Title: Second Language Reading Research: A Critical Review

Author: Amy C. Hazelrigg

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Interview-based research this writer conducted a few years ago concerning the L2 learning experiences of young Vietnamese refugees concluded that significant numbers of the participants at middle and high school level were having considerable difficulty with reading assignments in subject-area classes, particularly middle school social studies, even after completing several years of American schooling and "advanced" English as a Second Language (ESL) classes (Hazelrigg, 1996). The problem is reflected in a variety of studies in the professional literature. Valdés notes (1998) that her observations have unearthed a major group of middle school ESL students whose English shows severe limitations despite residence in the United States since elementary school. With respect to academic success in "mainstream" classes, English Language Learners (ELLs) are known to have difficulty with genuine engagement with meaning involving the written language. Language educators and assessment specialists have noted that ELLs who have exited the ESL curriculum often lack the metacognitive knowledge necessary for choosing appropriate strategies for dealing with academic texts (Chamot & O'Malley, 1994; Harklau, 1999). Reading specialists and applied linguists remark frequently that L2 learners tend to process small sections of printed text in a disconnected, linear fashion and have massive problems with sense-making at the discourse level (Eskey, 1973; Coady, 1979; Carrell, 1989, 1991; Bernhardt, 1991; Dubin & Bycina, 1991; Grabe, 1991; Cazden, 1992; Grabe & Gardner, 1995). As Pauline

Gibbons puts it, they tend not to "carry meaning across chunks of text" (1991, 83). The author of this review has noted in the unpublished 1996 study and in conversations with colleagues that L2 readers exhibit additional problems in the classroom: there are those who are silent, there are those who cannot comprehend writings on a particular subject matter, and there are those who can express themselves orally but cannot read.

Existing research, including the literature on teacher training, represents further problems. William Grabe has pointed out (1995a) that second language acquisition theory is still dominated to a great extent by the nativist paradigm and a concomitant emphasis on "acquisition," as opposed to "learning" (e.g., Krashen, 1995), and that L2 pedagogy, as a result, retains a primary focus on oral language proficiency as well as language "exposure"—at the expense of reading instruction in general and reading strategy instruction in particular. Other researchers, especially outside of North America (e.g. Hammond & Hood, 1990; Christie, 1992; Wilson, 1997), take the view, for similar reasons, that certain approaches to language teaching, notably those privileging process and whole language, should be augmented by the study of products, especially written genres typical of school-based forms of literacy. An extensive review by Fitzgerald (1995b) of ESL reading instruction research in the United States concludes that ESL teachers are, in the main, insufficiently trained in the teaching of reading, that significant features of the audio-lingual approach to L2 instruction—an approach focusing exclusively on spoken language—are to be found in ESL programs across the country, and that either delaying or excluding reading instruction in favor of oral language instruction is common practice. Even standards documents created by TESOL, the flagship professional association for the field, give sketchy attention to reading,

particularly to metacognition and critical reading. TESOL's 1997 *ESL Standards for Pre-K-12 Students* mentioned reading in only one of its three goals covered by this 30-page document. The current version of this document is more specific but, again, emphasizes oral development over literacy and gives scant attention to the metacognitive strategies so central to reading comprehension and, even in the goals and standards for high school-age students, contains no recommendations related to extended reading.

In a talk before the 1997 conference of the National Association for Bilingual Education, Guadalupe Valdés remarked that she had begun to feel, after many years of observing ESL classes in American public schools, that extended passages of English text, either written or oral, were rarely included in the ESL curriculum. Swaffar (1992) makes the same point in regard to first-year ESL college courses. As Block (1992), Wales (1990), and Shih (1992) have pointed out, the usual reading fare in middle through high school ESL classes consists of brief narrative and expository texts that are typically inauthentic and, not infrequently, poorly-written. Fitzgerald's study, mentioned above, found four major categories of research in ESL reading, only one of which subsumed studies with an interest in investigating the teaching and comprehension of written text beyond the sentence level. .

William Grabe has argued over the better part of two decades (e.g., 1986, 1995) for the great need to provide explicit instruction in extended reading in ESL curricula in the United States, terming it perhaps the most important language activity engaged in by ESL students at the college level because it is the basis for developing a "'Critical Mass of Knowledge' of the English language and of world-background knowledge" (1986, 35)—the central means, in other words, for both learning the language and learning

through the language. This need is given support by other treatments of the subject (Halliday, 1990; Gibbons, 1991) and by a rare longitudinal case study (Spack, 1997) of L2 academic literacy development which offers detailed evidence of the severe reading problems of a college-age English language learner with well-developed literacy skills in her native Japanese, a year in ESL classes in the U.S. as a high school exchange student, and three ensuing semesters of ESL night classes in Japan in a program sponsored by an American educational institution. Similar issues have been addressed in the context of concern for the "functional bilingual" (Valdés, 1992, p. 101) or "second-phase" English language learner (Wales, 1990, p. 169), the student with oral proficiency apparently sufficient for successful communication in many spoken-language domains (Fishman, 1972; Grosjean, 1982) and registers (Ferguson, 1994; Biber, 1995), but without the kind of facility in literacy necessary to transition successfully to mainstream classes during middle or high school (Chamot & O'Malley, 1992) or for successful college work.

Perhaps most problematically, in the spectrum of ESL reading research that Fitzgerald has characterized as "having considerable breadth, but little depth" (1995b, p. 115), there are few signs of growth in the direction of newer functional and sociocultural approaches to language and literacy as represented by such thinkers as Gee (1996), Lemke (1995), Halliday (1973, 1977, 1978, 1987, 1989a, 1989b, 1991, 1992, 1993, 1994), Martin (1990), and Rothery (1996). Discussion of text analysis in ESL reading research in the United States, for example, is relatively sparse in the first place and has been dominated by form-based views of text divorced from social context and, ultimately, from the search for meaning (McCarthy, 1991, 1994; Geva, 1992; Connor, 1994; Hughes & McCarthy, 1998); the nature of written text, especially academic

registers, as opposed to oral, has been misleadingly characterized by many among two decades of educators as "decontextualized" (Cummins, 1981) or, in a weaker form, "frequently not supported by the rich array of non-verbal and contextual clues that characterize the language of face-to-face interaction" (Chamot & O'Malley, 1994, p. 7); issues of genre and register remain almost entirely ignored in the ESL literature (but see Mohan, 1990); and a central consideration in the processing of written language—the nature and role of knowledge structures—has been reduced to unquestioning acceptance of the twin notions of "content" and "text" schemata (Carrell, 1984, 1987; Steffensen, 1986, 1987) and a failure to relate those concepts to language use in authentic discourse. At the most basic theoretical level of language study, despite the existence of a strong American tradition of multidisciplinary work on literacy practices (Cook-Gumperz & Gumperz, 1981; Scollon & Scollon, 1981; Scribner & Cole, 1981a, 1981b; Heath, 1982, 1991a, 1991b; John-Steiner, Panofsky, & Smith, 1994; Gee, 1996), descriptions of language as a system which have seemed to penetrate ESL pedagogy in the U.S. are models of language as sign systems which evolve "in isolation from human interaction" (Hasan & Perrett, 1994, p. 180). The unfortunate result is the assumption of an "autonomous" model of literacy (Street, 1984, 1995) and a lack of attention to research on critical reading and its place in ESL education (Hyon, 1996; Pennycook, 1993).

With regard to methodological specifics, the literature on what is actually going on in L1 and L2 reading pedagogy in the United States is limited, but it supports the general view among ESL specialists that what is happening is not achieving the goal of helping students get at text meaning. Moreover, there is no tenable reason for assuming that L1 reading is approached in the classroom very much differently from L2 reading,

except perhaps that L2 classes do less reading of authentic texts (Chamot & O'Malley, 1994). Bloome & Green (1992), speaking of the broader context of literacy education, suggest that the typical literacy event (Heath, 1983), a socially situated phenomenon, is a kind of ritualized display in which students and teachers exhibit conventionalized interpersonal behaviors that signify they are engaged in what is supposed to happen in a classroom. Nystrand & Gamoran (1991) make essentially the same point, calling this type of instructional conversation "procedural engagement"—as opposed to "substantive engagement" (p. 259), which consists of authentic teacher questions and teacher uptake (working student responses into the unfolding exchange of ideas). The result, seen in interactional terms, is the negotiation of meaning involving scaffolding (Wood, Bruner, & Ross, 1976).

With respect to college foreign language classrooms, Bernhardt (1991) offers a portrait of the typical reading lesson, noting that teachers tend to use inauthentic text and teach it, first, by introducing culturally-relevant information and preteaching vocabulary, usually in a decontextualized fashion, followed by the assignment of the text and comprehension questions as homework, or by round-robin oral reading and oral comprehension questions.

Though ESL classrooms *per se*, as well as the reading experiences of ELLs in content classes, are not well studied, especially at the secondary level, explicit strategy training for the ESL student, aimed at improving comprehension, has proven to be successful in experimental settings (Carrell, 1984, 1987, 1988a, 1989, 1991; Block, 1986, 1992; O'Malley & Chamot, 1990; Kang, 1998) and, according to Carrell, goes far beyond "what passes for second language reading pedagogy today, which is often limited to

repeated but relatively unguided and uninformed exposure to a task" (1989, p. 129). For the most part, however, empirical studies on L2 reader strategies extrapolate from data from sources such as think-aloud protocols to determine what strategies are apparently being used by successful and unsuccessful readers (Chamot *et al*., 1988). The few existing studies which involve metacognitive training have generally been done with college-age students (*e.g*., Auerbach & Paxton, 1997). A bare handful have used secondary or elementary school students as participants (e.g., Padrón, 1992; Wright, 1997). The success of metacognitive training in reading strategies for the L1 reader has of course been demonstrated to a considerable degree (Baker & Brown, 1984; Dole *et al*., 1991; Norton, 2004), and the value of "direct instruction" in L1 reading comprehension strategies has also been supported (Winograd & Hare, 1988, p. 133).

Probably the most comprehensive treatment of the usefulness of L2 reading strategy instruction to date is contained in the various studies and theoretical statements that represent two decades of teamwork by the teacher educator Anna Uhl Chamot and the assessment specialist J. Michael O'Malley. Based on the recognition that the critical period for the LM student occurs while "encountering academic content in English in preparation for the transition to grade-level [content] classrooms" (1994, p. 4), their Cognitive Academic Language Learning Approach (CALLA) sets L2 reading strategies in the context of learning theory and extends the conclusions of L1 strategy instruction studies to recommendations for the L2 reading classroom. According to Chamot and O'Malley, key differences between "effective" and "less effective" learners (p. 7) reside in how each group uses metacognitive, cognitive, and social/affective strategies. Metacognitive strategies are aimed at student control over the learning process:

monitoring and evaluating reading comprehension, for example. Cognitive strategies involve mental or physical manipulation of the material to be learned. Social/affective strategies consist of social actions that aid learning, such as participating in cooperative learning groups or asking questions of the teacher. The "knowledge" to be gained through these categories of strategies—including, if course what is to be gained with respect to the reading task—is both "declarative" and "procedural." Declarative knowledge is new information which must be integrated with existing schemata. Procedural knowledge is new information, concerning processes, that is mastered through practice to the point of rapid, error-free performance—*e.g.*, generating plurals for nouns ending with voiceless consonants. Chamot and O'Malley have examined a number of specific metacognitive, cognitive, and social/affective strategies and have concluded that students need to be provided with a "menu" of strategies, including the all-important ability to self-monitor, so that they may learn how to select strategies appropriate to the task at hand and to their own preferences.

The most specific discussion of CALLA strategies appropriate to the reading classroom falls under the researchers' treatment of CALLA for the teaching of literature, in which they emphasize that meaning-based approaches (as opposed to discrete-skills approaches) represent best practice, particularly if aimed at the improvement of prior general knowledge, of knowledge of text organization patterns, and of the ability to identify and remedy comprehension breakdown. The metacognitive strategy receiving greatest attention in their discussions is comprehension monitoring, which involves student efforts, either singly or in cooperative settings, to identify those parts of text which cause comprehension difficulty. The L2 reading cognitive strategy they have

studied most extensively is elaboration, the use of pre-existing schemata (including general knowledge and knowledge about text organization) to make decisions about probable text meaning.

With respect to self-monitoring strategies in the L2 reading context, an important article by Christine Pearson Casanave appeared in the *TESOL Quarterly* in 1988 calling for an expanded approach to L2 reading pedagogy in which students are taught the metacognitive strategy she also termed "comprehension monitoring," or, "any behaviors [on the part of readers] that allow readers to judge whether comprehension is taking place and that help them decide whether or not to take compensatory action" (p. 288). Casanave's suggestions go somewhat beyond those of Chamot and O'Malley, whose discussion of this strategy starts at the point where students are already aware of their comprehension problems. Casanave, by contrast, appears to have recognized that L2 readers often do not know when text meaning is inaccessible to them. The point has been made somewhat more recently by L1 reading researchers (e.g., Keene & Zimmermann, 1997).

Casanave's work specifically calls for a procedure that would involve "focused, sentence-by-sentence guidance" from the teacher with large or small groups (p. 295) in order to track comprehension successes and failures and assist in the repair of problems. Unfortunately, the L1 method she proposed for adaptation to the needs of L2 classrooms where developing readers have serious problems with reading comprehension—a method also given emphasis by Chamot and O'Malley—was Reciprocal Teaching, which has shown promise, primarily in L1 settings (Palinscar & Brown, 1984), but does not in fact offer the close attention to written text that Casanave feels is important. In her textbooks

on reading, moreover, Casanave suggests comprehension questions posed by the teacher between paragraphs as another strategy for achieving the "focused" guidance she envisions. (Unfortunately, too, outside the work of Block and Kang cited above, little has been done to answer Casanave's call, and she herself has since switched her research focus on ESL writing [personal communication, 2001].) Neither Reciprocal Teaching nor Casanave's inter-paragraph comprehension questioning avoids the problem that apparently only one ESL specialist, Pauline Gibbons, has identified: the fact that teacher intervention *during* the reading process is what is needed rather than comprehension questions posed after comprehension (and possibly misunderstanding) has occurred.

Gibbons lives and works in Australia. Her methods textbooks (1991, 2002) are among the very few language instruction textbooks coming out of that country that have also been published in the United States. In her treatment of L2 reading pedagogy, Gibbons makes the pertinent observation that comprehension questions (questions about content) "test the reader's memory of what *was* comprehended (original emphasis)." "True reading," she says, using the words of a nine-year-old boy she was acquainted with, "'goes through your head'" (1991, p. 71). Teaching the L2 reader to track the mental representation of the text that is being formed during the act of reading and assisting in its expansion or revision when necessary is the intervention she is speaking of. The need, too, for making this process ongoing rather than occasional is underscored by ESL specialists who have referred to what this writer calls "floundering," the most disturbing and difficult L2 reader problems of all: the tendency to be unaware of whether or not comprehension is occurring, and to be at a loss for corrective strategies if the problem is recognized (Block, 1992; Keene & Zimmermann, 1997). Gibbons' analysis of a critical

consideration in reading pedagogy is of the highest importance, but her presentation does not include a systematic or practical way to apply it—an approach that could be applied to a class as a whole, in any classroom, by any teacher reasonably trained in its principles and application. Instead, a variety of techniques are offered, and the teacher is still left with the problem of having to select from among the array and then apply them in one-on-one assistance sessions.

Above and beyond any other consideration are the needs in L2 reading pedagogy for instruction in metacognition, which provides what readers' workshop researchers Keene and Zimmermann have called "an umbrella under which the other strategies fall" (pp. 24-25) and what the psychologist Jerome Bruner referred to as "a master routine that knows how and when to break away from straight processing to corrective processing procedures" (1986, p. 130).

Reading research on L1 reading is a vast terrain crisscrossed by a network of myriad routes originating in a multiplicity of disciplines and their subfields and interdisciplinary manifestations. A partial listing would include psychology, anthropology, education, linguistics, history, foreign languages, sociology, and artificial intelligence. Psycholinguistics, the intersection of linguistics and psychology, has produced a variety of approaches in its account of reading. Chall's work (1983), among others, proposes developmental stages ranging from "decoding," at ages six to seven through Stage 4, at ages 14 to 18, involving the ability to deal with multiple points of view, and finally to Stage 5, "Construction and Reconstruction" at college age and beyond, in which readers make judgments as to what to read and what not to read, and are able to "create their own 'truth' from the 'truths' of others" (24).

In accounts of the L1 reading process, one body of studies deals with letter, syllable, and word recognition and postulates models referred to as bottom-up in which the reader decodes at the local level first and then moves to constructing a sense of overall meaning at the sentence level. Another category of studies focuses on top-down processes in which broader meanings—still at the sentence level—are the primary goal. These studies have resulted in "interactive" models of sentence processing favoring the interaction of semantic (top-down) and syntactic (bottom-up) processing (Wingfield, 1993).

Models of processing at the discourse level have been concerned, in the main, with both information processing and knowledge structures. Early work in the area of knowledge structures began as a theory of memory (Bartlett, 1932) based in turn on existing work in neurology, and was followed by contributions from cognitive and social psychology as well as artificial intelligence, anthropology, and sociology. Knowledge structures, in these treatments, were variously called "schemata" (Bartlett), "scripts" (Schank & Abelson, 1977), and "frames" (Bateson, 1972). The cognitive psychologist Rumelhart, writing in 1980 concerning the work he has done with Ortony, characterizes schemata as the "fundamental elements upon which all information processing depends" (p. 33). They involve prototypes in that they contain meanings "encoded in terms of the typical or normal situations or events that instantiate [a] concept" (p. 34). For Schank and Abelson, writing with the goal of establishing how computers understand natural language, a script is an "event sequence": a "predetermined, stereotyped sequence of actions that defines a well-known situation" (p. 41). For the anthropologist Bateson,

communicative events have "frames" which signal how they are to be "taken"—as threat, for example, or "play" (p. 187).

The sociolinguist Tannen points out that this complexity of terminology and approaches has as its common denominator the notion of "structures of expectations" (Ross, 1975, quoted in Tannen, 1979, p. 138). "[B]ased on one's experience of the world in a given culture (or combination of cultures)," she says, "one organizes knowledge about the world and uses this knowledge to predict interpretations and relationships regarding new information, events, and experiences" (pp. 138-139).

Traditional models of the L1 reading process, which come primarily from psycholinguistics, are in fact very much linked to the idea of expectations—to the reader's ability to match what is encountered on the page with what is already known and to make predictions as to what will come next as the text unfolds. Schema theory, in all its guises, figures centrally in early reading models which emphasize the role of text structure in recall of narratives (Schank & Abelson, 1977) and expository text (Meyer, 1977, 1985). In such models, referred to as "top-down," text structures themselves are considered schemata. Other models, "bottom-up" in focus (e.g., Kintsch, 1988), are outgrowths of earlier work (van Dijk, 1980) on "global structures," especially the "macropropositions" found in discourse, which are formed of propositions processed at lower levels. All of these models are concerned with the mutually-reinforcing relations between discourse and knowledge constructs,.

Very recent models of the reading process, called "deep models," as opposed to earlier work focusing on such issues as lexical and syntactic processing (Graesser, Swamer, Basset, and Sell (1996), are critical of schema theory and claim to incorporate a

13

more flexible view of mental representations than their precursors. Van den Broek, Young, Tzeng, and Linderholm, (1999), for example, focus on how mental representations are updated continually, during the reading process, on the basis of new information, in turn affecting the nature of subsequent comprehension. In the same spirit, the linguist Grabe, who is critical of schema theory, especially as it has been popularized, has argued recently (1998; 2000) for greater attention to the more comprehensive deep models being developed by cognitive psychologists. Grabe maintains that schema theory has been problematic in some of its applications, which have reduced it to metaphor rather than theory (1998) and created the misconception that mental representations are static. His point has resonances in Tannen's observation that subsequent thinkers have overlooked a central idea in Bartlett's discussion of "remembering"—his recognition that "a crucial step in organic development" is an organism's "capacity to turn round upon its own 'schemata' and to construct them afresh" (p. 206). In line with recent empirical studies as well as earlier, more general descriptions of higher-level or discourse processing (*e.g*., Kintsch, 1994; Zwaan & Brown, 1996; Gernsbacher, 1997), Grabe calls for consideration of the idea that L1 and L2 readers construct both a "text model" and a "situation model" as they read. The text model is in effect a developing proposition network, or a "close mental representation of the information given (or intended) by the text" up to any point in the reading. The situation model represents reader interpretation of the text, calling on a variety of sources: "reader background knowledge, goals for reading, reader motivation, reader attitudes, and reader evaluation of the information given" (2000, p. 234). Comprehension difficulties emerge when the situation model

14

overwhelms the text model—a major difficulty, according to Grabe, in the case of L2 readers struggling with texts that are beyond their level of language proficiency.

With the exception of Grabe's and Zwaan & Brown's contributions, none of the work discussed above has made explicit reference to issues in L2 reading, or even, for the most part, to the processing strategies of native readers who are not fluent readers. The massively influential work of the reading researcher-educators Frank and Yetta Goodman, which grew out of the work of Frank Smith on fluent reading processes (1971), deserves separate mention. The Goodmans are well-known for their conclusion, based on the analysis of miscues occurring during oral reading, that reading is not merely word recognition but also the use of background knowledge and linguistic knowledge— which they refer to as a "psycholinguistic guessing game" (Goodman, 1967, p. 126). They are equally well-known for their insistence on the idea that there is a single reading process for all readers (Goodman, 1975). In this model, readers use both word knowledge and contextual knowledge, sampling only as much as they need from their array of resources, to "leap toward meaning" (1975, p. 20). "Short circuits" are readings that do not "end with meaning" (p. 16) and are corrected for by recursive processes. Both Smith and the Goodmans place heavy emphasis on prediction—in Smith's words, "prior elimination of unlikely alternatives" (p. 50)—as a central feature of successful reading and on searching for "meaning" rather than individual words.

The Smith-Goodman version of the reading process became linked with the whole language approaches to language teaching in L1 pedagogy (now embedded in the "balanced literacy" approach), but has been received with less enthusiasm by L2 researchers, and by those who feel there are many L1 processes as well, not a unitary

process. Grabe in particular (1998, 2000) objects to the Goodmans' approach on the grounds that eye movement research has demonstrated more recently that fluent readers focus directly on most of the words of text (Snow, Burns, & Griffin, 1998) and that predicting meaning is not as central to the fluent reading process as the Goodmans have claimed.

ESL reading specialists tend to view L2 reading difficulties as inherently different from L1 reading problems. They feel that existing models of the reading process—the route, ostensibly, by which a student arrives at some point in time at a critically-oriented interpretation of a text, at an informed perspective on what a text is saying and how it is achieving its effect—have typically sought to portray "native reader" fluency and, often by implication, "good" reader/"poor" reader differences, rather than distinctions between the strategies used by native readers and developing bilingual readers.

ESL researchers (Coady, 1979; Block, 1986; Ammon, 1987; Devine, Carrell, & Eskey, 1987; Devine, 1988; Bernhardt, 1991; Grabe, 1998) have long noted the existence of issues specific to the processing and comprehension of L2 text. Arguably, the issue has not been resolved to everyone's satisfaction, but a substantial body of literature focuses, nevertheless, from the perspective of the individual learner, on low "language" proficiency (as distinct from processing or strategic difficulties) as the source of L2 reading problems (Coady, 1979; Devine, 1987; Clarke, 1988). Identifiable differences commonly cited by this research are gaps in lexical and syntactic knowledge and frequently-problematic coping strategies such as depending on inappropriate schemata pertaining to "content" knowledge, especially schemata learned or acquired in the culture associated with the L1 (Parry, 1987). Eskey has observed that for L2 readers "simple

language decoding has a major role to play in the process . . . , that [g]ood reading is a more language-structured affair than the guessing-game metaphor seems to imply" (1988, p. 94). Carrell remarks that many ESL readers run into difficulties because they process text unidirectionally—in either a top-down or bottom-up fashion, depending on many factors—and that both approaches have obvious disadvantages: content schemata may override comprehension and lead to misinterpretation when there are difficulties at the level of word, phrase, or sentence; certain types of text organization (rhetorical patterns after Meyer's analysis) may be more conducive to understanding than others; and "text-boundedness" (decoding at a very local level) may inhibit comprehension of a text as a whole (1988a, 1988b). Parry (1987) makes a similar point with respect to the dominance of schemata, emphasizing the complexity of misunderstanding that can be generated by limited lexical knowledge as well as inappropriate schemata.

The "interactive" model of L2 reading processes is therefore preferred by most ESL researchers, but it needs saying that it is not taken to be a formal model. The principle—that comprehension difficulties may exist both because background knowledge concerning text organization or content knowledge is sparse or inapplicable and because proficiency in the L2 itself may cause problems at the decoding level and therefore at the level of discourse coherence—is very well supported in the literature (Coady, 1979; Devine, 1988; Eskey & Grabe, 1988; Hudson, 1988; Geva, 1992). Moreover, since L2 development is recognized as an extremely variable and complex phenomenon (Wong Fillmore, 1979, 1991; Gándara & Merino, 1993; Ellis, 1997; Valdés, 1998), it follows that L2 readers may be liable to a greater range of potential difficulties

with reading as well as to unpredictable permutations and combinations of these problems.

The complexity of written language processing behavior in bilinguals is underscored by psycholinguistic studies—of the bilingual lexicon and relations between the lexicon and concept formation—which have long debated the issue of representation: Does the bilingual have a different storehouse for each language (the "separate-store hypothesis") or one store (the "common-store" hypothesis") or, indeed, are there three stores—one for each language and a third in which certain representations are overlapped (Taylor & Taylor, 1990, 353)? Recent evidence suggests that the "weaker" the L2, the less likely it is that the same concept will be activated by both the L1 and the L2 (Dufour & Kroll, 1995) and that the L1 lexical system is always to some extent operational, "giving rise to between-language interference, even in the most monolingual of processing situations" (Grainger, 1993). The data appears to be generally consistent with what John-Steiner (1985) had found a decade or so earlier and in more inclusive terms: that a developmental process is at work in which 1) the L1 and L2 are at first separated during production tasks but increasingly unified "at the level of verbal meaning and thought," and 2) the two meaning systems are woven together with the passage of time, resulting in the "increasing ability to comprehend, condense, and store information" in the non-dominant language (p. 365).

Another relevant area of ESL reading research enlarges the pool of variables to include the myriad sociocultural, or contextual, factors surrounding second language reading development (Cazden, 1985; Goldman, 1987; Steffensen, 1987; Heath, 1991a; Parry, 1996; Peregoy & Boyle, 2000). This line of investigation sees L2 reading

development (and problems) as unmistakably different in kind from L1 reading development, owing predominantly to the influence of early socialization and of schooling practices affecting the development of the individual's two languages (Parry, 1996; Miramontes, Nadeau, Cummins, & Garcia, 1997; Grabe, 1998). Goodman, Goodman, & Flores (1979) make the pertinent claim that bilingual school populations have unique reading problems because typically they are taught discrete reading skills in ESL or bilingual classes rather than guided toward "personal engagement . . . with the purpose of seeking meaning" (p. 32). Grabe, addressing an interesting affective issue, points out that L2 students usually have significantly more experiences with "frustration-level" texts than L1 readers, with possible long-term negative effects on their motivation to read (1998, p. 32).

What all three lines of research point to is the existence of extreme variability in second language reading development residing not merely in individual differences such as age, personality, language learning ability, and existing L1 and L2 language proficiency, but in contextual factors such as enculturation and history of classroom language learning experiences (Peregoy & Boyle, 2000). This sociocultural perspective is an important assumptive methodology for thinking on the subject of both L1 and L2 reading processes. It can inform future classroom research as well as introspective theoretical studies. Most importantly, it brings into sharp focus the importance of teaching the ELL high-order reading skills that support comprehension monitoring.

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