Sociocultural Theory

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The work of *sociocultural theory* is to explain how individual mental functioning is related to cultural, institutional, and historical context; hence, the focus of the sociocultural perspective is on the roles that participation in social interactions and culturally organized activities play in influencing psychological development. While much of the framework for sociocultural theory was put forth by Lev Vygotsky (1931/1997), extensions, elaborations, and refinements of sociocultural theory can be found in writings regarding *activity theory* (Chaiklin & Lave, 1993; Leontiev, 1981) and *cultural-historical activity theory* (Cole, 1996; Cole & Engestrom, 1994).

THE HISTORICAL ROOTS OF SOCIOCULTURAL THEORY

Lev S. Vygotksy, a psychologist in Russia who began his work following the Russian Revolution of 1917, is most closely identified with sociocultural theory. Vygotsky, argued: "The social dimension of consciousness is primary in time and in fact. The individual dimension of consciousness is derivative and secondary" (Vygotsky, 1979, p. 30, cited in Wertsch & Bivens, 1992). From this perspective, mental functioning of the individual is not simply derived from social interaction; rather, the specific structures and processes revealed by individuals can be traced to their interactions with others.

Wertsch (1991) proposed three major themes in Vygotsky's writings that elucidate the nature of this interdependence between individual and social processes in learning and development. The first is that individual development, including higher mental functioning, has its origins in social sources. This theme is best represented in Vygotsky's "genetic law of development": "Any function of the child's cultural development appears on the stage twice, or on two planes, first the social, then the psychological, first between people as an intermental category, then within the child as an intramental category" (Vygotsky, 1931/1997, pp. 105–106).

From this perspective, as learners participate in a broad range of joint activities and internalize the effects of working together, they acquire new strategies and knowledge of the world and culture. Typically this tenet has been illustrated by examining the interactions between individuals with disparate knowledge levels; for example, children and their caregivers, or experts and novices. However, as Tudge and Scrimsher (2003) note, Vygotsky was not only interested in what more knowledgeable others brought to the interaction, but also in what the child himself or herself brought to the interaction, as well as how the broader cultural and historical setting shaped the interaction.

The second Vygotskian theme that Wertsch (1991) has identified is that human action, on both the social and individual planes, is mediated by tools and signs— semiotics. These semiotic means include: "language; various systems of counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes, diagrams, maps and mechanical drawings; all sorts of conventional signs and so on" (Vygotsky, 1981, p. 137). Additional semiotic means include: computers, calculators, paint brushes and the like, all of which are useful in representational activity. These semiotic means are both the tools that facilitate the co-construction of knowledge and the means that are internalized to aid future independent problem solving activity.

Leontiev (1981), a colleague of Vygotsky, used the term "appropriation" to characterize this process of internalization:

[Children] cannot and need not reinvent artifacts that have taken millennia to evolve in order to appropriate such objects into their own system of activity. The child has only to come to an understanding that it is adequate for using the culturally elaborated object in the novel life circumstances he encounters. (Quoted in Newman, Griffin, & Cole, 1989, p. 63)

The third theme that Wertsch (1991) proposes from Vygotsky's writing is that the first two themes are best examined through genetic, or developmental, analysis:

To study something historically means to study it in the process of change; that is the dialectical method's basic demand. To encompass in research the process of a given thing's development in all its phases and changes—from birth to death—fundamentally means to discover its nature, its essence, for it is only in movement that a body shows what it is. Thus the historical study of behavior is not an auxiliary aspect of theoretical study, but rather forms its very base. (Vygotsky, 1978, pp. 64–65)

In contrast to prevailing views of his time, in which learning was regarded as an external process and development an internal process, Vygotsky was concerned with the unity and interdependence of learning and development. For example, he was critical of Piaget's theory in which "maturation is viewed as a precondition of learning but never the result of it" (Vygotsky, 1978, p. 80). In contrast, Vygotsky proposed:

Learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and with his peers…. learning is not development; however, properly organized learning results in mental development and sets in motion a variety of developmental processes that would be impossible apart from learning. Thus learning is a necessary and universal aspect of the process of developing culturally organized, specifically human, psychological functions. (p. 90)

In support of this perspective, Vygotsky (1978) introduced the construct of the *zone of proximal development* (ZPD) as a fundamentally new approach to the problem that learning should be matched in some manner with the child's level of development. He argued that to understand the relationship between development and learning, two developmental levels must be distinguished: the actual and the potential levels of development. The actual refers to those accomplishments a child can demonstrate alone or perform independently; in contrast to potential levels of

development as suggested by the ZPD—what children can do with assistance: "The distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 85). The ZPD was regarded as a better, more dynamic and relative indicator of cognitive development than what children accomplished alone. In summary, productive interactions are those which orient instruction toward the ZPD; otherwise, instruction lags behind the development of the child. "The only good learning is that which is in advance of development." (Vygotsky, 1978, p. 89). Hence, from a Vygotskian perspective, cognitive development is studied by examining the processes that one participates in when engaged in shared endeavors and how this engagement influences engagement in other activities. Development occurs as children learn general concepts and principles that can be applied to new tasks and problems; whereas from a Piagetian perspective, learning is constrained by development.

Vygotksy was a prolific writer; he advanced a vast number of ideas in his brief life as a scholar (he died when he was but 37), some of which are appropriately characterized as underspecified and emergent. One of the most frequently criticized facets of Vygotksy's theory is its model of internalization. For example, Cobb and Yackel (1996) have argued that this aspect of Vygotskian theory constitutes a transmission model in which "students inherit the cultural meanings that constitute their intellectual bequest from prior generations" (p. 186). There is an alternative model, *the participation model of cultural development* (Lave and Wenger, 1991; Rogoff, 1990), which seems useful to overcoming dualisms, such as the society and the individual. The participation model represents development as the transformation of individual participation in sociocultural activity. Transformation (rather than internalization) occurs as participants in the activity assume increasing responsibility for the activity; in essence, redefining membership in a community of practice, and, in fact, changing the sociocul-tural practice itself. These ideas are elaborated on below.

THE CONCEPT OF GUIDED PARTICIPATION

The concept of guided participation highlights that cognitive development occurs in a social context while extending sociocultural theory beyond language-based dialogue. Importantly, guided participation builds on and extends Vygotsky's notion of ZPD. Rogoff (1990) writes, "Children's cognitive development is an apprenticeship—it occurs through guided participation in social activity with companions who support and stretch children's understanding of and skill in using the tools of the culture" (p. vii). While this sounds very similar to ZPD, Rogoff explicitly states that guided participation focuses more centrally on the interrelatedness of children and caregiver interactions and the fact that the "guided" does not necessarily mean face to face. For example, a student working on a research report in isolation is still "guided" by the teacher, librarians, classmates, the publishing industry, and parents who help shape the writing of the research report as a cultural activity. Emphasis on tacit, distal, and non-verbal forms of communication stands in contrast to Vygotsky's emphasis on didactic dialogue. This helps broaden the lens of sociocultural theory beyond language-based interactions as the primary source of learning culture. Finally, socioculturally oriented research, generally, and research on guided participation, specifically, have played important roles in bridging research on in-school and out-of-school learning.

HOW SOCIOCULTURAL THEORY DIFFERS FROM CONSTRUCTIVIST THEORY

Similar to sociocultural theory, constructivism emerged as a theory of knowledge in response to behaviorism. Immanuel Kant (1724–1804) and Jean Piaget (1896– 1980) are two theorists whose thinking and research significantly shaped constructivist theory. Kant (1951) significantly influenced Piaget's thinking when he proposed that it is the mind that provides the categories of knowing, while experience yields the content. Piaget (1955) argued that it is through the child's experiences manipulating and changing the world that the child acquires knowledge about relations within and between people and objects.

Both constructivism and sociocultural theory, when applied to learning, are concerned with the activities that children engage in to learn. However, constructivist theory suggests one should attend to the learning and mental representations of the individual while sociocultural theory is more concerned with the ways in which learning is an act of enculturation. Many learning situations attempt to accommodate both, for example, the mathematics teaching of Ball (1993). Cobb (1994), in looking at Ball's dilemma of attending to students' individual knowledge (math as an active construction) and the traditions that have grown out of centuries of mathematics as a discipline (math learning as enculturation), notes that the dual presence of both sociocultural and constructivist theory can act as competing aims for teachers.

The lens of sociocultural theory is considerably wide when compared to constructivist theory. A sociocultural theorist, when interpreting a learning situation, might attend to the broader social system in which the learning is happening and will draw interpretations about an individual's thinking and development based on his or her participation in culturally organized activities. An account of learning and development through the lens of construc-tivist theory, in contrast, is concerned with the individual— and the ways in which sense making happens through the individual's accommodation of experience (Cobb, 1994).

Giyoo Hatano was most skillful at bridging socio-cultural perspectives on learning with constructivist theories of learning that resulted in a "mixed" theory of conceptual knowledge that successfully accommodated both perspectives (Cole & Miyake, 2006). In an attempt to understand whether cognitive development proceeded along a predetermined innate set of principles, Hatano and Inagaki (1994) explored the long-held theory, first put forth by Piaget (1929) that children come to develop theories of biology rather late in the course of development. Through experimental work with Japanese schoolchildren, they demonstrated that theories of cognitive development must also account for the role that experience plays in advancing development, thus accommodating Vygotskian ideas about the social nature of learning.

THE EDUCATIONAL IMPLICATIONS OF SOCIOCULTURAL THEORY

Given the comprehensive nature of sociocultural theory, its educational implications for assessment, curriculum, and instruction are broad-ranging, and only a glimpse of them can be provided in this entry. For example, socio-cultural theory—in particular the notion of zones of proximal development—would suggest that the goals of educational assessment should be to: (a) identify abilities that are in the process of developing, and (b) attempt to predict what the learner

will do independently in the future. A line of inquiry consistent with these assessment goals is *dynamic assessment.* Dynamic assessment is a term used to characterize a number of distinct approaches that feature guided learning for the purpose of determining a learner's potential for change. In contrast to traditional and static procedures that focus on the products of assessment, dynamic assessment is concerned with the different ways in which individuals who earned the same score achieved that score. Furthermore, while traditional measures reveal only those abilities that are completely developed, dynamic measures are concerned with how well a learner performs when provided assistance. Initial inquiry into the design and use of dynamic assessment used domain-general types of problem-solving tasks (e.g., Campione & Brown, 1984; Feuerstein, 1980). These studies suggested that dynamic assessment measures did indeed reveal a different picture of competence than do static measures, which typically underestimate children's ability to learn in a domain in which they initially performed poorly.

More recent research suggests that the principles of dynamic assessment can also be applied within academic contexts. For example, Magnusson, Templin, and Boyle (1997) conducted research on the use of dynamic assessment to determine students' conceptions regarding the flow of electricity. They devised a context in which students could test out their conceptions and revise their thinking based upon the outcomes of their investigations. In this context, the researchers determined that students were, indeed, able to understand more about electrical behavior than had been determined on static measures used in previous research.

Instructional Implications. Informed by a sociocultural perspective, learning is thought to occur through interaction, negotiation, and collaboration. While these features are characteristic of "cooperative learning," what sets instruction that is informed by sociocultural theory apart is that there is also attention to the discourse, norms, and practices associated with particular discourse and practice communities. The goal of instruction is to support students to engage in the activities, talk, and use of tools in a manner that is consistent with the practices of the community to which students are being introduced (e.g., scientists, mathematicians, historians).

These tenets are consistent with inquiry-based approaches, in which teachers and students are co-inquirers, but with teachers mediating among students' personal meanings, the meanings emerging from the collective thinking and talk of the students, and the culturally established (scientific, mathematical, historical, literary) meanings of the wider society. Examples of research of this kind can be found in mathematics (Ball, 1993; Cobb, Wood, & Yackel, 1993; science (Engle & Conant, 2002; Magnusson & Palincsar, 2005; Wells & Chang-Wells, 1992), history (Bain, 2006), and literary studies (Smagor-insky & O'Donnell-Allen, 2000; Lee, 2007).

Sociocultural theory has also been called upon to advance instructional practice that might redress disparities in the current educational system. Forty-two percent of school-aged children in the United States struggle to advance beyond basic levels of reading comprehension. Minority students and children living in poverty disproportionately perform in the lowest quartile on standardized measures of reading ability (Perie, Grigg, & Donahue, 2005). Given these distressing statistics, the increasing diversity in U.S. classrooms, and the proliferation of literacy technologies (e.g, multimedia and information and communications technologies), teachers have been challenged to reconsider the canonical approach to literacy instruction (e.g., Lee, 2007). A view of literacy instruction through the lens of sociocultural theory helps educators understand

the situational specificity of literacy practice. From this perspective, educators would consider literacy as a tool for use in specific contexts; thus, children would be taught how to negotiate multiple literacies for use in multiple contexts.

Some researchers (Bhaba, 1994; Gutiérrez, Baque-dano-Lopez, & Tejeda, 1999; Moje et al., 2004; Soja, 1996) have advanced the idea that educators work to develop a *third space* in which students' primary discourses (those used in the home, community, and informal social interactions) and students' secondary discourses (those endorsed in school and other formal institutions) intersect to form this third space, where primary and secondary discourses are merged. Were educators to be more attentive to the creation of these third spaces in school, greater attention would be paid to incorporating students' prior knowledge and experience, as well as current literacy practices in the school curriculum. Research conducted by Varellas and Pappas (2006) illustrates the productive instructional use of discourse in third spaces to promote science learning. Working in primary-grade classrooms in an urban school, teachers encouraged their students to draw upon: (a) their own explorations of scientific phenomena (such as the water cycle) in classroom, home, and community settings; (b) prior conversations, and (c) other books read in and out of school in the course of read-aloud sessions. Varellas and Pappas documented numerous examples of young children bringing their own funds of knowledge to the classroom setting, but they also documented how the teachers made facile use of these funds and promoted the children's learning of scientific language and concepts.

Use of New Technologies. With the proliferation of information and communication technologies in educational and everyday settings, scholars, working from a sociocultural perspective, are working to expand concepts, such as distributed cognition, to include not only people and artifacts, but also digital technologies. For example, Shaffer and Clinton (2006) introduce a new category of tool, which they call *toolforthoughts* and, in doing so, challenge the idea that humans occupy a privileged position in psychological analyses. They argue that media, such as video games, word processors, and analytical tools create new skills and habits of mind, in addition to shifting the focus from reading and writing the printed word to multimodal literacy.

Recently, sociocultural theory has been taken into consideration in the design of online distance education technologies. Research on the social context of learning has provided ample evidence that traditional teacher-centered approaches would be inappropriate in an online setting. It is less clear, however, how to design online learning environments in which students feel connected to peers and professors in a virtual classroom community. Community building in asynchronous learning networks poses a particular challenge from the perspective of socio-cultural theory because students are often not together physically or even virtually. Brigham Young University (BYU), a large provider of accredited online distance education in the United States, has adopted a model of online distance learning that is designed with sociocul-tural theory in mind. ProfessorsPlus[TM] carefully integrates social interaction among participants, substantive and interactive assistance from the course facilitators, and dynamic course content that is responsive to student learning (Teemant, 2005).

Research Applied to Institutional Settings. Research conducted from a sociocultural perspective has focused traditionally on the interactions of individuals and groups of individuals.

However, research has also applied this lens to much larger institutional settings. For example, Cobb and McClain (2006) illustrate how efforts toward a mathematics reform effort need to be analyzed at a teacher, classroom, school, district, and indeed state and federal policy levels, to provide a more complete accounting of the reform effort.

Broad-scale use of assessments represent another approach to educational reform, and similarly, must also attend to the larger institutional settings in which the assessment instrument is positioned. Moss and her colleagues (Moss, Girard, & Haniford, 2006), in their work on validity theory, describe educational measurement as a cultural tool situated within a larger institutional, social, and national context. Applying the lens of sociocultural theory, they urge that interpretations of student performance on these tests must be made with attention to the local context, the purposes for which the test was written, and the larger policy context in which the test is situated.

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