Contexts for Learning

SOCIOCULTURAL DYNAMICS IN CHILDREN'S DEVELOPMENT

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COMMENTARY

Interface between Sociocultural and Psychological Aspects of Cognition

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The mental act of knowing is a personal condition, a relationship between an individual and some aspect of the world. As Wittgenstein (1958) succeeded in demonstrating to the satisfaction of many, however, it cannot be considered a private condition, isolated from the rest of society. What we mean when we say that someone knows something has to do with regularities in his or her speech and other observable behavior. Cognition is a dimension of experience we infer from consistency in the ways in which people behave toward one another. The knowledge of one person is therefore, by definition, accessible to others, and many of society's institutions are based on the premise that knowledge is shared. No laws, or schools, or libraries would make any sense in the absence of this premise. No communication could take place.

The enduring coherence of individual persons is central to the "primary theory" shared by all human cultures (Horton, 1982). The borders between individuals "emerge" from everyday experience as sharply defined (Lakoff & Johnson, 1980). Yet the minds that apprehend this segmented world of persons are by their very nature bound into a communicative interdependence that leads us to perceive ourselves through the eyes of others.

This socially constructed nature of human self-understanding has proved difficult to reconcile with the objectivist philosophical premises on which the physical and biological sciences are built (Lakoff & Johnson, 1980; Taylor, 1971). A loosely formulated notion of social context as the meeting point between psychology and the other social sciences tends to be unsatisfactory for two reasons. First, its lack of operational concreteness leads many psychological researchers simply to ignore it when designing their experiments. Second, the parameters of interest to sociologists and economists are often treated as based on a radically different kind of logic from that of psychological theorizing, and taking account of context is treated as somewhat analogous to washing one's hands before sitting down to eat: a necessary prerequisite that has no direct bearing on the next and more intrinsically interesting task.

One of the major attractions of Vygotsky's theoretical perspective for an analysis of the interaction between sociocultural factors and psychological

factors is often said to be its provision of a repertoire of two-sided constructs to bridge the two domains of analysis. Tharp, in his chapter, for instance, explicitly claims that in

> . . . the neo-Vygotskian structure of ideas psychological and social events are discussed with the same concepts, in a shared lexicon, and in a common web of meanings. Such unities allow us to see parallels and isomorphisms, as well as discontinuities, in psychological structures and social structures.

Articulating the Nature of the Interface

Probably the best known of Vygotsky's bridging constructs is the zone of proximal development (the Zo-ped, or ZPD), where, as Cole (1985) has put it, "culture and cognition create each other." How should we interpret this metaphor of mutual creation? Culture may be said to create cognition in the Zo-ped by structuring the practices in which adults engage with their children, so that the cognitive growth of the child within his or her Zo-ped is steered toward a set of goals specified by the culture, which is shared by the adult and other members of the cultural group, and into which the child is being socialized. Cognition, on the other hand, may be said to create culture by structuring the social interaction between adult and child, who together generate new practices and ideas for inclusion in the cultural group's repertoire.

Each of the chapters in this section of the present book seeks to extend further the claim that neo-Vygotskian theory is well equipped to capture the essential features of this interface and, in the process, to explicate its structure and dynamics.

Tharp's "exploratory and demonstration analysis" of "the institutional and social context of educational practice and reform" describes two theoretical facets of the interface: (**1**) layers and levels of embeddedness; and (**2**) modes of interaction and forms of accountability.

Nicolopoulou and Cole use two additional constructs to explain the interaction between the two "institutional contexts" in which they situated their educational "play-world," the Fifth Dimension, and the "culture of collaborative learning" the participants "generated": (**3**) constitutive rules and scripts; and (**4**) degree of fit.

Wertsch, Tulviste, and Hagstrom develop their "sociocultural approach to agency" by proposing a refined version of Vygotsky's account of the "internalization" of overt speech during the course of development, using Bahktin's (1981, 1986) notions of: (**5**) appropriation and ventriloquism.

Gallimore and Goldenberg center their account of "home and school factors in children's emergent literacy" around the construct of (**6**) activity settings, which they explicitly "operationalize" in terms of five dimensions of variation:

1. Personnel present
2. Cultural values
3. Task demands
4. Scripts
5. Purposes and motives of actors

The diversity of these formulations illustrates the fertility of this field of research and the exploratory nature of the explanations it offers. In this brief commentary, I attempt to synthesize these various accounts of the interface between sociocultural and psychological aspects of cognition and in the process highlight some unresolved problems and challenges for future research on this topic.

What Is Embedded in What?

The simplest account of culturally embedded human development is compatible with an objectivist mode of description: *the individual is embedded in a niche.* Yet, as Super and Harkness (1986) have pointed out, the niche of human development is structured by culture in three complementary ways: (1) physical and social settings; (2) customs of child care and child rearing; and (3) the psychology of the caretakers (by which the authors referred to the implicit psychological theories that inform the caretaking activities). This "ecocultural" structure has been described by Gallimore, Weisner, Kaufman, and Berheimer (1989, p. 224) as follows:

> Ecology is not only a matter of toting up material resources or constraints. . . . The social constructions of families . . . can have a powerful impact on the daily activities of children, and thus on developmentally significant experiences.

The interactive nature of the ecocultural embeddedness of human development may in fact be better captured by describing the child as a member of a system. In Bronfenbrenner's (1979) formalization of this approach, dyads (e.g., a mother and her infant) are described as *microsystems, which are embedded in larger-scale mesosystems* (e.g., a family or a neighborhood), *which in turn are embedded in an overarching macro system* (e.g., a cultural group or a nation-state). Unlike the niche in which the individual is embedded, these larger systems can be regarded as formally isomorphic with the smallest unit of analysis, the micro system. As my analysis proceeds it will become apparent that this concept may be an important theoretical gain—but one that is purchased at the price of losing sight of the individual person as a unit of analysis, which is (to say the least) radically counterintuitive for most psychologists.

In Gallimore and Goldenberg's analysis, individuals, dyads, and other social groups participate in *activities* (e.g., literacy) *which are embedded in activity settings,* which in turn are "shaped and sustained by ecological and

cultural features of the family niche." Facing inward, "children's activity settings are the architecture of their daily life"; facing outward, they are "a perceptible instantiation of the social system." Classroom lessons, shopping in a supermarket, and playing a computer game are familiar examples of such socioculturally structured settings in which American children of the late twentieth century engage in activities conducive to the development of specifiable aspects of their cognition.

Yet a closer examination of the cognitive processes that occur in the context of such activities suggests that it is often difficult to attribute responsibility for separate elements to different individuals (Cole, Hood, & McDermott, 1982; Rogoff & Lave, 1984). As with Hutchins' (1991) example of "how crews of naval vessels organize their activity so that they can guide a ship into a harbor," much of the cognition involved in everyday activities such as cooking, shopping, or playing a ballgame is "socially distributed" (Wertsch, Tulviste, & Hagstrom, this volume). Thus a further variation on the theme of cultural embedding is that cognition is embedded in social activities, mediated by a cultural meaning-system.

What Constitutes Embeddedness?

Each of the formulations discussed above lends itself to more than one account of the relation termed embedded. The metaphor of the niche borrowed from ecological analysis suggests a basic image of *location and timing.* Nicolopoulou and Cole's computer play-world the Fifth Dimension, for instance, was embedded in two preexisting sociocultural contexts: an after-school social club and a public library service, each of which had specific premises and hours of operation within which the computer games were played.

Their embeddedness was further defined by a *structure of participation,* such that certain clients and officers of the "host institution" played particular roles in the embedded activity. The concept of participation has also been applied in illuminating ways to the socialization of children's cognition through the mechanism of apprenticeship (Lave, 1990; Rogoff, 1990). Children's opportunities to learn adult skills at a rate compatible with their stage of development in the context of everyday activities can be construed from a social perspective as "legitimate, peripheral participation" under the supervision and guidance of their more expert elders. As socialization proceeds, the character of the child's participation in the social activity changes: the progress from novice, though apprentice and deputy, to expert is marked by increasing autonomy, representing an increase in the individual's cognitive power, which is acknowledged socially by the withdrawal of guiding support.

Participation in a socioculturally structured activity involves adherence to the rules specifying correct performance. Another dimension of embeddedness is thus *regulation.* But whereas during the early stages of peripheral

participation this is experienced by the agent as a constricting, if not outright oppressive, influence from the outside, later the competent expert adheres to the rules effortlessly. As Nicolopoulou and Cole put it:

> To be able to think and act autonomously requires moving from dependence on the authority of particular superiors to operating within the framework of a shared and voluntarily accepted system of impersonal rules.

These rules are another construct that faces both ways: for the individual they are a source of structured guidance for behavior; for the culture they are "constitutive" (Searle, 1965) of the activities it encodes.

Although external guidance is no longer required, the adherence of a competent individual to the constitutive rules of culturally structured activities is monitored indirectly by other members of the cultural group. If she does not follow the rules of grammar, her speech becomes unintelligible. If her performance of the culturally "scripted" activities that constitute a social practice (e.g., greeting, purchasing) deviates too far from social norms, she will be held accountable by others whom the practice affects. *Accountability* is thus another facet of regulation. Tharp describes the hierarchical interlocking of systems within the formal educational bureaucracy of the American public school system as follows:

> Just as teachers treat students in the recitation script, schools themselves are given certain "texts" to master in the form of regulations and authorizations, and they are from time to time assessed or audited to test whether they are in compliance with those texts.

On a more subjective plane, another measure of embeddedness is variously termed *membership,* or *ownership.* Although Tharp argues cogently for the radical view that the only "true teaching is responsive teaching . . . that is, assisting performance of [students] by teachers," he acknowledges the paradoxical phenomenon that over the ages and across many cultures a much commoner paradigm for school instruction has been what he calls "the recitation script": assigning tasks and assessing performance, a discourse pattern described by Mehan (1979) as teacher initiation–pupil response–teacher evaluation (I–R–E). As Wertsch, Tulviste, and Hagstrom point out:

> For many pupils, participation in this pattern of discourse seems to foster some kind of cognitive growth. In such cases the process is probably one in which the pattern of teachers' questions is taken over and mastered by pupils.

Others, failing to make this connection, "are left in a position where passive responses are all that is required." A highly efficacious mode of remedial intervention was designed by Palincsar and Brown (1984), in which poor readers were engaged in "reciprocal peer-teaching," taking turns as dialogue leaders and in this teaching role generating summaries and predictions, and clarifying misleading or complex sections of text. The theoretical basis for

the success of this method is explained by Wertsch, Tulviste, and Hagstrom as follows:

> The pupil is given responsibility for formulating and initiating the communicative sequence . . . and thereby put in the position of judging the appropriateness of others' responses. . . . Instead of leaving the teacher in the position of ultimate "cognitive authority," pupils are required to appropriate this social language.

The process of appropriation, or "taking on cognitive authority," imparts to the developing individual not only confidence in her competence to act autonomously but also a sense of membership in the group and corresponding ownership of its cultural resources. The authority of the claim "this is my language, my culture, my community" is simultaneously based in a sense of belonging (of being owned and accepted by the group) and in a sense of control (of owning the medium and hence having the power to use it skillfully and innovatively).[1]

Criteria of Fit

Given that the context in which a psychological process is embedded has its own sociocultural properties, the question arises as to how well the two fit. The Fifth Dimension play-world described by Nicolopoulou and Cole is an innovatory educational program, packaged within a computer game format that can be inserted as a module into a variety of host settings. The authors report an ironic contrast between the degree of fit between this curriculum module and the two activity settings (ecocultural niches) into which it was embedded and the eventual outcome in the larger sociocultural arena. From the perspective of the theorists, focusing on learning outcomes, the Library, with its orderly, studious atmosphere, was clearly a more appropriate and successful niche than the Club, with its emphasis on fun and unstructured freedom to switch between activities. As the authors put it, "the cultural logic" of the Fifth Dimension found in the library "a more supportive environment." Yet from the perspectives of their own institutional concerns, the host organizations perceived the Fifth Dimension as less compatible with the goals of the Library than with those of the Club. "The library staff felt that the noise and playful bustle of the Fifth Dimension site disturbed some of its patrons," whereas at the Club the Fifth Dimension "became one of their most popular programs, measured by the number of children who participated—even though their participation was more superficial and discontinuous."

It is tempting to dismiss these considerations, as well as the financial constraints that contributed to the Library's decision to discontinue the program, as "peripheral to the key analytical issues" or "accidental." But, as the authors acknowledge, they played a decisive part in the "real world" outcome of this planned intervention. Such paradoxical divergences between

theoretical concerns and sociocultural decision making are common in applied psychology: What "ought to fit" in theory often fails to do so in practice.

A well-known example in the recent educational history of the United States was the resistance of many African-American parents to the proposal to introduce Black English Vernacular forms into the elementary school curriculum. The theoretical rationale for this proposal centered on the principle that children should be afforded opportunities in the classroom to deploy skills they had acquired in their preschool, home, and community environment as a source of confidence, a cognitive foundation on which to build new learning, a linking mechanism to facilitate out-of-school rehearsal of school-learned behaviors, and a demonstration of the direct relevance of school activities to the demands of everyday life in the community by way of guaranteeing its appropriateness as a preparation for the future challenges of adult life.

Thus on theoretical grounds we would expect that the most receptive sections of the population to such a curriculum innovation would be those families in which Black English Vernacular is most widely used relative to "standard English" in home and community contexts, as it is children from this section of the society for whom the discontinuity between a standard English school curriculum and the preschool, out of school, and after school home and community environments would be greatest.

Yet as far as we are able to reconstruct the sociology of the resistance to these curriculum innovations, it appears that the most pronounced resistance to the innovation came precisely from that section of society that on theoretical grounds would have been expected to welcome it most enthusiastically. What happened was that parents with low incomes and low levels of formal education construed the innovation as a strategy to "keep our children back," to prevent them from using formal education as a route for upward social mobility. They argued that Standard English was, in practice in "the real world", a major entry criterion for selecting a small number of young people born into the lower income strata of society—a kind of passport to successful participation in the higher echelons of society. A curriculum that reduced the emphasis on this key survival skill in the competitive market for jobs was thus not only not helpful to their children but denied them one of the most important practical advantages their parents were seeking for them from school (Smitherman & McGinnis, 1980).

Dissonance of this kind between two estimates of the fit between a psychological process and a sociocultural context can be interpreted in a variety of ways. It may be attributed to (1) differences in the time frame over which the adequacy of the fit is judged; (2) conflict among vested interests that systematically distort the judgments of observers; or (3) different configurations of essentially the same set of variables.

One estimate may be attuned to a shorter time frame than the other. For example, in the short term, "giv[ing] pupils the kind of cognitive authority, even temporarily, suggested by the procedure of reciprocal teaching" would

"cause major challenges" to the existing "institutional order" of contemporary classroom settings and might for that reason be rejected as impractical (Wertsch, Tulviste, and Hagstrom, this volume). Yet despite the apparently overwhelming conservatism of the educational hierarchy, "schools will change . . . [but] these shifts occur at a tectonic pace, which [for a critical participant] experienced in biographical time, feels like stasis" (Tharp, this volume). That which seems impractical in the short term may be instrumental in promoting what in the longer term is seen as progressive change.

A second possibility is that the estimates are biased by vested interests that seem extrinsic to the central purpose of the project. Some teachers, for instance, might resist the introduction of a curriculum innovation because it would require them to work longer hours or because it might reduce employment opportunities for teachers. Some parents might resist such an innovation because they believe it would intrude on their domestic privacy. Conversely, some researchers and administrators may seem to advocate the innovation because it would advance their personal careers.

More theoretically challenging is the possibility that both estimates are based on considerations of equally genuine and immediate relevance to the project, but they represent different configurations of a multiplicity of variables. For instance, to the librarian the Fifth Dimension appears to be an instance of the category "opportunities for learning to read," whereas to the research psychologist the library is an instance of the category "sites for collaborative learning." The relation between collaborative learning and learning to read is theoretically complex, requiring an analysis not only of the dynamics of cognitive development but also of the ecocultural patterning of literacy events.

According to Heath (1989), collaborative reading may be more characteristic of the literacy practices of some traditional, low-income, African-American communities on the one hand and of modern workplaces on the other relative to those represented in the prevailing pattern of mainstream American schooling. Thus the political economy of this distribution of a particular form of social practice across contexts might be of great importance for reaching an administrative decision on whether the Fifth Dimension should take priority in the design of a local library over opportunities for silent browsing among books. Psychological considerations of transfer of learning from the home to school and from the school to the workplace would also have a bearing on such a decision, but only when combined with information about the social and cultural composition of the population within the catchment zone served by the library.

Interactional Complexities among Levels of Structure

One of the dangers of the double-sided character of much of the neo-Vygotskian terminology is that it tends to invite the exaggeration of analogies.

Groups as well as individuals engage in activities, make use of texts and scripts, have repertoires of signs, and experience gradual change over time that is sometimes called development. Tharp's account of administrative practices in education treats them as isomorphic "qua" activity settings with the activity setting of classroom instruction. This concept does not stand up to close examination, however; for example, it is highly improbable that a legislator ever asked an administrator to recite the text of the law as evidence of conformity with it. In fact, the accountability of a school system to the state legislature is an institutional relationship, quite different from the negotiated, interpersonal accountability some schoolteachers feel toward the parents of their pupils. [Elliott (1980) offered an illuminating account of the differences between these two types of accountability in the relationship between schools and parents in one section of English society.]

Wertsch, Tulviste, and Hagstrom repeatedly assert that the form of intramental cognitive processes is structured by their intermental, social precursors such as genres of discourse. It is not clear, however, that the interactional aspect of discourse (e.g., in Mehan's I–R–E) is what makes it work intramentally. Rather, the interactional form seems to be conducive to appropriation of the tools by some subjects and not others.

Processes of change in sociocultural arrangements are controlled by a different set of variables from those that impinge directly on psychological change in the context of instruction or ontogenetic development (Scribner, 1985). Historical analysis of the origins of the age-graded curriculum that has become standard in contemporary schools all over the world reveals that this institutional pattern evolved gradually over several centuries in western Europe in response to a complex of pedagogical, administrative, and ethical considerations (Aries, 1962; Serpell, in press).

Likewise, the differentiation of language varieties within a speech community is a complex phenomenon with its own social and political dynamics, which are distinct from those impinging on an individual's bilingual repertoire (Fishman, 1967; Gumperz, 1968). The effective environment of children such as those born into first-generation immigrant families from Mexico studied by Gallimore and Goldenberg is characterized by the coexistence of two different systems of socialization, marked among other signs by differences in language. The bilingualism and biculturation that typically emerges in such a situation involves a differentiated cognitive repertoire through which the individual expresses different dimensions of intersubjectivity.

Bahktin's analysis of genres, cited by Wertsch, Tulviste, and Hagstrom, evokes not only Bernstein's but also Gumperz's (1982) notion of code and Halliday's (1970) use of register. What children internalize is not a fixed set of context-bound behavioral routines but, rather, a differentiated set of semantic resources whose connotations are defined by their location within the web of associations. We can think of these resources as tools, but they are constantly being redeployed in new ways (Ochs, 1990).

Individual Cognitive Development and Cultural Change

When trying to understand the behavior of a schoolchild, analytical priority must be given to a definition of the activity. It is this contextual framework that specifies the dimensions of meaning in terms of which the behavior must be assessed. But task demands and scripts are only seldom fully determined in advance of the activity itself, for example, when a computer game allows only certain moves or a routine stipulates a particular sequence of ritualized acts. For most activities, including any school lesson worth its salt, the particular personnel present, their purposes, and their motives specify the particular behaviors that will occur within this context. The shared web of meanings informs (rather than determines) the interpretations placed by each participant on the other's provisional moves; and as interaction proceeds, an agreed definition of the task demands and script are defined through negotiation (Serpell, 1977).

It is this open-ended creativity of individual behavior within the framework of a set of constitutive rules that ensures that the culture will not be static but will change over time.

The mutual interdependence of individual mind and sociocultural system poses two complementary paradoxes of cognitive development.

1. As the individual's mind develops, it becomes increasingly powerful by virtue of a growing stock of cognitive resources. Yet ipso facto it also becomes increasingly committed to that particular way of thinking which is shared among members of the sociocultural group from which those resources were learned.
2. As the child develops toward adulthood, the sociocultural group that takes responsibility for her socialization and enculturation strengthens its claims on her as a member through an increasingly internalized awareness of her obligations to conform with social and cultural norms. Yet this shift of emphasis toward internal self-control is precisely what enables the individual to legitimate her nonconformity.

The resolution of each of these paradoxes throws light on the other. The possibility of psychological empowerment through cultural commitment arises from the fact that society values most highly those of its members who innovate. Moreover the need for society to tolerate nonconformity in its young arises from the fact that the most effective method for recruiting a new member is to assign them responsibility for participation.

Note

1. Since this is a significant phenomenological aspect of enculturation, I find the term appropriation to be much more apt than "ventriloquism," which seems to connote a quite different kind of agency. In appropriating a cultural resource, I claim to be responsible and intelligible by virtue of shared participation in and ownership of

a system of meanings (D'Andrade, 1984). A ventriloquist, on the other hand, pretends not to be responsible for the utterance he generates.

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