

# 5 Cultural Perspectives in Reading

## Theory and Research

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Culture is a ubiquitous feature of daily life and is characteristic of human activity, including reading and literacy. In fact, reading and literacy are cultural inventions constructed over the course of history to enable more effective solutions to everyday needs such as recording important events, facilitating commerce, and broadening means of communication (Cole, 1996; Lee & Smagorinsky, 2000). Thus, the connections between literacy and culture are deep. In this chapter, we will explore these connections. This will include a discussion of culture as a construct, an historical overview of culture in reading research, and a review and critique of research related to cultural factors in literacy acquisition and teaching, and a proposal for a research agenda for the field. Finally, the chapter will provide a model for examining cultural factors in literacy research as a means of guiding this agenda.

### A NOTE ON LITERACY AND READING

Before exploring the meaning of culture, it is worth noting the distinction between literacy and reading, primarily because of the potential for confusion in both theory and research and the implications for understanding cultural factors. Literacy and reading are often used interchangeably in spite of the fact that various authors may have very different meanings. We draw the distinction here because of the implications for understanding work related to culture. A recent National Research Council report (Snow, Burns, & Griffin, 1998) defined reading as "... the use of the products and principles of the writing system to get at the meaning of a written text" (p. 42). In essence, it focuses on the individual psychological processes involved in decoding and comprehending text. In contrast, while literacy includes reading, it looks more broadly not only at the act of reading but at the beliefs, attitudes, and social practices that literate individuals and social groups follow in a variety of settings and situations (Pearson & Raphael, 2000). For example, literacy involves knowledge of the underlying discourses in a group (Gee, 1992); that is, the values, viewpoints, "funds of knowledge" (Gonzalez, Moll, & Amanti, 2005), and language patterns established by members of that discourse group, patterns internally resistant to criticism.

While the psychological processes involved in reading are most often seen as universal (we will discuss this point in more detail later), literacy is often seen as much more culturally specific, opening the possibility of multiple literacies. For example, the language patterns, types and uses of text, vocabulary, syntax, and shared meanings and values in school-based literacy may be very different than those found in some home and community settings (Bloome, Katz, Solsken, Willett, & Wilson-Keenan, 2000). While the cultural practices in home and community settings are normally *acquired*, the literate cultural practices associated with school are often thought to be *learned* (Gee, 1992). In both cases, the discourses around literacy in different cultural settings have to do with language patterns and internally accepted meanings and ways of behaving.

One characteristic of the reading research field in terms of reading and literacy is that cultural research has often been part of the latter but not the former. Moreover, research in one area is sometimes used to suggest pedagogy and policy in the other, a fact that may help explain some of the disagreements within the field. To avoid additional confusion, the next section begins with an overview of culture as a construct, taking care to differentiate culture specifically from a range of other sociocultural variables. An historical overview follows, examining connections to earlier work in past volumes of the *Handbook of Reading Research*. Finally, we will talk about what changes in the educational context might have implications for this topic, and provide an overview of research in this area, describing the implications for theory, practice, policy, and future research.

### ***Culture as a Construct***

While the term “culture” is commonly used in the everyday vernacular and in the social and behavioral literature as well, there is a great deal of variance in meaning. One view sees culture and cultural progress as universal, representing the general inheritance of humankind reflected in such collective achievements such as artistic refinements, science, knowledge, cultural institutions, etc. In this view, societies do not have discrete cultures; rather, they embrace and exhibit greater or lesser degrees of the general culture created by humankind up to the present time. Such a view allows the ranking of various social groups according to their degree of culture and the extent to which they incorporate and/or contribute to the general cultural progress (for a discussion, see Gallego & Cole, 1998, and Erikson, 2004).

The competing view, and the one adopted here, is more relativistic and related to the particular historical circumstances of specific groups (Goodenough, 1994). It refers to the daily patterns of living (cultural practices) that allow individuals to relate to the surrounding social order. That is, “Each culture...is an historically unique configuration of the residue of the collective problem solving activities of a social group in its efforts to survive and prosper within its environment(s)” (Gallego & Cole, 1998, p. 367). In this view, there is not one grand culture, but many different cultures. Furthermore, culture is learned, and develops because of the need to evolve in response to adaptive challenges and tasks faced by a given group (Weisner, 1994). While culture is most often referenced in the literature primarily with respect to students from nonmainstream cultural and linguistic backgrounds, culture is in fact a universal feature of daily life for all humans (Rogoff, 2003). At the most basic level, culture helps determine what is customary and “normal.” But it is not static knowledge. Culture and cultural processes are dynamic and are expressed through cultural practices (behavior, artifacts, rules, etc.) that characterize daily life (Gallimore & Goldenberg, 2001). In a given ecological niche, these represent historically evolved and shared ways of perceiving, thinking, and storing possible responses to adaptive challenges and changing conditions (Gallimore & Goldenberg, 2001).

Thus, used here in its most general sense, culture refers to the socially inherited body of past human accomplishments that serves as the resources for the current life of a specific social group (D’Andrade, 1996). Early writing by Kroeber and Kluckhohn provided a more specific definition:

Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiment in artifacts; the essential core of culture consists of traditional (i.e., historically derived and selected) ideas and especially their attached values; cultural systems may on the one hand be considered as products of action, on the other as conditioning elements of further action. (1963, p. 181)

D'Andrade and Strauss (1992) and others (Gee, 2000; Strauss & Quinn, 1998) suggested that cultural beliefs and practices are organized as *cultural models*, which are situated, social constructions of the world that shapes one's understanding of the world and one's behavior in it. These cultural models are thought to be so familiar that they are often invisible and unnoticed by those who hold them (Gallimore & Goldenberg, 2001). From a research perspective, culture and cultural processes are notoriously difficult to define and operationalize because: (a) much of what we consider cultural knowledge is automated, and therefore not always transparent or easily accessible to the individual or external observers, and (b) they involve values, ideas, beliefs, and practices that are relative.

Although culture has been visible in literacy research for some time, an unfortunate tendency in the past has been to focus on surface differences and treat culture as if it were a homogenous, static, and internally consistent set of rules for behavior that continually shape an individual's everyday activities in predictable ways. Most often, however, these cultural models impact behavior in variable and inconsistent ways (D'Andrade & Strauss, 1992; Gallimore & Goldenberg, 2001; Levine & White, 1986; Strauss, 1992). Summing up these points, Gallimore and Goldenberg noted that:

Values and practices encoded in cultural models are not necessarily internally consistent or consistently related to behavior. This seeming "irrationality" can be understood as preparation for shifting challenges, for which different cultural models may be required...This variability in model enactment means that culture is not a nominal variable to be attached equally to every individual like a "social" address, in the same way that age, height, or gender might be. Treating culture in this way assumes that everyone who claims membership in or is assigned to a group has common natal experiences and acts on available cultural models in a uniform, unvarying fashion. In many cases they do not. *Assuming homogeneity of experience and behavior of individuals within cultures, without empirical evidence, is unwarranted* [italics in original]. A parallel error is to treat national or ethnic status as equivalent to a common cultural experience for individuals. (pp. xii–xiii)

Rather than assuming that cultural models develop automatically based on things like race, ethnicity, gender, etc., it is important to realize that it is really an individual's specific experiences that influence the cultural models that develop. Thus, as some have argued, it is critical to examine what people actually *do* in terms of cultural practices rather than making unwarranted assumptions about these factors based on unsubstantiated inferences about presumed beliefs and values and how these might mediate behavior (Gutierrez & Rogoff, 2003). As these authors note, cultural influences are variable both across individuals and across settings for the same individual.

## RESEARCH AND THEORY ON CULTURAL PERSPECTIVES

### *Changes in the Educational Context*

Before looking at some of the research and theory, it is worth taking note of the larger educational context that has had a bearing on research on culture and the treatment of cultural factors in reading research. These factors include national demographic changes, national educational policy initiatives such as NCLB, and the focus on evidence-based approaches.

*Demographic Changes.* Between 1966 and 2006 the U.S. population grew by 100 million. The Hispanic population increased from 8.5 million in 1966–67 to 44.7 million today. Latinos thus

accounted for 36% of the 100 million people added to the population in the last four decades, the most of any racial or ethnic group. The White population grew from 167.2 million in 1966–67 to 201.0 million today, which represented 34% of the 100 million added since 1966–67. The Black population increased from 22.3 million to 38.7 million and accounted for about 16% of the population growth. The Asian and Pacific Islander population increased from 1.5 million to about 14.3 million, representing about 13% of the increase (Pew Hispanic Center, 2006). A significant number of these students came from homes where English is not the primary language. For example, between 1979 and 2005, the number of school-age children (ages 5–17) who spoke a language other than English at home increased from 3.8 to 10.6 million (from 9 to 20% of the school-age population). Among school-age children who spoke a non-English language at home, the total number who spoke English with difficulty increased from 1.3 million (3% of all 5- to 17-year-olds) to 2.9 million (6%) between 1979 and 2000 (Livingston, 2007). It is difficult to ignore cultural factors in the classroom setting given these massive changes in the makeup of the school age population.

*Accountability.* Passage of No Child Left Behind (NCLB) marked a turning point in the move toward accountability for schools. The result of this legislation and other related initiatives has been increased pressure on schools to see that all children achieve at high levels. As part of NCLB's school accountability measures, schools cannot meet their Annual Yearly Progress goals unless all major subgroups at the school meet achievement targets. Teachers as well as administrators are thus under tremendous pressure to produce demonstrable results. The measure of choice in the quest for accountability has been large scale high stakes tests, sometimes leading to attempts to focus the curriculum on test-related material to the exclusion of other material. In this context, cultural considerations have often been absent from the discussion about curricular and instructional approaches.

*Evidence-Based Approaches.* A long history of research has focused on cultural factors in schools, classrooms, and communities (Goldenberg, Rueda, & August, 2006a; Rogoff, 2003). Much of this work has been observational and qualitative in nature, typically focusing on a single or small number of specific cultural contexts (Au, 2000; Wilkinson & Silliman, 2000). Over the past several years, however, a push has been made at the federal level and within some arenas of the research domain to embrace what have come to be known as evidence-based instructional approaches (Mayer, 2001; Feuer, Towne, & Shavelson, 2002; Slavin, 2002; Whitehurst, 2002). Some interpretations of this agenda have focused on a relatively narrow view of acceptable methodological approaches, specifically randomized, control group experiments. This cause-effect emphasis has come to be seen as the hallmark of acceptable research for determining instructional approaches and deciding policy matters. While the matter has been vigorously debated within the education community, given the qualitative nature of much research on cultural factors, this is an important consideration. It has shifted the research agenda in many cases away from questions and methodologies not amenable to quantitative and controlled approaches that emphasize generalization of results.

Taken together, these changes in the educational landscape have undoubtedly (and will continue to) influenced the role that cultural factors play in educational research and practice. They should be kept in mind as the discussion examines the theory and research in this area.

## THEORETICAL CONSIDERATIONS

Work on what might be termed sociocultural factors in language and literacy has a long history in the research literature, as noted previously. Some of the earliest such work focused on

sociolinguistic studies of classroom language use and communicative patterns (Cazden, John, & Hymes, 1972). Wilkinson and Silliman (2000) noted that beginning in the 1970s, this research developed from a variety of disciplinary perspectives, including psychologists looking at individual differences in language use, linguists examining communicative functions, sociologists studying social organization and communication processes, educators examining the organization of lessons, speech and language researchers looking at language disabilities, and educational anthropologists looking at verbal and nonverbal communication within and between cultural groups.

Ethnographic work, especially that based in educational anthropology, has been especially prominent in studies focusing specifically on culture and on comparative studies between cultures in classrooms and home settings (Florio-Ruane & McVee, 2000). As Florio-Ruane and McVee pointed out, the work in educational anthropology has maintained a particular interest in "...cross cultural comparisons, focusing primarily on differential treatment and access to knowledge within the school of a society characterized by diversity in race, language, ethnicity, and social class." (p. 156). One characteristic of much of this work is that it has relied heavily on a social constructivist perspective (Florio-Ruane & McVee, 2000; Lave, 1988; Wilkinson & Silliman, 2000), in particular that reflecting social historical theory of neo-Vygotskian scholars (Cole, 1996; Lee, 2005a, 2005b; Lee & Smagorinsky, 2000; Gutierrez, Baquedano-Lopez, Alvarez, & Chiu, 1999; Moll, 1990; Moll & Gonzalez, 2004; Scribner & Cole, 1981) and thus slowly began to merge the traditional anthropological focus on cultural groups with the study of individual learning. The social constructivist framework has been especially prominent in bridging the social and the learning-related cognitive concerns (Brown, Collins, & Duguid, 1989; Lave, 1988; Lave & Wenger, 1991, 1998; Rogoff, Turkianis, & Bartlett, 2001; Rogoff, 2003; Tharp & Gallimore, 1988; Wenger, 1999; Wells & Claxton, 2002; Wertsch, 1991).

Social constructivist theorists argue that learning, including reading and literacy, is a function of the activity, context and culture in which it occurs (i.e., it is situated). Social interaction is a critical aspect of situated learning, as learners move from novice to expert in a specific "community of practice" which embodies certain beliefs and behaviors to be acquired, such as those surrounding reading and literacy in school settings. Brown et al. (1989) emphasize the idea of cognitive apprenticeship within this process, in which expertise advances through collaborative social interaction and the social construction of knowledge between a novice learner and a more competent facilitator (Rogoff et al., 2001).

This trend toward an emphasis on student learning and instruction, with a specific focus on the acquisition of literacy for students from culturally diverse backgrounds, was clearly exemplified in the work based on the Kamehameha Early Education Project (KEEP) in Hawaii during the 1980's (Au, 2000) and subsequent work in other cultural settings (Lee, 2007, 2008).

While social constructivist theory has been prominent in the research on cultural and socio-cultural factors in reading and literacy research (Gaffney & Anderson, 2000), it is not the only perspective. Gee (2000) provided an overview of the multitude of theoretical and disciplinary perspectives that have guided research on sociocultural factors in reading. These include: (a) ethnomethodology and conversational analysis, (b) interactional sociolinguistics, (c) ethnography of speaking, (d) sociohistorical psychology, (e) situated cognition, (f) cultural models theory, (g) cognitive linguistics, (h) the new science and technology studies, (i) modern composition theory, (j) sociocultural literacy studies, (k) connectionism, (l) modern sociology, and (m) poststructuralist or postmodernist work. Gee contended that there is mounting convergence in these areas along themes that have traditionally formed tensions in the reading research: cognition vs. context, skills vs. meaning, formal language structures vs. communicative functions, and the individual vs. the social.

## RESEARCH ON CULTURALLY RESPONSIVE INSTRUCTION AND CULTURAL ACCOMMODATIONS

A long-standing history focuses on the importance of cultural factors in the acquisition of school-based literacy. The earliest work in this area suggested that clear differences in language, discourse, and interactional patterns existed between students from different racial, ethnic, and cultural groups, especially compared to mainstream Anglo American students and teachers (Au, 1980; Hale-Benson, 1986; Heath, 1983; Labov, 1972). A major hypothesis of subsequent work in this area has been that students whose discursive styles are incongruent with school and mainstream cultural norms may encounter more obstacles to school achievement than peers who use styles that approximate such norms (Nieto, 1999; Gay, 2000). The absence of a shared cultural frame of reference is thought to impact students' participation in classroom activities including reading and literacy events (Gay, 2000; Lue, Green, & Smalley, 2002; Wiley, 2005), and, in the worst cases, lead to negative outcomes such as special education placement (Klinger et al., 2005). Thus, as Florio-Ruane & McVee (2000) noted, a major focus for the last two decades has been an effort to provide culturally responsive instruction and cultural accommodations.

Gay (2000) defined culturally responsive teaching as using the cultural knowledge, prior experiences, and performance styles of students to make learning more appropriate and effective for them by teaching to their strengths. She described this form of instruction as embracing the following elements:

1. It acknowledges the legitimacy of the cultural heritages of different ethnic groups, both as legacies that affect students' dispositions, attitudes, and approaches to learning and as worthy content to be taught in the formal curriculum.
2. It builds bridges of meaningfulness between home and school experiences as well as between academic abstractions and lived sociocultural realities.
3. It uses a wide variety of instructional strategies connected to different learning styles.
4. It teaches students to know and praise their own and each other's cultural heritages.
5. It incorporates multicultural information, resources, and materials in all the subjects and skills routinely taught in schools. (p. 29)

Au (2000) discussed the issue of cultural responsiveness in terms of literacy instruction, and noted some evidence (see Au & Kawakami, 1994) for "...positive results when teachers accepted and built on students' home language; structured interaction with students in a manner consistent with their home values; kept expectations high and focused on meaning-making rather than lower level skills; recognized that storytelling and question answering may take different forms in different cultures; and capitalized on students' ability to learn from peers" (p. 839). Drawing on a social constructivist perspective, Au noted that literacy achievement is a function of the interaction of multiple levels, including districts, schools, communities, teachers, students, and families. Interestingly, Au (1998, 2000) raised the possibility that factors in addition to cultural compatibility might be equally important to student outcomes, specifically instructional factors. Au and Mason (1981) noted the following about the research base at the time:

It has been implied that the presence of culturally congruent elements in lessons given to minority children may help to prevent damaging conflicts between teacher and students. This idea has much intuitive appeal, but we have very little evidence to support the notion that the presence of school situations resembling those in the home leads to improved academic achievement by minority children. (p. 150)

The most current comprehensive review of this issue is found in the report of the National Literacy Panel (August & Shanahan, 2006), which conducted a wide-ranging, evidence-based review of the research literature on the development of literacy among language minority children and youth. The Panel report covered a variety of topics related to the literacy acquisition of second language learners, including the development of literacy, cross-linguistic relationships, instructional approaches and professional development, and assessment. Of most concern to the present discussion, the report included a review of sociocultural factors in literacy development (Goldenberg, Rueda, & August, 2006a, 2006b; Rueda, August, & Goldenberg, 2006). Sociocultural factors were defined broadly, and the following questions examined:

1. What is the influence of immigration (generation status and immigration circumstances) on literacy development, defined broadly?
2. What is the influence of differences in discourse and interaction characteristics between children's homes and classrooms?
3. What is the influence of other sociocultural characteristics of students and teachers?
4. What is the influence of parents and families?
5. What is the influence of policies at the district, state, and federal levels?
6. What is the influence of language status or prestige?

One section of the report (Goldenberg et al., 2006b) examined these issues with the stipulation that some student outcome measure was included in the studies examined. This was purposely defined broadly to include any observational indicators, ethnographic descriptions, examples or analyses of student products, motivational measures, participation or engagement measures, self- or teacher reports, and standardized or quantitative measures. A total of 50 studies fit this criterion. A second section of the report focused on the same questions, but with no requirement for reported student outcomes, finding an additional 25 of the most relevant descriptive studies.

The aspect of the report with the most relevance to the present discussion focuses on the second question, specifically the impact of efforts to accommodate classroom instruction to cultural differences. The major conclusions from the report in this domain suggested the following. First, it is clear that there are differences between the interactional and discourse features, norms, and expectations of home/community and school for many culturally and linguistically diverse students. An especially rich descriptive literature paints a picture of how these differences are exhibited in classroom settings in a variety of activities. Second, surprisingly few studies have included student outcomes, and most of the available studies use proximal indicators of achievement (i.e., engagement) rather than direct measures of reading or literacy acquisition. Third, a large number of the existing studies are plagued by methodological issues, which include the following:

1. Insufficient specification about investigator time spent in the research setting.
2. Insufficient specification of data-collection techniques, data-analysis techniques, number of subjects, and number of observations.
3. Data not presented to confirm/disconfirm author's point of view explicitly.
4. No information about how representative examples were selected.
5. No information about the frequency or typicality of reported key occurrences.
6. No information about whether competing interpretations were considered and evaluated.
7. Insufficient triangulation across several data sources.
8. Making inferences and drawing conclusions not warranted by the data reported. (Goldenberg et al., 2006a, p. 260)

The report also indicated that some support exists for the impact of related factors such as culturally familiar text and/or language on reading comprehension. That is, students tend to understand more when it is in the language they know better and when the text they are reading deals with culturally recognizable content.

While the National Literacy Panel report is the most current and comprehensive review of the impact of cultural factors on literacy acquisition, admittedly it focused on second language learners and thus excluded other populations (Gay, 2000; Hollins & Oliver, 1999; Ladson-Billings, 1994, 1995; Lee, 2005b). The general conclusions reached in this report, however, do not change significantly even when other populations are considered. The current research base does not offer good guidance (other than general principles and plausible hypotheses along with descriptions of specific projects or sites where they have been used and accounts of the impact) for school personnel who are trying to consider cultural issues in literacy instruction.

It is important to recognize that lack of extensive evidence is not the same as negative evidence. In fact, many of the hypotheses regarding cultural accommodations and the influences of cultural processes on reading and literacy outcomes are highly plausible and likely. As noted above, it is certainly the case that differences between most classroom settings and the home and community settings are real and able to be documented for many students from diverse backgrounds. It should also be kept in mind that the extensive work in educational anthropology and related areas demonstrate that early views of these differences as deficits are misguided, and in fact the rich cultural and linguistic resources of students can be used advantageously to engage students in high level academic work (Gonzalez et al., 2005).

One reason there is not extensive evidence for the impact of cultural accommodations and culturally responsive instruction is that, as noted earlier, culture is difficult to define, at least in ways that allow for quantitative measurement and observation. By definition, culture is dynamic, contextually variable, and unevenly expressed (Erickson, 2004; Gallego, Cole, & LCHC, 2001). Moreover, because of strong ties to anthropology, a major focus has been on detailed and accurate description of social, cultural, and linguistic processes in specific settings and activities. The research has focused more on the “what is?” question regarding cultural processes and cultural factors rather than the “what are the effects of?” question.

However, there is another possible reason for the lack of research addressing the issue of impact related to cultural factors. This is the lack of theoretical or conceptual models relating social and cultural factors to student learning and other outcomes without trivializing or narrowly and artificially defining and measuring cultural processes. While Gee (2000) noted some convergence around key issues from a multitude of diverse disciplines and theoretical orientations that look at sociocultural factors in reading, there is no framework that can help tie the descriptive work on literacy with the more experimentally-based work on reading. The following section discusses some possibilities in this regard.

### ***What Ties Cultural Factors To Reading and Literacy Outcomes?***

As the previous section suggests, there does not appear to be a clear answer to this question, since conceptual models, especially those with clear instructional ties and connections to student learning, are missing. Thus this section offers some possibilities in this regard, in particular in the area of reading comprehension, which may be helpful in stimulating future work.

*A Note on Reading Comprehension.* The RAND Reading Study Group (2002) offered the following definition of reading comprehension:

The process of simultaneously extracting and constructing meaning through interaction and involvement with written language. Comprehension has these elements: the reader,



the text, and the activity, or purpose for reading. These elements define a phenomenon—reading comprehension—that occurs within a larger sociocultural context that shapes and is shaped by the reader and that infuses each of the elements. All are influenced by the broader context. (p. xi)

In discussing the role of the reader, the report goes on to say:

The reader brings to the act of reading his or her cognitive capacities (attention, memory, critical analytic ability, inferencing, and visualization), motivation (a purpose for reading, interest in the content, self efficacy as a reader), knowledge (vocabulary, domain, and topic knowledge, linguistic and discourse knowledge, knowledge of comprehension strategies), and experiences. (p. xi–xii)

Where might comprehension break down for students from diverse language or cultural backgrounds? A preliminary list might include the following:

1. Attention—there may be differences in the cues students attend to in classroom instruction.
2. Encoding—the input from text, the teacher, or peer discussions may not be comprehensible because of language differences or because of differences in genre or vocabulary, or the formal register used in academic contexts or “academic English” (Bailey, 2007) or typical discourse patterns (Cazden, 1988; Mehan, 1979).
3. Strategic processing and self-regulation—because of the complex interplay among race, ethnicity, and socioeconomic status, students from some households may not have been exposed to large numbers of schooled adults who might model strategies useful in processing text.
4. Background knowledge—the knowledge and skills that students have acquired may not map easily onto that in curriculum materials or books or activities.
5. Motivation—students may come to school with different learning goals (Goldenberg, Galimore, Reese, & Garnier, 2001; Ogbu & Simmons, 1998), poor self-efficacy due to past academic experiences, or low task value because the structure or purpose of instructional activities do not map onto known experiences and abilities and interests.

In addition to these factors, language and cultural differences may influence how significant others such as teachers or peers respond to and interact with individual students, whether these differences are real or perceived. These differences may influence teacher expectations, for example, and result in differential treatment, thus mediating student participation, engagement, and other opportunities to learn. Given these possibilities, it is possible to hypothesize that cultural factors can have both primary intrapersonal effects on reading and literacy and secondary interpersonal effects. The former might be reflected by the impact on individual cognitive processes and motivational and affective states, while the latter might operate in a variety of interpersonal contexts or activity settings serving to facilitate or constrain participation and interaction. We will discuss each below, drawing on Rueda (2006).

*Primary Intrapersonal Effects—Cognitive Processes.* While most cognitive psychologists and information processing theorists consider basic human cognitive processes to be universal, there is some evidence that even basic processes may be influenced by cultural factors. Bransford, Brown, and Cocking (1999) suggested, “Prior knowledge also includes the kind of knowledge that learners acquire because of their social roles, such as those connected with race, class, gender, and their culture and ethnic affiliations” (p. 60). As one example, primacy (remembering

the first thing heard in a sequence) and recency (remembering the last thing heard) effects, often thought to reflect universal aspects of human memory performance, are influenced by cultural background and the type of schooling children have (Valsiner, 1988). Schooling may influence even basic, seemingly universal, cognitive processes such as visual-perceptual processing, attention, and visual and verbal memory (Cole & Scribner, 1977; Ostrovsky-Solis, Ramirez, & Ardilia, 2004; Rogoff, 1981).

In the domain of reading, recent work on cognitive load theory seems especially relevant in the attempt to link cultural processes with cognitive and academic outcomes. A major focus of this work is the capacity limitations of working memory (Paas, Renkl, & Sweller, 2003; Sweller, 1988; Sweller, van Merriënboer, & Paas, 1998). This work focuses on how constraints in working memory help determine what types of instruction are effective. A basic tenet of cognitive load theory is that learning is mediated by human limitations on working memory capacity, and processing and/or storage not directly relevant for learning makes it less efficient. When this occurs, working memory capacity is taxed (i.e., cognitive load is high) and thus learning is negatively affected. These limitations in working memory can be reduced, in part, by enabling the use of schemas, an organization that incorporates multiple elements of information into a single element with a single function stored in long term memory (LTM), enabling a learner to process information more efficiently.

LTM contains huge amounts of domain-specific knowledge structures (including culturally specific knowledge) that can be described as hierarchically organized schemas allowing one to categorize different problem states and decide the most appropriate solution to a given problem. This might include important issues as what is considered a problem to solve in the first place, how to frame or mentally represent the problem to be solved, or what solutions would be considered appropriate.

Another way in which cognitive load can be reduced is when cognitive processes operate automatically rather than under conscious control. Automatic processing of schemas requires minimal working memory resources and allows problem solving to proceed with minimal effort. In the domain of reading, as an example, difficulties in decoding make the processing of text very difficult for a reader, such that the cognitive load is high. Reading fluency, however, helps reduce the cognitive demand and thus makes text comprehension easier for the reader.

*Categories of Cognitive Load.* Cognitive load theory specifies different types of cognitive load with very different and instructionally relevant features. *Intrinsic cognitive load* refers to the demands on working memory capacity intrinsic to the material being learned such as a specific text. Different materials or learning activities differ in their level of intrinsic cognitive load, and modifying instruction cannot change this. Changing a task so that it is a simpler learning task that omits some interacting elements, however, can reduce the cognitive load and thus the efficiency of the learning. A basic finding regarding human cognition is that working memory—where all conscious cognitive processing is thought to occur—can handle no more than two or three novel interacting elements. In contrast, LTM is made up of schemas. Such organization helps lighten the load—bringing the schema from LTM into working memory means only one element must be processed, even though the schema may incorporate many interacting elements. Thus schemas accomplish the same purpose as a factor analysis in a statistical context—simplifying many things into fewer so it is simpler to process and less draining on the available resources.

*Extraneous or ineffective cognitive load* is due to the manner in which information is presented or the nature of the learning activities. Ineffective cognitive load imposes an unnecessary burden on learning. Most instructional design work, where cognitive load theory has been most frequently applied, has focused on trying to reduce extraneous cognitive load because it is amenable to instructional characteristics. Extraneous cognitive load is primarily important when intrinsic cognitive load is high (i.e., reading a difficult or complex text) because the two forms

of cognitive load are additive. If intrinsic cognitive load is low (as with simple recreational text), levels of extraneous cognitive load may be less important because the total cognitive load may not exceed working memory capacity.

*Germane* or *effective cognitive load* refers to demands placed on working memory capacity by mental activities that contribute directly to learning, defined in cognitive load theory as schema acquisition and automation. Germane cognitive load enhances learning and is influenced by instructional design. Also, increases in effort or motivation can increase the cognitive resources devoted to a task. If these additional resources are relevant to schema acquisition and automation, it also constitutes an increase in germane cognitive load.

*Applications to Cultural Accommodations and Reading Comprehension Instruction.* An important principle in this work is that intrinsic, extraneous, and germane cognitive load are additive, and furthermore, the total load cannot exceed working memory resources available if learning is going to occur. Culture can be thought of (admittedly narrowly, but for purposes of the current discussion) as an automated schema that helps simplify cognitive demands in everyday tasks and activities. If every behavior or thought or sentence were novel, the cognitive demands would be very high. However, familiar schemas lighten this load, and when these are automated, cognitive load is further reduced. Thus, being in a culturally familiar setting is relatively effortless compared with being in a strange cultural setting. A culturally unfamiliar text (because of unfamiliar text structure or unfamiliar concepts or ideas) could impose intrinsic cognitive load even if the text could be decoded. In addition, culturally familiar materials, settings, and activities may help focus attention in ways that might promote learning. In essence, focusing one's attention represents more efficient and task-relevant use of those scarce resources in the limited working memory store.

The applications of this work to conceptualizing cultural accommodations and reading comprehension specifically should be apparent. In essence, culturally unfamiliar reading materials and texts, reading-related activities, and even ways of talking and speaking during reading instruction may represent sources of extraneous cognitive load and thus make learning less efficient and more burdensome. Recall that the different types of cognitive load are additive. Therefore, as the total cognitive load surpasses the capacity of the cognitive system, learning and comprehension will suffer. In essence, cognitive load may serve as a mediator between external cultural and sociocultural factors and environments on the one hand and internal cognitive processes on the other to facilitate or diminish learning. Cultural unfamiliarity with specific tasks, texts, discourse and interactional processes, and other important classroom features may therefore lead to the types of negative outcomes that the descriptive literature reviewed earlier has so long suggested. The reverse situation is likewise possible, whereby the cultural schemas some students bring to classroom learning activities advantage them in ways that reduce cognitive load and thus make learning more efficient. Thus, as many authors have suggested, when culturally responsive instruction is introduced, students can access their relevant schemas or "funds of knowledge" (Moll & Gonzalez, 2004) in such a way that extraneous cognitive load is reduced.

Rueda (2006) termed the processes just described "facilitative encoding". Under ideal circumstances, where students' cultural knowledge helps them access text and classroom activities, extraneous and thus overall cognitive load should be reduced in ways that facilitate learning and comprehension. Thus, while culturally compatible instruction and classroom settings may make students feel better about being there, which is not a trivial consideration, these approaches may also make tasks more comprehensible and amenable to connections with existing prior knowledge. A somewhat related concept from the literature on second language acquisition, comprehensible input, has long been proposed as an important instructional principle for second language learners (Krashen, 1982). If the preceding argument holds true, teachers of students

from diverse backgrounds need to be well informed about the cultural knowledge that their students bring to school, and the ways in which reading materials, instructional activities, and other aspects of comprehension instruction can serve to unduly increase cognitive load, leading to impaired learning. Similarly, it also suggests that children's existing schemas can be broadened such that previously unfamiliar material, activities, and settings are well integrated into long term memory.

*Primary Intrapersonal Effects—Motivational Processes.* Motivation has often been considered as a trait inherent to students. Contemporary motivational theory, in contrast, has focused on one's context-specific personal beliefs around specific tasks and activities and one's ability to engage in those tasks. Schunk, Pintrich, and Meece (2008) suggest that the central indicators of motivation include active choice, persistence, and mental effort, all of which are assumed to impact achievement. While there is wide agreement on these indices of motivation, motivation theory in general comprises a family of related theories rather than one singular theory. Thus, because the aim of this chapter is heuristic, not all possible motivational variables will be addressed. Rather, we will attempt to illustrate how motivational processes can be linked to cultural processes. One motivation theory that has been particularly influential is known as expectancy x value theory, and because of its relevance to the discussion, it will be the focus here.

*A Social-Cognitive Expectancy Value Perspective on Motivation.* Eccles and Wigfield and their colleagues (Eccles, 1983, 1987, 1993; Eccles & Midgley, 1989; Wigfield, 1994; Wigfield & Eccles, 1992, 2000) outlined the motivational framework known as expectancy x value theory, which focuses on two key components of motivation. Expectancy is how well one expects to do on a given task, and value is how much one values a given task or activity. In this framework, greatly simplified here because of space limitations, aspects of the social world (cultural milieu, socializers' behaviors, and past performances) influence motivational beliefs (task value and expectancy) and individuals' cognitive processes (perceptions of the social environment and causal attributions), which in turn produce motivated behavior (active choice, persistence, mental effort) (Schunk et al., 2008). The key aspects of an expectancy x value approach are explained below.

The value component of this theory focuses on beliefs related to how individuals answer the question, "Why should I do this task?" There are four basic aspects of task value, including interest, importance, utility, and cost. Expectancy, on the other hand, refers to beliefs related to the question, "Am I able to do this task?" and the basic aspects include self-efficacy, perceived task difficulty, and causal attribution. The assumption here is that cultural factors (i.e., familiarity or unfamiliarity) can shape one or more of these motivational variables and thus mediate one's choice of activities, effort, and persistence. In cases where students have strong expectations for being successful in a task or activity and have high value and interest, engagement will be increased and vice versa. Thus, in culturally compatible situations, students may believe they are more likely to succeed and the task is less difficult, and attribute errors to lack of effort rather than lack of ability. They may also be more interested and believe the task or materials are more important, that mastering the task has some usefulness in other situations, and that the task will not require an unreasonable amount of effort. Thus cultural factors impact student outcomes and achievement at least in part through their mediation of basic motivational processes. Similar to facilitative encoding, which focuses on cognitive factors, the parallel here in the motivational arena can be termed "facilitative engagement."

In a comprehensive review of current work and issues in motivation, Pintrich (2003) outlined key motivational generalizations based on current research and theory. These include: (a) adaptive self-efficacy and competence beliefs motivate students, (b) adaptive attributions and

control beliefs motivate students, (c) higher levels of interest and intrinsic motivation motivate students, (d) higher levels of value motivate students, and (e) goals motivate and direct students (p. 672).

It can be hypothesized that culturally compatible instruction and culturally responsive learning environments and materials can have a significant impact on these key motivational areas and thus mediate student participation in ways that help (or hinder) their reading, comprehension, and ultimately achievement. Consistent with this hypothesis, some of the descriptive research on cultural factors described increased student engagement as a product of culturally compatible teaching (Au, 1980). While engagement is not necessarily the same as achievement, fostering engagement is not a trivial concern. A robust literature, in fact, suggests that mental effort is associated with motivational beliefs such as interest (Salomon, 1984), and that academic engagement and other “achievement-related behaviors” are associated with measured achievement (Fredericks, Blumenfeld, & Paris, 2004) and reading comprehension in particular (Guthrie et al., 2004; Guthrie et al., 2006).

In addition to cognitive and motivational intrapersonal ways in which cultural processes can impact reading and comprehension, a social constructivist perspective would suggest that intrapersonal processes play a role as well. These are discussed next.

*Secondary Interpersonal Effects—Social Processes.* These effects can be thought of as influences on individual learning mediated by the processes and organization of the social context. That is, the nature of students’ participation in classroom activities has a major impact on learning (Lave & Wenger, 1998; Rogoff, 1991, 1995; Rogoff, Baker-Sennett, Lacasa, & Goldsmith, 1995; Wenger, 1999). These mediating effects might be reflected through social interactions with others in places like classrooms, and may ultimately influence important factors such as opportunity to learn through diminished participation, negative interactions with teachers, etc. (Cazden, 1985). There is evidence that everything a teacher does has a motivational impact on students (Stipek, 1996). Teachers’ beliefs about their ability to teach and about their students’ learning abilities and cognitive abilities influence their relationships with students (Davis, 2003). This is reflected in areas such as type of feedback given, the use of reward structures, praise and criticism, help, and overall classroom climate (Schunk et al., 2008). One way this may operate in classroom settings is when teachers or school personnel such as psychologists interpret the performance of culturally diverse students as reflective of cognitive or linguistic deficiencies because of nonmainstream discourse and/or interactional patterns (Labov, 1982; Lee, 2005b, 2007).

This section has outlined some possible mechanisms to begin connecting cultural processes and cultural differences, such as those found in many classroom settings, with cognitive and motivational factors which ultimately connect to achievement. As the overview of research in this area suggests, such factors have long been hypothesized to play a role in the lagging performance in reading and literacy of students of color. The work has been primarily qualitative in nature, however, for reasons outlined earlier, and there is no strong causally oriented research base linking such factors to student outcomes. The nature of the construct makes it difficult to manipulate experimentally. Equally important, however, is the lack of a theoretical framework to suggest possible mechanisms that link cultural processes and learning. Given the lack of models that might guide such research, we made suggestions for ways in which cultural factors might impact learning. These included primary intrapersonal effects, including facilitative encoding and facilitative engagement, focusing on cognitive and motivational factors respectively. In addition, we described secondary interpersonal effects, focusing on ways that social and interactional processes can be mediated by cultural factors and thus constrain or facilitate student participation and the nature of day-to-day interactions.

## IMPLICATIONS FOR THEORY, PRACTICE, POLICY, AND FUTURE RESEARCH

### *Research and Theoretical Concerns*

One interesting observation related to the treatment of cultural processes in the literature is that cultural factors are often discussed solely with reference to students from diverse cultural and linguistic backgrounds, as opposed to being a pervasive feature of all human activity. In addition, culture is often treated as a function of students primarily, rather than as a feature that permeates social contexts and learning processes in classrooms and schools. Although culture has been a consistent concern of previous volumes of the *Handbook of Reading Research*, there is still a significant amount that we do not know. As noted earlier, previous research focused more on the descriptive “what is” type of questions through careful, contextualized description of specific cultural settings and processes involving reading and literacy. This has been augmented by work that attempted to adjust classroom teaching and classroom settings to make them more culturally responsive to students, most often through various forms of cultural accommodations. In addition, over time, there has been a trend away from negative views of students’ cultural practices from home and community toward using these cultural practices as an instructional resource.

The task remaining is to develop a knowledge base that allows instructional practices developed in this fashion to be more strategic, and theoretically and empirically driven. From a research perspective, a significant need in the field is to examine more systematically the impact of cultural factors, to provide better guidance to teachers and schools. Part of the challenge in this regard is reducing or eliminating the cognitive-cultural divide, and building models that will integrate work from different perspectives—including models that speak to how cultural factors should or might impact reading and literacy processes specifically. It also involves connecting work on cultural processes and practices with work on learning. Consideration of a learning framework allows the development of specific testable hypotheses and provides some guidance about relevant constructs to assess and/or manipulate when considering literacy in general and reading comprehension instruction in particular. There are some examples of attempts to address multiple interacting dimensions of determinants of student achievement (e.g., Fredericks et al., 2004).

From a research perspective, questions of interest include:

1. Do culturally responsive teaching practices reduce cognitive load in learning activities? If so, does this result in better achievement?
2. Which types of accommodations are the most effective in mediating cognitive load?
3. Does the systematic use of culturally relevant text produce higher student engagement and/or outcomes (greater interest and task value, thus impacting the choice to read more, to persist at reading tasks, to exert more effort with challenging text, and finally to increased comprehension)?
4. Does culturally accommodated instruction lead to higher self-efficacy, or facilitate connections to prior knowledge, thus decreasing cognitive load?
5. Do features of culturally accommodated instructional routines or activities increase student interest, importance, and utility, thus influencing choice, persistence, or effort?

These and many other related questions have not been extensively explored to date, with a few notable exceptions (Au, 1980, 2000; Lee, 2005a). Instructional and curriculum designers are left to rely on intuition or educated guesses regarding if, when, and how to design and implement these approaches. Systematic work drawing on current understandings of learning and motivation promises to help unravel these questions. As this work on cultural factors becomes

more integrated into mainstream reading and literacy research, we need to see that it begins to be reflected in state and federal reading policy as well.

### ***Instructional Considerations***

Sociocultural theorists (Lee & Smagorinsky, 2000; Lee & Ball, 2005) remind us that learning and achievement are not solely a function of individual students and intrinsic characteristics, but rather reside in the interaction between the student and the environment. When students come to school with nontraditional backgrounds, those educators who try to facilitate literacy and reading comprehension processes need to systematically consider the learning and motivational implications of the classroom activities and materials they provide. Currently, the research base does not permit offering guidance (other than general principles) for school personnel who are trying to consider cultural issues in literacy instruction. The work of authors such as Gallimore and Goldenberg (2001), Gutierrez and Stone (2000), Lee (2000), and Rogoff (2003) on cultural models suggested that at a minimum the following types of questions would be important to explore in order to form the foundation of culturally responsive pedagogy that many have argued for (Au, 2000; Gay, 2000):

1. What is the range and nature of cultural settings that a learner has had experience with?
2. Who are/were the participants?
3. What is the range and nature of things people do or did in those settings? (This can bring in all of the traditional sociocultural influences, such as ethnicity, race, gender, socio-economic status, etc., without having to make monolithic judgments about individual characteristics based on group labels—the answers to these questions provides a window into how these factors operate a specific individual but not for an entire group).
4. Based on experience in these settings, what types of cultural models have individuals developed?

In terms of classroom settings, parallel concerns might include:

1. What are the typical and characteristic activity settings in this school and classroom? How are they structured?
2. How and when do they occur?
3. Who participates?
4. What are the cultural models that characterize this classroom or school?

Teachers well informed regarding these questions have at a minimum a principled way and an empirical base for modifications in instruction that will maximize the cultural resources of their students.

We should keep in mind that although the focus on cultural factors in reading and literacy is increasingly prominent in the research literature, problematic aspects of how culture has been treated in the past need to be avoided, including the following:

1. Making monolithic judgments about entire groups (often around racial and/or ethnic lines) without considering within-group and individual differences.
2. Focusing on surface features of culture.
3. Focusing on presumed culturally related variables that have failed to show a relationship to learning such as learning styles.
4. Treating culture as a deficit rather than a resource in learning.

5. Equating group labels, especially racial and ethnic group labels, with cultural characteristics.
6. Assuming cultural influences operate rigidly in all settings.
7. Relying on presumed characteristics without considering empirical validation.

Erickson (2004) noted that the presence of cultural differences in society does not necessarily lead to conflict or problems in school or other social and organizational settings. Rather, conflict is dependent on whether cultural differences are treated as a boundary or a border. Boundaries, which are to be expected, are simply a reflection of the presence of cultural differences. Borders, on the other hand, are social constructs, political in origin, involving the arbitrary exercise of power or authority of one group over another. It is when boundaries are treated as borders, when one's cultural knowledge is scrutinized or "stopped and frisked," as Erickson notes, that problems may arise. While there are descriptive accounts of how these processes operate in classroom settings, we know little about how to overcome these effects in educationally advantageous ways.

## REFERENCES

- Au, K. H. (1980). Participation structures in a reading lesson with Hawaiian children: Analysis of a culturally appropriate instructional event. *Anthropology and Education Quarterly*, 11(2), 91-115.
- Au, K. H. (1998). Social constructivism and the school literacy learning of students of diverse backgrounds. *Journal of Literacy Research*, 20, 297-319.
- Au, K. H. (2000). A multicultural perspective on policies for improving literacy achievement: Equity and excellence. In M. L. Kamil, P. B. Mosenthal, P. David Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol III* (pp. 835-852). New York: Erlbaum.
- Au, K. H., & Kawakami, A. J. (1994). Cultural congruence in instruction. In E. R. Hollins, J. E. King, & W. Hayman (Eds.), *Teaching diverse populations: Formulating a knowledge base* (pp. 5-23). Albany: State University of New York Press.
- Au, K. H., & Mason, J. M. (1981). Social organizational factors in learning to read: The balance of rights hypothesis. *Reading Research Quarterly*, 17(1), 115-152.
- August, D., & Shanahan, T. (Eds.). (2006). *Developing literacy in second-language learners: Report of the National Literacy Panel on language-minority children and youth*. Mahwah, NJ: Erlbaum.
- Bailey, A. L. (2007). *The language demands of school: Putting academic English to the test*. New Haven, CT: Yale University Press.
- Bloome, D., Katz, L., Solsken, J., Willett, J., & Wilson-Keenan, J. (2000). Interpellations of family/community and classroom literacy practices. *Journal of Educational Research*, 93(3), 155-163.
- Bransford, J. D., Brown, A. L., & Cocking, R. R. (1999). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.
- Brown, J. S., Collins, A., & Duguid, S. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18(1), 32-42.
- Cazden, C. B. (1985). Social context of learning to read. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and the processes of reading* (3rd ed., pp. 595-610). Newark, DE: International Reading Association.
- Cazden, C. B. (1988). *Classroom discourse*. New York: Heinemann.
- Cazden, C. B., John, V., & Hymes, D. (Eds.). (1972). *Functions of language in the classroom*. New York: Teachers College Press.
- Cole, M. (1996). *Cultural psychology: A once and future discipline*. Cambridge, MA: Harvard University Press.
- Cole, M., & Scribner, S. (1977). Cross-cultural studies of memory and cognition. In R. V. Kail, Jr., & J. W. Hagen (Eds.), *Perspectives on the development of memory and cognition* (pp. 239-271). Hillsdale, NJ: Erlbaum.



- D'Andrade, R. (1996). Culture. *Social science encyclopedia* (2nd ed., pp. 161–163). London: Routledge.
- D'Andrade, R. G., & Strauss, C. (Eds.). (1992). *Human motives and cultural models*. Cambridge, UK: Cambridge University Press.
- Davis, H. A., (2003). Conceptualizing the role and influence of student-teacher relationships on children's social and cognitive development. *Educational Psychologist*, 38, 207–234.
- Eccles, J. (1983). Expectancies, values and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75–146). San Francisco: Freeman.
- Eccles, J. (1987). Gender roles and women's achievement-related decisions. *Psychology of Women Quarterly*, 11, 135–172.
- Eccles, J. (1993). School and family effects on the ontogeny of childrens' interests, self-perceptions, and activity choice. In J. Jacobs (Ed.), *Nebraska symposium on motivation: Developmental perspectives on motivation* (pp. 145–208). Lincoln: University of Nebraska Press.
- Eccles, J. S., & Midgley, C. (1989). Stage-environment fit: Developmentally appropriate classrooms for young adolescents. In C. Ames & R. Ames (Eds.), *Research on motivation in education* (Vol. 3, pp. 139–186). San Diego, CA: Academic Press.
- Erickson, F. (2004). Culture in society and in educational practices. In J. A. Banks & C. A. McGee Banks (Eds.), *Handbook of research on multicultural education* (5th ed., pp. 31–60). New York: Wiley.
- Feuer, M. J., Towne, L., & Shavelson, R. J. (2002). Scientific culture and educational research. *Educational Researcher*, 11(31), 4–14.
- Florio-Ruane, S., & McVee, M. (2000). Ethnographic approaches to literacy research. In M. L. Kamil, P. B. Mosenthal, P. David Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol III* (pp. 153–162). Mahwah, NJ: Erlbaum.
- Fredericks, J., Blumenfeld, P., & Paris, A. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74, 59–109.
- Gaffney, J. S., & Anderson, R. C. (2000). Trends in reading research: Changing intellectual currents over three decades. In M. L. Kamil, P. B. Mosenthal, P. David Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol III* (pp. 53–76). Mahwah, NJ: Erlbaum.
- Gallego, M. A., Cole, M., & LCHC. (2001). Classroom culture and culture in the classroom. In V. Richardson (Ed.), *The fourth edition of the handbook of research on teaching* (pp. 951–997). Washington, DC: American Educational Research Association.
- Gallego, M., & Cole, M. (1998). Classroom cultures and cultures in the classroom. In V. Richardson (Ed.), *Handbook of research on teaching* (4th ed., pp. 355–490). New York: MacMillan.
- Gallimore, R., & Goldenberg, C. (2001). Analyzing cultural models and settings to connect minority achievement and school improvement research. *Educational Psychologist*, 36(1), 45–56.
- Gay, G. (2000). *Culturally responsive teaching*. New York: Teachers College Press.
- Gee, J. P. (1992). Reading. *Journal of Urban and Cultural Studies*, 2, 65–77.
- Gee, J. P. (2000). Discourse and sociocultural studies in reading. In M. L. Kamil, P. B. Mosenthal, P. David Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol III* (pp. 195–208). Mahwah, NJ: Erlbaum.
- Goldenberg, C., Gallimore, R., Reese, L., & Garnier, H. (2001). Cause or effect? A longitudinal study of immigrant Latino parents' aspirations and expectations and their children's school performance. *American Educational Research Association Journal*, 38, 547–582.
- Goldenberg, C., Rueda, R. S., & August, D. (2006a). Synthesis: Sociocultural contexts and literacy development. In D. August & T. Shanahan (Eds.), *Developing literacy in second-language learners: Report of the National Literacy Panel on language-minority children and youth* (pp. 249–268). Mahwah, NJ: Erlbaum.
- Goldenberg, C., Rueda, R. S., & August, D. (2006b). Sociocultural influences on the literacy attainment of language-minority children and youth. In D. August & T. Shanahan (Eds.), *Developing literacy in second-language learners: Report of the National Literacy Panel on language-minority children and youth* (pp. 269–318). Mahwah, NJ: Erlbaum.
- Gonzalez, N., Moll, L. C., & Amanti, C. (2005). *Funds of knowledge: Theorizing practices in households, communities, and classrooms*. Mahwah, NJ: Erlbaum.
- Goodenough, W. H. (1994). Toward a working theory of culture. In R. B. Borotsky (Ed.), *Assessing cultural anthropology* (pp. 262–273). New York: McGraw-Hill.

- Guthrie, J. T., Wigfield, A., Barbosa, P., Perencevich, K. C., Taboada, A., Davis, M. H., Scaffidi, N. T., & Tonks, S. (2004). Increasing reading comprehension and engagement through concept-oriented reading instruction. *Journal of Educational Psychology*, 96(3), 403–423.
- Guthrie, J. T., Wigfield, A., Humenick, N. M., Perencevich, K. C., Taboada, A., & Barbosa, P. (2006). Influences of stimulating tasks on reading motivation and comprehension. *Journal of Educational Research*, 99(4), 232–245.
- Gutierrez, K. D., Baquedano-Lopez, P., Alvarez, H., & Chiu, M. (1999). Building a culture of collaboration through hybrid language practices. *Theory Into Practice*, 38(2), 87–93.
- Gutierrez, K. D., & Rogoff, B. (2003). Cultural ways of learning: Individual styles or repertoires of practice. *Educational Researcher*, 32(5), 19–25.
- Gutierrez, K. D., & Stone, L. D. (2000). Synchronic and diachronic dimensions of social practice: An emerging methodology for cultural-historical perspectives on literacy learning. In C. D. Lee & P. Smagorinsky (Eds.), *Vygotskian perspectives on literacy research: Constructing meaning through collaborative inquiry* (pp. 150–164). New York: Cambridge University Press.
- Hale-Benson, J. E. (1986). *Black children: Their roots, culture, and learning styles*. Baltimore, MD: John Hopkins University Press.
- Heath, S. B. (1983). *Ways with words: Language, life, and work in communities and classrooms*. Cambridge, UK: Cambridge University Press.
- Hollins, E. R., & Oliver, E. I. (1999). *Pathways to success in school: Culturally responsive teaching*. Mahwah, NJ: Erlbaum.
- Klinger, J. K., Artiles, A. J., Kozleski, E., Harry, B., Zion, S., Tate, W., et al. (2005). Addressing the disproportionate representation of culturally and linguistically diverse students in special education through culturally responsive educational systems. *Education Policy Analysis Archives*, 13(38). Retrieved June 15, 2007, from <http://epaa.asu.edu/epaa/v1n38>
- Krashen, S. (1982). *Principles and practice in second language acquisition*. New York: Pergamon Press.
- Kroeber, A. L., & Kluckhohn, C. (1963). *Culture: A review of concepts and definitions*. New York: Alfred A. Knopf, Inc., and Random House.
- Labov, W. (1972). *Language in the inner city*. Philadelphia: University of Pennsylvania Press.
- Labov, W. (1982). Objectivity and commitment in linguistic science: The case of the Black English trial in Ann Arbor. *Language in Society*, 11, 165–201.
- Ladson-Billings, G. (1994). *The dreamkeepers: Successful teachers for African-American children*. San Francisco: Jossey-Bass.
- Ladson-Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory Into Practice*, 34(3), 159–165.
- Lave, J. (1988). *Cognition in practice: Mind, mathematics, and culture in everyday life*. Cambridge, UK: Cambridge University Press.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge, UK: Cambridge University Press.
- Lave, J., & Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge, UK: Cambridge University Press.
- Lee, C. D. (2000). Signifying in the zone of proximal development. In C. D. Lee & P. Smagorinsky (Eds.), *Vygotskian perspectives on literacy research: Constructing meaning through collaborative inquiry* (pp. 191–225). New York: Cambridge University Press.
- Lee, C. D. (2005a). Culture and language: Bidialectal issues in literacy. In J. Flood & P. L. Anders (Eds.), *Literacy development of students in urban schools: Research and policy* (pp. 241–274). Newark, DE: International Reading Association.
- Lee, C. D. (2005b). Taking culture in to account: Intervention research based on current views of cognition & learning. In J. King (Eds.), *Black education: a transformative research and action agenda for the new century* (pp. 73–114). Mahwah, NJ: Erlbaum.
- Lee, C. D. (2007). *Culture, literacy, and learning: Taking bloom in the midst of the whirlwind*. New York: Teachers College Press.
- Lee, C. D. (2008). Synthesis of research on the role of culture in learning among African American youth: The contributions of Asa G. Hilliard, III. *Review of Educational Research*, 78(4), 797–827.
- Lee, C. D., & Ball, A. (2005). All that glitters ain't gold: CHAT as a design & analytical tool in literacy

- research. In R. Beach, J. Green, M. Kamil, & T. Shanahan (Eds.), *Multidisciplinary perspectives on literacy research* (2nd ed., pp. 101–132). Cresskill, NJ: Hampton Press.
- Lee, C. D., & Smagorinsky, P. (2000). *Vygotskian perspectives on literacy research: Constructing meaning through collaborative inquiry*. New York: Cambridge University Press.
- LeVine, R. A., & White, M. U. (1986). *Human conditions: The cultural basis of educational development*. New York: Routledge & Kegan Paul.
- Livingston, A. (2007). *The condition of education 2007 in brief* (NCES 2007–066). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- Lue, M. S., Green, C. E., & Smalley, S. Y. (2002). Communication skills of African American learners with disabilities. In F. E. Obiakor & B. A. Ford (Eds.), *Creating successful learning environments for African American learners with exceptionalities* (pp. 107–117). Thousand Oaks, CA: Corwin Press.
- Mayer, R. E. (2001). Resisting the assault on science: The case for evidence-based reasoning in educational research. *Educational Researcher*, 10(30), 29–30.
- Mehan, H. (1979). *Learning lessons: The social organization of classroom instruction*. Cambridge, MA: Harvard University Press.
- Moll, L. C. (1990). *Vygotsky and education*. New York: Cambridge University Press.
- Moll, L. C., & Gonzalez, N. (2004). Engaging life: A funds-of-knowledge approach to multicultural education. In J. Banks & C. A. McGee Banks (Eds.), *Handbook of research on multicultural education* (pp. 699–715). San Francisco: Jossey-Bass.
- Nieto, S. (1999). Multiculturalism, social justice, and critical teaching. In I. Shor & C. Pari (Eds.), *Education is politics: Critical teaching across differences, K-12* (pp. 1–20). Portsmouth, NH: Heinemann.
- Ogbu, J., & Simmons, H. D. (1998). Voluntary and involuntary minorities: A Cultural-ecological theory of school performance with some implications for education. *Anthropology and Education Quarterly*, 29(2), 155–188.
- Ostrovsky-Solis, F., Ramirez, M., & Ardilla, A. (2004). Effects of culture and education on neuropsychological testing: A preliminary study with indigenous and nonindigenous population. *Applied Neuropsychology*, 11(4), 186–193.
- Paas, F., Renkl, A., & Sweller, J. (2003). Cognitive load theory and instructional design: recent developments [Special issue]. *Educational Psychologist*, 38(1).
- Pew Hispanic Center. (2006). *From 200 million to 300 million: The numbers behind population growth*. Retrieved from <http://pewhispanic.org/factsheets/factsheet.php?FactsheetID=25> 6/27/2007
- Pearson, P. D., & Raphael, T. E. (2000). Toward a more complex view of balance in the literacy curriculum. In W. D. Hammond & T. E. Raphael (Eds.), *Literacy instruction for the new millennium* (pp. 1–21). Grand Rapids, MI: Center for the Improvement of Early Reading Achievement & Michigan Reading.
- Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology*, 95(4), 667–686.
- RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Santa Monica, CA: RAND Education.
- Rogoff, B. (1981). Schooling's influence on memory test performance. *Child Development*, 52, 260–267.
- Rogoff, B. (1991). *Apprenticeship in thinking: Cognitive in social context*. New York: Oxford University Press.
- Rogoff, B. (1995). Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship. In J. V. Wertsch, P. Del Rio, & A. Alvarez (Eds.), *Sociocultural studies of mind* (pp. 139–164). Cambridge, UK: Cambridge University Press.
- Rogoff, B. (2003). *The cultural nature of human development*. New York: Oxford University Press.
- Rogoff, B., Baker-Sennett, J., Lacasa, P., & Goldsmith, D. (1995). Development through participation in sociocultural activity. In J. Goodnow, P. Miller, & F. Kessel (Eds.), *Cultural practices as contexts for development* (pp. 45–65). San Francisco: Jossey-Bass.
- Rogoff, B., Turkanis, C. G., & Bartlett, L. (Eds.). (2001). *Learning together: Children and adults in a school community*. New York: Oxford University Press.
- Rueda, R. (2006). Motivational and cognitive aspects of culturally accommodated instruction: The case of reading comprehension. In D. M. McInerney, M. Dowson, & S. Van Etten (Eds.), *Effective schools: Vol. 6: Research on sociocultural influences on motivation and learning* (pp. 135–158). Greenwich, CT: Information Age.

- Rueda, R. S., August, D., & Goldenberg, C. (2006). The sociocultural context in which children acquire literacy. In D. August & T. Shanahan (Eds.), *Developing literacy in second-language learners: Report of the National Literacy Panel on language-minority children and youth* (pp. 319–340). Mahwah, NJ: Erlbaum.
- Salomon, G. (1984). Television is “easy” and print is “tough”: The differential investment of mental effort in learning as a function of perceptions and attributions. *Journal of Educational Psychology*, *76*, 774–786.
- Schunk, D. M., Pintrich, P. R., & Meece, J. L. (2008). *Motivation in education: Theory, research, and applications*. Upper Saddle River, NJ: Pearson Merrill/Prentice Hall.
- Scribner, S., & Cole, M. (1981). *The psychology of literacy*. Cambridge, MA: Harvard University Press.
- Slavin, R. E. (2002). Evidence-based education policies: Transforming educational practice and research. *Educational Researcher*, *10*(31), 15–21.
- Snow, C. E., Burns, M. S., & Griffin, P. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- Stipek, D. (1996). Motivation and instruction. In D. C. Berliner & R. C. Calfee (Eds.), *Handbook of educational psychology* (pp. 85–113). New York: MacMillan.
- Strauss, C. (1992). What makes Tony run? Schemas as motives reconsidered. In R. G. Andrade & C. Strauss (Eds.), *Human motives and cultural models* (pp. 197–224). New York: Cambridge University Press.
- Strauss, C., & Quinn, N. (1998). *A cognitive theory of cultural meaning*. New York: Oxford University Press.
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, *12*, 257–285.
- Sweller, J., van Merriënboer, J. G., & Paas, F. G. (1998). Cognitive architecture and instructional design. *Educational Psychology Review*, *10*, 251–296.
- Tharp, R., & Gallimore, R. (1988). *Rousing minds to life: Teaching, learning, and schooling in social context*. Cambridge, UK: Cambridge University Press.
- Valsiner, J. (1988). *Developmental psychology in the Soviet Union*. Bloomington: Indiana University Press.
- Weisner, T. S. (1994). The crisis for families and children in Africa: Change in shared social support for children. *Health Matrix Journal of Law/Medicine*, *4*(1), 1–29.
- Wells, G., & Claxton, G. (Eds.). (2002). *Learning for life in the C21st: Sociocultural perspectives on the future of education*. Oxford, UK: Blackwell.
- Wenger, E. (1999). *Communities of practice. Learning, meaning and identity*. Cambridge, UK: Cambridge University Press.
- Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: Harvard University Press.
- Whitehurst, G. (2002). *Charting a new course for the U.S. Office of Educational Research and Improvement*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans.
- Wigfield, A. (1994). Expectancy-value theory of motivation and achievement: A developmental perspective. *Educational Psychology Review*, *6*, 49–78.
- Wigfield, A., & Eccles, J. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review*, *12*, 265–310.
- Wigfield, A., & Eccles, J. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, *25*, 68–81.
- Wiley, T. G. (2005). *Literacy and language diversity in the United States* (2nd ed.). Washington, DC: Center for Applied Linguistics.
- Wilkinson, L. C., & Silliman, E. R. (2000). Classroom language and literacy learning. In M. L. Kamil, P. B. Mosenthal, P. David Pearson, & R. Barr (Eds.), *Handbook of reading research: Vol III* (pp. 337–360). Mahwah, NJ: Erlbaum.