need to engage children in the reading of literature in the same way as adults engage one another in voluntary reading circles. Such voluntary structures are likely to elicit greater participation, motivation, appreciation, and understanding on the part of students. Teachers are encouraged to establish a set of "cultural practices" (ways of interacting and supporting one another) in their classrooms to support students as they make their way into the world of children's literature. These cultural practices offer students both the opportunity to engage in literature and the skills to ensure that they can negotiate and avail themselves of that opportunity.

Integrated instruction Integrated instruction has been a much-discussed but seldom enacted part of the thinking about elementary reading curriculum." There was much talk of it during the early progressive period, but until the late 1980s, integration of the language arts curriculum assumed a minor role in American reading instruction. In basal manuals, for example, integration was portrayed almost as an afterthought until the late 1980s; it appeared in the part of the lesson that follows the guided reading and skills instruction sections, signaling that these are things that a teacher can get to "if time permits." Things changed in the late 1980s and early 1990s. For one, integrated curriculum fit the sociolinguistic emphasis on language in use—the idea that language, incluing reading, is best taught and learned when it is put to work in the service of other purposes, activities, and learning efforts. Similarly, with the increase in importance of writing, especially early writing of the sort discussed by Graves and his colleagues,-" it was tempting to champion the idea of integrated language arts instruction; after all, reading and writing were both acts of construction (remember the builder metaphor). In fact, the constructivist metaphor is nowhere played out as vividly and transparently as in writing, leading many scholars to use writing as a model for the sort of constructive approach they wanted to promote in readers. The notion was that we needed to help students learn to "read like a writer.""

Whole language One might plausibly argue that whole language brought together all of the constructivist and progressive trends of the post revolution period—comprehension, literature-based reading, integrated instruction and even process writing—by incorporating them into its fundamental set of principles and practices. It is also fair to argue that whole language owed its essential character and key principles to the insights that came from all of the linguistic, psycholinguistic, cognitive, sociolinguistic, and literary theoretic research that was played out from the late 1960s through the early 1990s. That said, the Whole Language movement has always had a strained and strange relationship with reading comprehension, particularly comprehension instruction. With the strong emphasis on authenticity in of the texts and tasks we ask students to engage in and the equally strong disdain for skills instruction (see Pearson, 2004, for an extended analysis), comprehension that emerges from rich, authentic encounters from text in a meaning-making community of teaders is preferred to explicit instruction in skills, strategies, or vocabulary, which have an excessive didactic emphasis that is inconsistent with the strong child-centered philosophy underlying Whole Language. So, to the degree that comprehension was emphasized in Whole Language, it was largely through classroom,

preferably small group, conversations about texts that students read together—with an occasional mini-lesson on a particular meaning making (e.g., making predictions) or repair (e.g., clarifying unknown words through contextual analysis) strategy offered when the situation called for it. For these very reasons, the pedagogical premises of literature-based instruction were a very comfortable fit for Whole Language.

This then was the set of instructional options available to teachers in the early to middle 1990s—elaborate strategy instruction, rich conversations about literature, a yearning for more integrated instruction, and an umbrella pedagogy in which to embed it all. No matter how different the approaches were in implementation, there were several underlying commonalities—a commitment to reading as the construction of meaning in response to text; a dynamic view of the teacher involving roles as one who moves from modeling and explicit teaching, to scaffolding and coaching, to facilitating and participating as students develop greater competence, confidence, and independence; and a general commitment to student rather than teacher centered practices.

THE CURRENT CONTEXT FOR THIS VOLUME

The stage is nearly set for the unfolding of all the glorious detail in the chapters of this volume, save for a commentary on the political context in which we have been foundering for the past decade. For a host of reasons that go beyond the scope of this introductory chapter, much of this momentum toward reading as a meaning-making process was reached in the last few years of the 20th century and the first few years of the 21st. Suffice it to say that several forces conspired to create a movement that took us back to the basics—a kind of "first things first" reform movement that created fuel for its mission by arguing that the lack of attention given to fundamental skills in the constructivist pedagogies of the previous 20 years was responsible for what has often, and unfairly, been characterized as the awful performance of students on important outcome measures. [29] And while there has been nothing in these reforms to suggest that comprehension instruction should be suspended, there is a subtle repositioning. In the reforms ushered in with the critique of constructivist practices, comprehension has become the natural consequence of teaching the code well in the early stages of instruction instead of the primary goal and focus of attention from the very beginning of a child's instructional lives in school. This is a return to the simple view of reading that formed the basis of pedagogy prior to the paradigm shift of the 1970s: reading comprehension is the product of listening comprehension and decoding (see Hoffman, chapter 3, this volume).

But some recent signs point in a more positive direction. First, there is the important work of the Rand Study Group (Snow, 2002), outlining an agenda for future work on reading comprehension, including the much neglected topic of assessment (see Pearson & Hamm, 2005; Leslie & Caldwell, chapter 19, this volume). Second, the Carnegie Report, *Reading Next* (Biancarosa & Snow, 2006), focuses our attention on older struggling readers, students for whom comprehension, especially of content area materials, is an alarming problem. Third, we have relatively recent movements that hold promise for moving comprehension into different domains, domains that both challenge and excite students. The first is the domain of new literacies, including those emanating from technological advances (see the chapters by Kamil & Chou (chapter 13) and by Tierney (chapter 12), both in this volume) and those that reside in spaces outside of schools (Alvermann & Xu, 2003; Moje, 2004; Hull & Schultz, 2002). The second is a renewed interest in the role of conversations about text (see Almasi & York, chapter 22, this volume); more important, we seem to have much more intellectual and methodological muscle available to examine the issues than in previous eras. The third is a

tejuvenation of content area reading (see Conley, chapter 25, this volume), particularly for seeondary students. The trends within that field seem particularly promising include (a) teseatch in which teading and writing are put to work in the service of acquiring knowledge and skill in tbe disciplines (Guthrie et al., 2004; Cervetti Pearson, Barber, Hiebett, & Bravo, 2006; Sutherland et al., in press), and (b) research that attempts to understand the discursive and social practices of disciplinary learning in school settings (Moje et al., 2004).

So, there are signs of both concern and hope in the current professional and policy context. With any luck, the very existence of this volume will, as the ideas it brings to field get played out in classrooms, schools, and community contexts, actually alter the context in ways that will create more space for teachers and students to focus on what really matters in reading—understanding, insight, and learning—the very things that are both the cause and consequence of comprehension.

Notes

1. It is somewhat ironic that the sort of thinking exhibited in this piece did not become dominant view in the teens and twenties. Unquestionably, Thorndike was the pre-eminent educational psychologist of his time. Furth er, his work in the psychology of learning (the law of effect and the law of contiguity) became the basis of the behaviorism that dominated educational psychology and pedagogy during this period, and his work in assessment led was highly influential in developing the components of classical measurement theory (reliability and validity). Somehow this more cognitively oriented side of his work was less influential, at least in the period in which it was written.
2. See Smith (1986), American Reading Instruction, 259-262, for an account of the emergence of child-centered reading pedagogy. Foundational thinkers for this movement were Pestalozzi (1898), Froebel, (1887), and Herbart (1901).
3. Ironically, it was the field's most ambitious effort in readability by Bormuth in 1966 that provided the closing parenthesis on this 40-year enterprise.
4. The very latest iterations of readability take the form of tools to place students in books by putting student test scores and text readability on the same scale. Lexiles (Stenner & Burdick, 1997; Stenner et al., 1987) are the most common tool in the current educational marketplace. But the readability architecture underlying Lexile scaling is measuring average sentence length and average word length.
5. Smith (1986) documents the growth in size and changes in emphases of these two mainstays in each of the chapters detailing 20th century reading instruction.
6. Smith (1986) suggests that by the 1940s, teacher editions had expanded to more than 500 pages per student hook.
7. See Smith (1986), pages 208–229; Gates and Humber, 1930.
8. See Smith (1986), pages 231-239.
9. This absence would prove prophetic some 30 years later when Dolores Durkin (1978) conducted her infamous "where is the comprehension instruction" study.
10. The term re-embrace is used intentionally to capture the fact that intellectual ancestors from the early part of the 20th century, scholars such as Huey, talked of these constructs freely in the days before behaviorism took hold in the field. Even the early Thorndike of the 1917 piece on reading as reasoning was a very different psychologist from the one who developed the laws of effect and contiguity.
11... During this period, great homage was paid to intellectual ancestors such as Edmund Burke Huey, who as early as 1908 recognized the cognitive complexity of reading. Voices such as Huey's, unfortunately, were not heard during the period from 1915 to 1965 when behaviorism dominated psychology and education.
12. Smagorinsky (2001) uses the phrase "inscribed" in the text as a way of indicating that the author of the text has some specific intentions when he or she set pen to paper, thereby avoiding the thorny question of whether meaning exists "out there" outside of the minds of readers. We use the term here to avoid the very same question.
13. Most coherent model is the model that provides the best account of the "facts" of the text uncovered at a given point in time by the reader in relation to the schemata instantiated at that same point in time. This is very much akin to Kintsch's construct of situation model, which Kintsch defines as the reader's current best fit between the facts of the text (coming from the text base) and relevant concepts from prior knowledge. Both Kintsch and

the schema theorists viewed this best fit as a dynamic phenomenon that gets updated as new information emerges from the text and triggers (instantiates is the operative word in schema theory) the activation of relevant schemata from memory.

14. See Baker and Beall, chapter 17, this volume, for an extended treatment of metacognition, both irs history and current instantiation.

15. The original version of the model actually emerged from many conversations between Pearson and Joe Campione and Ann Brown at the Center for the Study of Reading in the early 1980s, and was heavily influenced by the scaffolding metaphor from Wood, Bruner, and Ross (1976), the dynamic assessment work of Feuerstein and colleagues (1979), and then emerging zone of proximal development construct of Vygotsky (1978).

16. See Pearson and Stephens (1992) for an account of the forces that led to these shifts; see also McVee, Dunsmore, & Gavalek (2005) for a more analytic treatment of the shortcomings of schema theory and the tensions between it and more socioculturally grounded conceptions of comprehension.

17. By the mid-1990s, the transformation was complete, and NRC had the *Journal of Literacy Research.* No reading. Ironically, the organization kept its name, creating an emblematic disconnect between the name of the organization and the name of the journal.

18. It is most interesting that the ultimate psychometrician, Frederick Davis (e.g., 1944), was fond of referencing the New Criticism of 1. A. Richards (1929) in his essays and investigations about comprehension.

19. Rosenblatt credited the idea of transaction to John Dewey, who discussed it in many texts, including *Experience and Education* (1938).

20. See Dole, Nokes, and Drits, chapter 16, this volume, for a thorough treatment of the entire line of strategy instruction research, including work extending into the 21st century.

21. Even though it was conducted well after the end date (roughly 2002) for this chapter, it is worth noting that Reutzel and his colleagues (2005) found that one menu approache of TSI's suite was more effective in promoting understanding of science texts with young readers.

22. It is undoubtedly Jeanette Veatch (1959) who served as the most vocal spokesperson for individualized reading. She published professional textbooks describing how to implement the program in one's class in the middle 1960s.

23. Anderson and his colleagues (1984) reported several studies documenting the impact of book reading on children's achievement gains.

24. Hoffman and his colleagues (1994) painstakingly documented these sorts of changes in the early 90s basals.

25. For a complete account of the Book Club movement, see McMahon and Raphael (1997).

26. Perhaps the most complete current reference on integrated curriculum is a chapter by

to note that in chapter 10 of Huey's 1908 book on reading, two such programs, one at Columbia and one at the University of Chicago, were described in rich detail. It is Dewey's insistence that pedagogy be grounded in the individual and collective experiences of learners that is typically cited when scholars invoke his name to support integrated curriculum.

27. See Graves (1983) for an explication of his views on writing.

28. STierney and Pearson (1983) carried this metaphor to the extreme, using the reading "like a writer" metaphor to emphasize the constructivist nature of reading.

29. Accusations of this sort are curious at best in light of 30 years of remarkably level performance on the National Assessment of Educational Progress. A better argument for a crisis would be our inability to close the remarkably persistent achievement gap between rich and poor or majority and minority students. Some would argue (e.g., Pearson, 2004) nhat the use of achievement levels in NAEP (basic, proficient, and advanced) with rigid cut scores is the perfect policy tool for fomenting a crisis because it allows policy makers to make arguments of the ilk, "Forty percent of America's fourth graders read below basic!" Such accusations fail to admit the obvious—that given the current standards and cut scores, 40% of America's fourth graders have read below basic for the last 30 years. In short, there is little compelling evidence to fix the hlame for the achievemenn of America's students on any particular curricular movement or practice.

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