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The Integration of Cognitive and Sociocultural Theories of Literacy Development: Why? How?

Cognitive and sociocultural theories of literacy development are historically considered incommensurable in practice and in research. Cognitivists view literacy development as a succession of qualitatively varied skills whereas socioculturalists view literacy as socially and culturally embedded. Traditional educational discourses tend to reflect cognitivist perspectives, which risk creating and maintaining social inequities in our increasingly diverse society. The underpinnings and differences of these two theories are discussed. It is argued that integration of the theories is possible and desirable in educational practice and research in order to equalize the learning opportunities for all students.

Les théories cognitives et socioculturelles sur le développement en littératie sont historiquement considérées comme étant incommensurables en pratique et en recherche. Les cognitivistes perçoivent le développement littéraire comme une succession d'habiletés qualitatives variées alors que les socioculturalistes considèrent la littératie comme étant socialement et culturellement intégrée. Les discours éducationnels traditionnels tendent à refléter des perspectives cognitivistes, ce qui risque de créer et de maintenir des inégalités sociales dans notre société de plus en plus diverse. L'auteure discute les fondements et les différences de ces deux théories. Elle fait valoir son point de vue selon lequel l'intégration des théories est possible, voire désirable dans la pratique et la recherche pédagogique en vue d'égaliser les occasions d'apprentissage pour tous les étudiants.

Literacy is inarguably vital for the social and economic welfare of individuals and society (Canadian Language and Literacy Network [CLLRNet], 2009; Purcell-Gates & Tierney, 2009; Snow, Burns, & Griffin, 1998). This reality is particularly relevant today in an increasingly globalized world where political, economic, and social exchanges challenge individuals and nations to be ever more competitive. In response, governments and agencies have promoted progressively more policies and practices to advance students' literacy skills. For example, we have witnessed the *No Child Left Behind Act* (Public Law, 2001) and the *Reading First* initiative in the United States based on the National Reading Panel report (2000), the Ontario Ministry of Education (2003) *Early Reading Strategy: The Report of the Expert Panel on Early Reading in Ontario*, and more recently, the *National Strategy for Early Literacy* (CLLRNet) to address an apparent literacy crisis in North America. Underpinning these reports and initiatives is a predominantly cognitive view of literacy development; lacking is an explicit attempt to address the needs of an increasingly pluralistic population. Such a narrow cognitive perspective of literacy development risks perpetuating social inequalities that stem from social and cultural diversity, which characterize this population. Alternatively, a sociocultural view of literacy

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proposes that the influences of familial and cultural communities on literacy development should be considered in order to provide equality in educational access and opportunity for all students (Purcell-Gates & Tierney), and particularly for students with diverse backgrounds (Au, 2000). Although some contend that these cognitive and sociocultural perspectives are diametrically opposed, Purcell-Gates, Jacobsen, and Degener (2004) reject the notion that "the social and the cognitive are independent and incommensurable" (p. 81); rather, they propose that the cognitive occurs in a sociocultural context and that both are necessary for educational success. It is the purpose of this article to examine the core premises of the cognitive and sociocultural theories of literacy development and to demonstrate that neither theory alone is adequate, but that an integration of the two theories into a unitary framework for literacy instruction and research has the potential to equalize educational practices.

Definition of Literacy

The definition of literacy is widely varied throughout the literature, encompassing viewing, listening, speaking, reading, writing, and representing (Language and Literacy Researchers of Canada [LLRC], 2009). The new literacy practices (Pahl & Rowsell, 2005), for example, refer to multimodal literacies and multiliteracies that include diverse languages and modes of texts and technologies. Debates about the meanings of literacy are frequent (Street, 1999), and the meanings vary depending on the particular theory to which one ascribes. In this article, literacy refers to reading and writing the printed form of language: print literacy.

Cognitive Theory of Literacy Development

Underlying the cognitive perspective of print literacy development is the dogma that the acquisition of reading and writing skills follows specific developmental milestones for generally everyone; in other words, there is a "universalized theory of development" (John-Steiner & Mahn, 1996, p. 197). Cognitive researchers are interested in normative behavior, for example, the learning-to-read process, and their emphases are on operations that take place in the head (Purcell-Gates et al., 2004). Cognitivists believe that literacy is largely taught and learned. For alphabetic languages, print is a code that represents phoneme/grapheme correspondence; therefore, learning to read and write begins with learning the code. Cognitive theorists, in addition, believe that stages of reading or writing development are necessary to guide teaching; the stages illuminate the competence that is optimal for specific purposes, and they identify and explain the inadequacies exhibited by certain groups (Chall, 1983; Ehri, 2005). Street (1984) referred to the cognitive perspective as "autonomous" (p. 2) because it implies that literacy consists of technical skills that are learned independently from social or cultural influences, and that literacy learning is neutral and apolitical. Although the stage theory of reading development goes back to the 1920s, Chall is credited with strengthening its momentum, so it is presented here as an example of a cognitive theory of literacy development. More recently, phonological processing has been identified as a core component of reading acquisition, and its development is also understood to occur in stages. Last, an example of proposed stages of writing development is presented.

Chall (1983) explained that all individuals, including those with special needs, progress through stages of reading acquisition in characteristic ways, in certain age limits, and following the same sequence. Chall proposed the following six stages of reading: (a) Stage 0: Pre-reading (birth to age 6); (b) Stage 1: Initial Reading or Decoding (ages 6-7); (c) Stage 2: Confirmation, Fluency, Ungluing from Print (ages 7-8); (d) Stage 3: Reading for Learning the New (ages 8-14); (e) Stage 4: Multiple Viewpoints (ages 14-18); and (f) Stage 5: Construction and Deconstruction (age 18 and above). Progression through the stages is characterized by the recognition and decoding of words, by relating the spoken word to the printed word, by learning the rules about relating letters to sounds, by learning the meanings of uncommon words (abstract words, ideas, concepts), and by acquiring world knowledge that is necessary for comprehending what is read. Chall's stages may be used to identify what an individual has learned and what is yet to be taught; she also recommended norm-referenced tests to diagnose a reading problem.

With respect to another dominant cognitive theory, Gillon (2004) reported that a "vast body of research employing differing methodologies and conducted in a variety of alphabetic languages has convincingly demonstrated that a powerful relationship exists between phonological awareness and literacy development" (p. 1). This finding has been substantiated by several cognitive theorists and researchers (Ehri et al., 2001; Goswami, 2003; Shaywitz, 2005; Snow et al., 1998). As a predictor of early reading success, phonological awareness acquisition also consists of a hierarchy of subskills that progress from word level to syllable, to onset-rime, and to phoneme level. At the word level, individuals are able to discriminate between words in a sentence. Progressing from word discrimination is the ability to understand that words can be broken into smaller parts such as syllables, onset and rime, and phonemes. Some theorists contend that all the subskills should be taught in order for reading to develop (Gillon), whereas others claim that phoneme awareness is the most significant factor for reading success (McGuinness, 1997; Shaywitz, 2005). Clearly, distinct skills and stages comprise these reading acquisition theories.

In regard to writing development, Purcell-Gates et al. (2004) reported a theory by Bear, Invernizzi, Templeton, and Johnston (1996) who proposed that writing develops according to these steps: (a) emergent (ages 1-7): drawing, scribbling, pretend writing, printing letter-like to actual letters; no sound-symbol correspondence; (b) beginning (ages 5-9): initial writing is laborious, but it improves to the point of accomplishing half a page of written work the content of which is often a summary or retelling; (c) transitional (ages 6-12): more fluency, planning, organization, and details characterize this stage; and (d) intermediate and specialized writing (ages 10-100): fluent writing with expression and voice and varied styles and genre are seen. Accompanying these writing stages were levels of spelling skills: (a) preliterate (emergent): draw a picture or scribble and later write unrelated letters; (b) early letter name (early beginning): writes predominant sounds in words and then initial and final consonants; (c) middle and late letter name (later beginning): use of initial and final consonants with a vowel in most syllables, progressing to short vowel patterns, consonant blends and digraphs, some long vowel words; (d) within-word pattern (transitional): spell short vowel words, most one-syllable long

vowel words, r-controlled words, and use of some Latin suffixes; and (e) syllable juncture and derivational constancy (intermediate): learn how syllables fit together, to double consonants, drop the *e* to add an ending, know suffixes and prefixes. Whereas understandings of writing once depicted writers as autonomous individuals who mainly contended with and documented their thoughts (Nystrand, 2006), interest in evaluating and researching writing prompted the identification of specific skills to target and measure.

The above cognitive theories of literacy development demonstrate the common features that are valued and continue to be emphasized by influential institutions and current policies. If theories in practice reflect the lenses through which individuals see the world (Tracey & Morrow, 2006), the cognitive lens implies that individuals who stray from the prescribed stages are deficient in their literacy skills. From a critical literacy theory position (Tracey & Morrow), one must question whether adherence to this view disadvantages students who stem from non-mainstream backgrounds, whose out-of-school literacy practices conflict with these stages of development. This being the case, the school literacy practices discriminate against students from diverse backgrounds, blocking their success in literacy learning. An alternate school of thought is that the cognitive perspective of literacy development is indeed too limited in its understanding of how individuals learn to read and write; rather, the roles of individuals' social and cultural environments must be considered.

Sociocultural Theory of Literacy Development

The theory that learning and development are socially and culturally situated versus a "unidimensional construct" (Purcell-Gates, 2007, p. 3) is credited largely to the Russian psychologist Vygotsky. In the 1920s and 1930s, Vygotsky proposed that all human activities take place in cultural contexts, are mediated by language and other symbols, and can be best understood in the context of their historical development (John-Steiner & Mahn, 1996). According to Vygotsky, development is the transformation of socially shared activities into internalized processes (John-Steiner & Mahn). Development begins with interactions among people, and it results in socialization as well as in higher mental functions. The family, community, and society into which a child is born create the higher mental processes in the child (McNamee, 1995). A main Vygotskian tenet is that "more knowledgeable members of a group engage in social mediation to bring others into the cultural practices" (Pérez, 1998, p. 4).

From the sociocultural perspective, therefore, children's literacy development is understood by exploring the cultural, social, and historical contexts in which the children have grown. One is obliged to consider how the thinking of a particular group of individuals has directed the children's thinking, how the children understand who they are in relation to others, and how they interpret their world (McNamee, 1995; Pérez, 1998). Pérez also credited Bruner with the insight that individuals bring their cultural experiences with the world and text, and their knowledge and skills with letters, words, and text, to their interpretation of written language. "Knowledge is constructed based on social interactions and experience" (Tracey & Morrow, 2006, p. 103). For example, if one's life experiences are situated in solely an urban context, one's understanding of animals would be largely of pets or creatures that reside in cities versus farm beasts such as cows, goats, or sheep. Sociocultural theorists, therefore,

comprise the "social practice camp [which] sees literacy as primarily social and cultural" (Purcell-Gates et al., 2004, p. 26); learning to read cannot be separated from the setting in which it occurs (Tracey & Morrow). Street (1984) referred to this model of literacy as "ideological," pointing out that literacy relates to power structures in society. The dominant culture has traditionally imposed its language and concept of adequate skill on minority groups who may not share the dominant experiences and values, thereby maintaining the existing power dynamics. The cognitivists' premise that literacy consists of decontextualized, discrete, linguistic skills (sounds of letters, knowledge of words, etc.) is rejected, as is the concept that reading and writing skills are transmitted from one individual to another (Pérez). Pérez clarified that from the sociocultural standpoint, being literate means being able to read and write in a culturally appropriate way, that the skills are not only in the individual's head, but that literacy is an interactive process that is modified according to the sociocultural environment. In addition, "skills, strategies, and understandings are appropriated, not transmitted" (Maloch, 2004, p. 2). Purcell-Gates et al. corroborated that "literacy practice" replaces "literacy skill" (p. 26) and that literacy development occurs inside and outside schools and across the life span.

Consider the example given by Purcell-Gates et al. (2004) wherein paying a bill is a literacy event that comprises a number of literacy practices. Paying a bill entails interpersonal interactions that are social because it usually involves reading what someone has written on the bill, writing a cheque or address to pay, and possibly speaking to a teller. There is social discourse of some form between individuals. The domain of life in which the event occurs could be personal or work-related; in a bank, office, or store. The practice is governed by social conventions, law, and/or personal morals and responsibility; it might be criminal to not pay, one might be penalized by others in power, one's accessibility to the service might be cancelled, and one might feel guilt or others might be inconvenienced if the bill is not paid. The event conceivably reflects an action that one has historically performed or that has been influenced by past occurrences. However, the practices in this act could change if technology such as telephone-banking or computer use were to be employed. Despite the obvious application of reading and writing skills, the social and cultural implications of paying a bill are multiple.

The values, beliefs, and practices that one's community possesses with respect to a particular literacy event such as this affect how one engages in the event. Street (1984) concurred that literacy is always embedded in some social form, and it is always learned in relation to uses in specific social conditions.

Cognitive versus Sociocultural Views of Literacy Development

At this point, the contrasting perspectives of the cognitive and sociocultural theories are evident. Cognitive theorists promote a developmental approach to literacy learning with distinct skills and milestones; cultural differences in learning are largely disregarded. As a result, the cultural practices of the dominant group in society are considered the norm, and the culturally diverse are often judged to be deficient (Gutiérrez & Rogoff, 2003). School literacy tends to reflect the values of the dominant and powerful socioeconomic group.

Sociocultural theorists, on the other hand, strive to make literacy equitable for all social groups by recognizing various forms of literacy (Purcell-Gates et

al., 2004). The sociocultural approach attempts to be nonjudgmental and to understand and employ the practices of culturally diverse groups to foster literacy learning. The sociocultural belief is that cognitive reasoning works in conjunction with beliefs, values, and habits of mind that form an individual's identity and that need to be considered when interventions are designed for maximum learning (Lee, Spencer, & Harpalani, 2003). Whereas cognitivists treat literacy as if it is autonomous, a technical skill that is context-free, neutral, and decontextualized, socioculturalists contend that all literacy is ideological, context-dependent, and value-ridden (Street, 1984).

Despite these apparently diverse opinions about literacy development, the differences between cognitive and sociocultural theories are not necessarily irreconcilable. Each alone is conceivably too narrow; therefore, the potential for the two theories to complement each other should be considered.

Why Integrate Cognitive and Sociocultural Theories

Although each theory alone may be insufficient for guiding literacy instruction and research, each plays a valuable role in providing accessible and equitable literacy instruction for all students. In addition, theorists with seemingly opposing views actually concede that each perspective has virtues.

Cognitive theories have dominated for select reasons. These theories guide instructional activities in classrooms (Tracey & Morrow, 2006), and literacy experts have concluded that direct skills teaching is necessary for successful literacy acquisition (National Reading Panel, 2000; Snow et al., 1998). Chall (1983) suggested that the stage theory of literacy development "might help to prevent some of the persistent controversies that occur in the field of reading research and practice" (p. 30). The stages provide a framework by which to gauge individuals' development and assess instructional methods. Chall, who was also concerned about the poorer reading performances of children from bilingual, minority, and low socioeconomic families, contended that the stage theory helps to identify their difficulties in order to guide teaching for their improvement. Moreover, Street (1984) also included abilities such as directionality (reading and writing left to right and top to bottom), letter-sound correspondence, word recognition, spelling, and handwriting among recommended functional literacy skills for "ordinary everyday tasks" (p. 229). In addition, Pérez (1998) recognized that "literate students will understand that a written language is a code, and that there are particular rules for decoding and encoding and making meaning … that there are conventions to help the reader make the written text sound as much like oral speech as possible when read aloud (e.g., periods, commas, quotation marks, boldface)" (pp. 60-61). Purcell-Gates (2007) also admitted that "an obvious link between learning to read in school and using literacy in one's life is that of skill acquisition," which requires some form of "focused instruction" (p. 203). Last, Purcell-Gates and Tierney (2009) agreed that children must be systematically taught the skills of reading and writing. Guidance from cognitive perspectives is undeniably needed for promoting print literacy.

However, as Au (2000) reported, the issue of equity in literacy instruction has long been disregarded in the traditional educational process. The roles of ethnicity, social class, and language in the gap in literacy achievement between students from diverse backgrounds and mainstream backgrounds have been

underrated. Au's point is key to this discussion. The cultural factors of diverse backgrounds have persistently been related to underachievement. Traditional instructional approaches have underserved students who have already been disadvantaged with respect to social and economic capital. These approaches typically represent the values of the dominant in society concurrently disadvantaging some groups (Finnegan, 1999). One might argue that schools have been agents in fostering and maintaining the status quo regarding power and privilege. Fortunately, from a sociocultural view, educators have begun to reflect critically on the values, expectations, and social pressures that are expressed in traditional school settings. There is increased concern about the universal process of teaching reading and writing. Rogers (2000) challenged educators to critique present literacy practices in order to create new teaching and learning situations that support equality, social change, and justice. Sociocultural theory suggests that educators seek to understand the cultural and social contexts in which children have grown and developed (Pérez, 1998). Concern for diverse languages and backgrounds is brought to the fore when teaching practice embraces this theory. "The challenge is to value and build on what the child brings to the classroom" (John-Steiner & Mahn, 1996).

For example, mainstream, middle-class English is typically used in schools, but students potentially come with linguistically disparate backgrounds where the first language is other than mainstream English. Students who do not speak standard American English might perceive that their own way of speaking is inferior; they may feel alienated from teachers, and as a result they may surmise that they do not belong in school (McCafferty, 2002). The students' identities are socially situated and, therefore, in a school setting, if their self-perceptions are of being unaccepted, their confidence and motivation to participate will be jeopardized. In addition, pressure for students to abandon a first language could also create ambivalence toward English and lessen their chances for success (Pérez, 1998). Educators are called on to encourage students to maintain the language that they share with friends and family (McCafferty, 2002) and to use strengths in their home language as a basis for learning to read and write in English (Pérez). Pérez refers to "additive bilingualism" (p. 12), which can result in positive cognitive gains, a greater chance of retaining students in school, and in fostering parent-child communication. Cultural and linguistic diversity should also be considered a social resource that has potential to benefit cooperation and competition in the global marketplace.

Even Chall (1983) recognized the significance of sociocultural factors. She stated that "individuals progress through stages by interacting with their environment—the home, school, larger community, and culture" (p. 11) and "individual people progress through the reading stages at different rates … The rate of advancement depends upon an interaction between individual (biological, motivational, cognitive, and so on) and environmental (home, community) factors" (p. 82). Snow et al. (1998) also recognized that cultural differences, including language, may create a "mismatch between the schools and the families" (p. 29), and that this incongruence may unfairly and inappropriately present obstacles to children's ability to learn to read in school.

In reality, therefore, cognitivist and socioculturalist views of literacy development are not diametrically opposed; each has its merits, and each recognizes

the value of the other. How, then, can a theoretical framework for literacy instruction and research integrate the cognitive and the sociocultural perspectives?

How to Integrate Cognitive and Sociocultural Theories of Literacy

The paucity of actual research on combining these two theories precludes the reporting of much empirical evidence on its effectiveness; however, potential means to employ an integrated approach for instruction and research are discussed. For example, a vignette reported by Pahl and Rowsell (2005) demonstrated how a home language of Chinese may be integrated into an English-language classroom teaching reading and writing. In this scenario, a child drew pictures and composed matching Chinese text with her mother at home. At school, the child created a dual-language book as the teacher helped her to translate the Chinese from home into English and to combine the pictures and texts into a book for herself and other Chinese students. Compton-Lilly (2006) also demonstrated how to incorporate a child's out-of-school literacy experiences with Pokémon stories to bolster his identity as a reader and writer by employing the stories for reading and the familiar topic for writing until he gradually felt confident with school literacy activities.

Maloch (2004), in addition, demonstrated how the sociocultural school setting affected the dynamics of students' group work. The researcher considered the students' personal, family, and educational backgrounds as they were observed during shared literacy experiences. In addition, Lee et al. (2003) commented that "interventions and educational research that are based on norms for psychosocial-cognitive development that do not reflect young people's histories and their unique cultural riches often miss opportunities to influence generative change or to understand what researchers purport to study" (p. 6). The concept of cultural modeling was promoted by Lee et al.; norms for talk and instruction in school were taken from the family and community practices of the students. For example, skills in critiquing literature might start with the analysis of rap lyrics that are extracted from the students' culture, and gradually the acquired skills would be applied to more traditional academic text. In addition, because cognitivists tend to conduct empirical research and socioculturalists employ qualitative methods, integration of the two would suggest that researchers would use both. Alton-Lee (2006) demonstrated such integration. Alton-Lee's concern for helping teachers understand how to manage the classroom and create activities for optimal student outcomes led her to study the teacher's role as well as the classroom culture's effect on student learning. Her methodology included pre- and post-unit testing of knowledge (the cognitive component) as well as comprehensive observations of students' actions and interviews. During the instruction sessions, she followed quarter-minute by quarter-minute the learning of three to six students. The data included observations of students' engagement, audio-records of their public talk, video-records, and taping of private speech. The analyses of the data reportedly traced the relationships between the select students' experience in the classroom and changes in their attitudes and their knowledge (measured by tests). Post-testing and interviews were conducted a year later as well. Alton-Lee concluded that it is imperative to attend to culture (in this case in the classroom) and cognition when studying the effectiveness of instruction.

She referred to similar findings of Graham Nuthall that challenged the notion that ability is a fixed characteristic that explains learning. More important is engagement by students with classroom activities. These considerations of the classroom culture have implications for teaching diverse students: an understanding of processes of the mind and of how culture shapes classroom experiences is critical.

Another integrated research approach was practiced by Reveles, Cordova and Kelly (2004), who studied students' acquisition of science knowledge and literacy skills related to science by videotaping and audiotaping classroom activities, taking field notes, conducting interviews with students, and by collecting students' work. The tapes and field notes provided data that could be analyzed regarding teacher-student and student-student interactions that related to the students' learning of science and use of science language. The classroom dynamics, therefore, the social and cultural features of the classroom, could be examined, and the degree of science language used and the students' work also provided evidence of cognitive skill growth.

With respect to literacy, Purcell-Gates et al. (2004) reported their integrated research methods with adult literacy learners. They found that the use of authentic texts that corresponded with the adults' daily use increased the students' literacy skills and frequency of reading. In addition, the literacy experiences of the children in the homes of these adult students increased, with subsequent emergent literacy and early reading success by the children.

The integration of sociocultural concepts into school practices was also studied by Raham (2004) in her investigation of literacy instruction in Canadian Aboriginal settings. Raham discovered that the most effective schools for Aboriginal students routinely provided instruction in Aboriginal languages and incorporated the students' cultural practices into the programs.

Evidence from these scenarios and studies demonstrates that it is possible and desirable to combine cognitive and sociocultural theories. Whether conducting a literacy intervention study or attempting a particular teaching strategy to improve word recognition, a socioculturally conscious researcher or teacher would also attend to factors in the classroom milieu and to out-of-school experiences of the students that might affect the results. An integrated approach appears to be much more inclusive and respectful of all students, and it would seemingly result in a more equitable provision of literacy instruction. The suggested amalgamation of perspectives also readily complies with the LLRC (2009) recommendations that policy and practices should "seek: (a) a convergence of evidence from a variety of research methodologies; (b) an open-mindedness to different research approaches and perspectives; (c) ways of integrating diverse (and sometimes conflicting) perspectives and domains" (p. 2; for more information, see Au, 2000, and Ontario Ministry of Education, 2005, for programming strategies to support students with diverse backgrounds).

Conclusion

Inequality in education and lost achievement opportunities have been experienced by students from diverse social and cultural backgrounds (Au, 2000). A cycle of continued underachievement has been perpetuated by a narrow view of literacy development, instruction, and research. It could be said that the

education system has been instrumental in reproducing cultural and social repression, fostering hegemony of the English language and of the values and expectations of the dominant society, while marginalizing individuals with other languages and experiences. A potential challenge to the status quo is put forward in this article. Two theories of literacy development are explored: the cognitive and the sociocultural. Both perspectives have been proposed by accomplished and respected theorists, and at times they appear to be diametrically opposed. The cognitive view emphasizes skill acquisition along a universal developmental continuum and instruction that promotes growth through the stages or phases of literacy learning. The sociocultural standpoint is that literacy learning is socially situated and that it is appropriated from more knowledgeable others in one's social and cultural environment. The cognitive view attributes differences in learning achievement to ability and instructional variations, whereas the sociocultural theory explains diversity in literacy learning to experiential variances. I propose that these two theories can and should be integrated into a unitary theoretical framework for literacy instruction and research. In fact, the hypothesis of Purcell-Gates et al. (2004) that cognitive development occurs nested in a sociocultural sphere of experience precludes separation of the two concepts. In addition, the reported studies demonstrate that conscientious researchers and practitioners cannot disregard the value of both perspectives. North America's increasingly diverse population demands that responsible educators acknowledge, respect, and draw on students' cultural and social experiences with respect to literacy learning, and that they adopt pedagogical perspectives that foster social and educational equity. To further develop these concepts, more research is needed to explore how to accomplish optimal literacy instruction and research through a wider cognitive-sociocultural lens.

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