The Developmental-Interaction Approach to Education: Retrospect and Prospect

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acknowledgments

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The developmental-interaction approach is an enduring pedagogy rooted in developmental psychology and progressive education that has informed educational theory and practice since the early twentieth century. It is identified with, but is not unique to, Bank Street College of Education, and was named for its salient concepts: the changing patterns of growth, understanding, and response that characterize children and adults as they *develop*; and the dual meaning of *interaction* as, first, the interconnected spheres of thought and emotion, and, equally, the importance of engagement with the environment of children, adults, and the material world.[1]

This coherent philosophy focuses on human development, interaction with the world of people and materials, building democratic community, and humanist values. It has an explicit purpose: to educate teachers and children within an educational frame which brings together concepts from dynamic and developmental psychologists, and progressive educational theorists and practitioners (Shapiro & Biber, 1972). These ideas were seen as compatible and complementary. The concept of family of theories later served to validate the creation of a coherent statement as opposed to an opportunistic eclecticism (see Franklin, 1981; Laudan, 1977; Reese & Overton, 1970, for a discussion of family of theories).

Many of the concepts and practices associated with developmental-interaction are part of current educational thinking but have not consistently been identified with their progressive antecedents. In this paper we revisit the origins of this approach and its articulated beliefs. We examine its continued heuristic and practical value in the context of contemporary thinking in social science and education and indicate potential directions to extend its influence. While current attention to the approach from both within and outside these fields indicates that it remains relevant to professional practice (Bredekamp, 1987; DeVries & Kohlberg, 1987; Goffin, 1994; Hyson, 1996; Mitchell & David, 1992; Roopnarine & Johnson, in press; Weber, 1984; Zimiles, 1997), the principles upon which it is based have not been systematically reexamined.

In reviewing earlier writings on the developmental-interaction position, we are impressed by the contemporaneity of some concepts, the datedness of others, the omission of yet others, and the way in which some background issues have risen to the fore. Figure-ground perception offers a useful metaphor. Gestalt psy-

chologists have shown that one way we structure what we see is to organize patterns as figures against a background, though figure and ground may reverse from one moment to the next. Some ideas that were simply taken for granted, part of the background, have become foreground. Kessen (1979) alerted us that "child psychology is itself a peculiar cultural invention that moves with the tidal sweeps of the larger culture" (p.815). Shifts in perspective can uncover previously unquestioned assumptions and also lead to the construction of new knowledge.

We review the history of the developmental-interaction approach, outlining its essential features and tracing Bank Street College's distinctive role in its evolution. We then reassess key assumptions, address criticisms of developmental theory and its place in education, and suggest possible new directions. In so doing, we follow a metapsychological line of inquiry, one that highlights the way choices about focus and inclusion are rooted in the social and intellectual contexts of their origins (see, for example, Gergen, 1987; Stam, Rogers, & Gergen, 1987).[2] Specifically, we ask: What were the origins of the developmental-interaction approach to education? Who were the key people involved? What ideas shaped the approach? What problems might exist with the formulation? What form did it take? In the second part of this paper, we identify new directions and ask: What issues were underemphasized in the past or not yet part of the discourse? What can this approach contribute to the contemporary educational landscape?

This paper is shaped by the perspective from which it is constructed. Like developmental-interaction itself, we claim roots in developmental psychology and education. We both are developmental psychologists who have been writing and teaching in ways that, we believe, have clarified and extended the developmental-interaction position. More than twenty years ago, one of us collaborated on a paper designed to present a coherent description of this approach (Shapiro & Biber, 1972). The article concluded with the observation that "like all theoretical structures, [it] must be ready to accommodate its principles and practices to…new information and understanding." As we consider the implications of such new understanding for developmental-interaction, we do not advocate a fundamental revision of the approach or an arbitrary patchwork of old and new ideas, but rather point to possible new directions.

LOOKING BACK

We begin by looking back to the early days of the developmental-interaction position, whose origins can be traced to the heady, optimistic first decades of the twentieth century known as the Progressive Era. Although there were many strands to the Progressive movement, one commonly held and fundamental belief was the deeply political nature of education, through which people could create a better world and a truly democratic society (for a fuller discussion see, for example, Beatty, 1995; Cremin, 1961, 1988; Graham, 1967). During this time, many small-scale, independent educational programs were set up with the aim of providing new models for the prevailing public educational system. One of these programs was the Bureau of Educational Experiments, later to become Bank Street College of Education, founded by Lucy Sprague Mitchell in 1916. (For a description of the early days of the Bureau, see Antler, 1982, 1987; Mitchell, 1953.)

Origins: who was asking the questions?

Lucy Sprague Mitchell was a forceful exponent of the then novel idea that, in order to devise schools that supported and enhanced children's growth and development, it was necessary to know more about how children learned and what they needed and were interested in. In *Two Lives* she wrote: "It seemed to me that knowledge gained through all the kinds of work I had seen…was relevant to a study of children, and surely one had to understand children in order to plan a school that was right for their development" (Mitchell, 1953, p. 273). Like many progressive educators of the day, Bureau staff did not view the purpose of schooling as solely intellectual. Individual learning was inextricably tied to the social uses of education. Bureau members generally invoked the image of the *whole child* to counter the fragmentation of functions and capacities—in Kilpatrick's words: "little pieces of knowledge, separate skills, separate habits, and the like" (quoted in Biber, 1972). Mitchell also used the concept of the whole child to describe her vision of a progressive pedagogy in which teachers were expected to visit the child's home environment and have knowledge of the modern world. In addition, the school was expected to coordinate the services of other agencies supporting children and families.

For Mitchell, like Dewey, scientific study of the child was intimately linked to the idea of education as a vehicle for social justice, a connection not readily apparent to all. Reviewing the early days of the Bureau, Mitchell (1953) noted: "In 1916, two different kinds of work with children were just beginning: research organizations studying child development and experimental schools. The essential and hitherto untried feature of the Bureau plan was to combine these two kinds of thinking and work within one organization in a functional relationship" (p. 273). In this way, the Bureau placed the study of child development within the school setting at the core of the educational enterprise. The term *experimental* referred not to traditional laboratory research but to trying out and reflecting on educational ideas and practices.

The Bureau of Educational Experiments was a place where an interdisciplinary staff worked together to shape an agenda of practice and research. Mitchell combined a full-scale career with an active family life, a pioneer of what Joyce Antler (1981) has called "feminism as life process." Sampson (1978, 1987) described the way in which the standpoint of the investigator focuses the inquiry and would surely agree it is relevant to the history of Bank Street that in her later years Mitchell wrote, "my song has been a woman's song." Like child welfare activists in the Progressive movement, the early group at the Bureau was almost entirely female. Its administrative organization, called the Working Council, was a nonhierarchical model based on collaborative decision making.[3] Bureau members believed that the equality of opportunity for girls and boys intrinsic to the new kind of school they envisioned would lead to a radically different division of labor and power between men and women.[4]

In 1918, a nursery school for children aged fifteen months to three years was begun at the Bureau under the direction of Harriet Johnson, with whom Mitchell had worked some years earlier when Johnson headed the Visiting Teachers project for the Public Education Association. Johnson, whom Mitchell called her "greatest teacher," had introduced her to Caroline Pratt, founder of the Play School (later known as the City and Country School), where Mitchell went on to teach nursery and kindergarten classes. Now the Bureau's nursery school joined the Play School as an arena for asking questions about the learning and growth of young children and how to devise educational environments for them.

According to Johnson (1972/1928), the nursery school was "an attempt to scale civilization down to the child level in its behavior demands and to open up wider opportunities for active exploration than an adult world can afford" (p. 61). We see here an early expression of a central aspect of developmental-interaction: concern for both individual development and the kinds of environments conducive to promoting development. It was to be a formulation built from close observation of children and school practice, not from traditional empirical research (see also, Frank, 1943; Takanishi, 1982). Mitchell (1953) made it clear that the Bureau fundamentally differed from the national, university-based network of Child Development Institutes founded under the auspices of the Laura Spellman Rockefeller Fund:

> We began a program of measuring the very young in our nursery school...
> at regular intervals. At once [Dr. Edith Lincoln, a member of the Bureau staff]
> ran into difficulties when she began to measure height—or length—as measure-
> ments were taken when the babies were lying down. They wiggled. They
> seemed to be made of rubber—shorter one day than the day before. In the
> Child Research Institute at Minneapolis, they put the babies into casts so they
> couldn't wiggle. They got the measurements. And they weren't interested in the
> wiggle. We were. Nor were they bothered that casts might be an emotional
> strain to the babies. Again, we were. More than in the measurements. Wiggling
> was an interesting behavior in young children. Emotions were a very important
> part of children. But could wiggles or emotions be measured? If not, they must
> lie outside the realm of scientific study. An incredible argument it always seemed
> to us, but then really believed by many research workers. (p. 460)

The recording of observations had been identified as essential for teaching and research. Mary Marot (1973/1922), a researcher in the Bureau, undertook a three-year study of the observational records that had been kept. The study underscored the central role that teachers played in the research program: "Only the teacher can show the steps, the processes of growth in schools" (p. 223). Bureau staff worked together to provide "school definitions... for terms such as growth, curriculum, environment, and experience" and to construct school environments responsive to children's needs. The unique value of this approach was that its integration of research and schooling located its meaning in terms of chil-

dren in school. Growth, for example, "did not mean weight and height . . . [it meant] . . . progress in school" (pp. 213-215).

The findings from the study of school records were published as one of a series of Bulletins that described aspects of the physical settings, the programs, and rationales of a number of the independent nursery schools (see Winsor, 1973 for an edited compilation). More than seventy years later, the Bulletins continue to communicate these teachers' and researchers' enthusiasm and optimism. The Bulletins have in common a commitment to an experimental approach to education, an emphasis on process and tentative hypotheses, and a spirit of mutual inquiry. They also provide a record of the work of women researchers applying and transforming new psychological theories within their laboratory schools. Such reports are virtually omitted from histories of the field (Finkelstein, 1988).

Lucy Mitchell had hoped to apply the same techniques her husband, the economist Wesley Clair Mitchell, had used to study cyclical economic behavior, to analyze the Bureau's growth measurements. Massive amounts of data on physical growth and IQ were collected, as well as massive numbers of records of children's behavior. Despite a sense of achievement in meeting the practical problems of devising school environments, the teachers were overwhelmed by the recording task and the research staff was flooded with data. As these data accumulated, Mitchell and the researchers became acutely aware that the isolated, atomistic, and ultimately unreliable nature of the growth measures did not bear any consistent relation to the children's behavior as observed and recorded by the teachers. They began to doubt whether the research was yielding anything that could help them establish meaningful patterns of growth.

Mitchell was close to abandoning the research enterprise. When Barbara Biber joined the Bureau in 1928, she began a study of children's drawings, organizing them by maturity levels and analyzing them in qualitative terms (Biber, 1984/1934). This movement away from strictly numerical data allowed for description of developmental stages and had face validity for the teacher/observer of children. "At last," Mitchell later wrote, "*The child* became a small person interacting with his environment, a complex organism behaving in certain characteristic ways (which in this case happened to be with crayons or paints) as he passed through stages of development" (Mitchell, 1953, p. 462). Thus, the

Bureau of Educational Experiments rejected a solely quantitative model of research. "Qualitative analysis of behavior," Mitchell concluded, "is as scientific as quantitative measurement" (LSM unpublished autobiography, Antler, 1987, p. 293).

Several factors contributed to the choice of research direction. first, the fact that the school itself was the laboratory for development kept the researchers closely connected to children, teachers, and daily school life. This grounding of child development research in the real lives of children led the Bureau to question both atomistic data and the uses to which such data might be put. In other words, research did not occur within the isolation of a laboratory, the model adopted by most psychologists in their early efforts to establish legitimacy for their field (see Bloch, 1992; Takanishi, 1982). Mitchell credited Harriet Johnson, whom she considered an outstanding interpreter of child behavior, with being able to speak the language of the researchers and that of the teachers. Johnson, therefore, was a significant agent in facilitating the interchange between research and school staff (see also, Beatty, 1995). Second, Mitchell in particular came to fear that a set of norms could never sufficiently account for individual variation in development and might lead to an overly rigid prescription for education quite opposite from the Bureau's intentions. Finally, the research direction set by Biber's qualitative analysis of children's behavior offered a fruitful and different approach to studying children's development.

We note that an insistence on understanding development in its specific context, a rejection of narrow measures and concomitant use of descriptive and qualitative analysis, as well as attention to teachers' voices in framing the research questions are also concerns of contemporary researchers. This form of thinking is fundamentally subversive of the dominant paradigms which have come to govern university research and define expert knowledge.

What ideas shaped the approach?

Lucy Sprague Mitchell and her colleagues were not constrained by traditional academic boundaries. Her writings describe a wide and lively intellectual circle actively exploring the ideas of their time. Lawrence K. Frank, an important friend of the Mitchells, had played a central role in organizing the Child Development Institutes that provided crucial support for the study of children's welfare and sci-

entific parent training. Wesley Mitchell's work showed Frank the potential of using knowledge from the social sciences to ameliorate social problems; Lucy Mitchell's efforts converted Frank to the cause of progressive education and the importance of studying children (Cravens, 1993; Cremin, 1988; Senn, 1975). Ironically, the Bureau moved away from a narrowly quantitative approach to research just as the Child Development Institutes were attempting to establish the very same kinds of norms of mental and physical growth that the Bureau had tried and rejected.

Lucy Mitchell's dual emphases on education as a route to social change and schools as a context in which to study child development took as their primary text the educational philosophy of John Dewey.[5] Dewey's interest in education "fused with and brought together what might otherwise have been separate interests—that in psychology and that in social institutions and social life" (1984/1930, p. 156). Dewey was prescient in his insistence on integrating, not isolating, the social sciences. His laboratory for human development was the rich social institution of the school, which provided a setting for examining the interactions among children, teachers, and curricula. The school also offered an arena for fostering collaboration and putting democratic ideals into practice. The school Dewey founded at the University of Chicago in 1896 was an experiment in understanding and guiding child development toward desired social and intellectual ends. He saw education's task as "supplying the conditions which foster growth" (1966/1916, p. 56).

The two dominant theoretical positions concerning childhood in the period between World Wars I and II were Watsonian behaviorism and psychoanalysis. Although based on diametrically opposed assumptions about human growth and development, both behaviorism and psychoanalysis viewed the early years of childhood, particularly the actions of significant adults in the child's life, as critical to future development.

John Watson's *Psychological Care of Infant and Child,* published in 1928, as well as numerous magazine articles of the twenties and thirties, cautioned against the dangers of kissing or playing with babies ("Let your behavior always be objective and kindly firm. Never hug and kiss them, never let them sit in your lap"). It is hard to imagine what induced Lucy Mitchell to offer Watson a position as

Bureau psychologist, and equally hard to imagine how he might have influenced the Bureau's work had he accepted the offer. "We used to wonder what would have happened if [Watson] had joined the Bureau," Mitchell herself later wrote. "For John Watson attacked the demonstrative parent...The 'scientific' nursery school teachers were supposed to be completely impersonal" (Mitchell, 1953, p. 463).

As Watson's influence waned, the psychoanalytic stress on the young child's psychosexual nature encouraged more nurturing, but also more anxious awareness of the pitfalls of parent-child emotional relatedness. Kagan (1992) has suggested that in an era when most middle-class mothers remained at home with their children, the presumed threat to the child was overprotection. Indeed, early Bank Street writing on the value of nursery school stressed the importance for young children of a less emotional interpersonal experience than the home was assumed to provide. The teacher was to be caring and warm, but the interaction with the student was not to carry the emotional weight of the parent-child relationship (Biber, 1949; Johnson, 1992/1928).

Psychodynamic thinking had a powerful impact on psychological and educational thinking in the 1930s and 1940s. In the early thirties Susan Isaacs' (1930, 1933) description of her work at the Malting House experimental schools in Cambridge, England, influenced Harriet Johnson and Barbara Biber. Isaacs, a psychoanalytically oriented educator and follower of Melanie Klein, considered Dewey to have been "her active inspiration" (Isaacs, 1933, p.19). Biber (1984) noted: "Though it had been quite a leap from John Dewey in 1916 to Susan Isaacs in the 1930s, the basic thinking was really on the same course: the behavioral surface is not an adequate guide for the educator's design. Underlying motivation and the inevitable conflicts of growth into the human family and society became central considerations" (p. 10). The psychodynamic concepts of ego strength, self, and autonomy were critical to the evolution of the developmental-interaction position. The focus on intrapsychic processes, however, co-existed with the conviction that the external world of the child makes a difference in psychological functioning.

In their introduction to *Child Life in School*, Barbara Biber, Lois Murphy, Louise Woodcock, and Irma Black (1952/1942) described the school as a vehicle for promoting mental health, a concept that informed much early thinking around teaching, learning, and the nature of schooling. The governing idea was

that the school, seen as a system, could provide an environment conducive to optimal development:

> Progressive school practice has justifiable claims to being considered a mental health program because of its provision for gratification through creative and positive work rather than competitive experience; because of its readiness to adapt to the needs of the individual child; because of the substitution of stimulating experiences for formalized learning; and because of its tremendous strides in making school an experience that enhances and nurtures each child's potentialities for becoming an adequate adult human being. (pp. 17-18)

Child Life in School exemplifies the mix of qualitative and quantitative measurement that the Bureau had chosen. The data, collected in 1936 and 1937, consist of what the authors called "contextual records" of the children in a range of school situations, as well as the children's responses to psychological performance tests, problem-solving tasks, and projective techniques. "Our approach," they wrote, "has more in common with the problems and methods of ecology, of regional studies, of topological psychology, than it has with the approach which led to development of intelligence scales on the basis of age norms" (Biber et al., 1952/1942, p. 7). In looking back on the child development movement, Senn (1975) commented:

> A considerable amount of the research in the early days of the child development movement was undertaken as a reaction to the heredity-environment, maturation-training dispute between Watson and his followers and Gesell [a convinced maturationist who charted the 'unfolding' of development]... Thus Barbara Biber and Lois Murphy collaborated in a study of 7-year-olds at New York's Little Red School House because, as Biber said, they felt "the age-level norms that Gesell had built on had artificiality in terms of transitions in growth," and they wanted to include environmental influences in their observations. (p. 33)

As we see, early research responded to issues of theory and practice. Although many Bank Street staff contributed to explicating the approach, Barbara Biber was the central figure elaborating the theoretical position and its relation to practice, and in turn shaping the institution that evolved from the Bureau of Educational Experiments to become Bank Street College (see Zimiles,

1997). The most ambitious effort to explicate and test the Bank Street point of view was a relatively large-scale study of the psychological impact of school experience (Minuchin, Biber, Shapiro, & Zimiles, 1969) in which the school environments that were contrasted were labeled modern and traditional, rather than progressive and traditional. The study highlighted both individual and social development as well as the complexity of the school environment in an effort to characterize the modern approach to education—with which Bank Street was identified—in contrast to a more conventional, traditional one. This and other research on children, teachers, and school life; classroom practice with children; teacher education and curriculum consultation all contributed to shaping the approach.[6]

The ideas were also evolving within the larger intellectual and political context of the times. In developmental psychology, cognitive-developmental theory had become the dominant paradigm. Nationally, the Civil Rights movement dramatically called attention to inequities in all aspects of American life. Michael Harrington's *The Other America* (1962) sparked the "discovery" that a vast number of children and families were underserved, undereducated, and labeled underprivileged. Lyndon Johnson's War on Poverty represented a major federal effort to change direction. Bank Street staff inevitably were influenced by and in turn influenced these developments in the national and local educational scenes.

Politically, the infusion of federal funding for programs for young and elementary school children in the 1960s and 1970s—Head Start and Follow Through—brought many developmental and educational psychologists into the educational arena (see also, Dropkin & Tobier, 1976). Their voices were diverse and they competed both for federal dollars and for program control, adding increasing impetus for the Bank Street College of Education to articulate the scope of its educational point of view (see Gilkeson, Smithberg, Bowman, & Rhine, 1981, for a later description of the Bank Street Follow Through model). The Bank Street group published several comprehensive papers describing a broad view of development in the school context. These papers (see Biber, 1967; Biber & Franklin, 1967; Biber & Minuchin, 1969; Biber, Shapiro, & Wickens, 1971) were also shaped by a strong desire to counter the exclusively behavioral as well as the cognitively oriented Piagetian approaches then promoted as educa-

tional solutions (see, for example, Bereiter & Engelmann, 1966; Kamii, 1972; Lavatelli, 1970; Weikert, Rogers, Adcock, & McClelland, 1971). Perhaps because the teacher's role in the Bank Street formulation is multifaceted, demanding, and resistant to codification, there were critics who dismissed the "Bank Street way" as a mystique. The papers represented efforts to legitimize and demystify the developmental-interaction approach by clarifying its sources, goals, values, and implications for practice.

What form did the approach take?

Shapiro and Biber's 1972 paper, the most complete articulation of the developmental-interaction point of view to date, described educational goals in terms of developmental processes. "It is the sine qua non of the developmental-interaction approach . . . that the growth of cognitive function . . . cannot be separated from the growth of personal and interpersonal processes" (p. 61). Developmental-interaction can be contrasted with behavioral approaches to classroom instruction. It is not what Freire (1970) describes as a "banking model" in which the child is a passive recipient into whom the expert—here, teacher—deposits knowledge. Similarly, what Gallimore and Tharp (1990) later called a "recitation script," a top-down method of passive practices, is alien to developmental-interaction. Instead, the developing child and the adult are viewed as actively constructing meaning, and developmental progress is seen as multidetermined and characterized by qualitative change. Growth and development require conflict in both cognitive and affective domains (see also, Biber, 1977).

Although Piaget was not specifically mentioned, the breadth and scope of his insights into cognition and development became part of the thinking and teaching of the approach. In the 1960s and 70s, the era of the cognitive revolution in developmental psychology and education, Bank Street's embrace of Piaget was somewhat tentative given the slight attention the cognitive-developmentalists paid to affect or to the environment. Nonetheless, several key ideas were compatible and bolstered the cognitive base of the developmental-interaction approach: a constructivist view of learning, a focus on individual thought processes, and an appreciation that learning and development were related but not synonymous.

One of the key influences on the concept of development in the approach

was Heinz Werner's (1948, 1957) thinking. His concept that development is not fixed but rather reveals a range of capacity emphasizes that behavior will vary depending on the interactions among person, situation, and developmental maturity. Further, the distinction he made between process and achievement guided thinking about the teacher's role in planning for and evaluating children's learning.

The school should strengthen the child's competence to deal effectively with the environment; encourage the development of autonomy and the construction of a sense of self; promote the integration of functions—that is, thought and feeling, feeling and action; and stimulate individuality and vigorous, creative response. These developmental concepts were nested in a set of preferred values that emphasized the humanist tradition, championed the individual, and advocated social change through education. The social nature of life in school was highlighted, as well as the vital importance of ensuring democratic process in the classroom and school.

Although the term *whole child* was not mentioned, it provided the central metaphor of the paper. A rallying cry for many of the early progressives, the term fell out of favor when some progressive schools came to be seen as extreme and the whole child concept became the butt of too many jokes. The basic idea, however, was simple: the school should create an environment of "children learning actively, interacting with each other, taking initiative, finding pleasure in accomplishment and creative expression, with teachers who were enthusiastic and who established a generally democratic style of school life" (Biber, 1972, p. 52).

Shapiro and Biber (1972) stated that educational programs associated with developmental-interaction focus on providing an environment that allows "children to try out, shift backward as well as forward, to create where necessary the opportunities for the kind of interaction that is essential for the assimilation of experience, the achievement of new integrations, and the resolution of conflict—in both the cognitive and emotional realms" (p. 68).

The teacher was expected to be attuned to what the child brought to the classroom—the social and intellectual talents and abilities, the gaps, the inconsistencies, fears, and joys—and to construct a curriculum that reflected both decisions about content and what children brought to that content. This guiding principle applied to all educational settings. Literature, play, and the arts were

central to curriculum. Continuity and interchange between home and school were highly valued. "Educational planning and curriculum development must be connected to the diverse realities of children's out-of-school environments" (p. 75).

We suggest that by stressing not only development but also interaction, the framers of the developmental-interaction approach were differentiating it from dominant images of development that located all sources of change inside the individual. Teachers in this tradition respond to the individuality of each child and to the dynamic interactions among children, adults, and the material environment.

Franklin (1981) characterized psychological theorizing in terms of four "dominant foci" and categorized developmental-interaction as essentially a *psychology of the person*, exemplified in its guiding metaphor of the whole child. However, she noted, it also "includes a partial (unelaborated) *psychology of situation* which in some contexts of application becomes central" (p. 77). In developmental-interaction, people's interactions with each other and with their physical environment provide the critical situation without which no growth or education is possible. Nevertheless, in retrospect it seems that individual development was emphasized at the expense of the analysis of context, or situation.

NEW DIRECTIONS

In this section we identify what needs to be done to bring the implicit psychology of situation to the foreground. We believe such elaboration is the central organizing construct underlying new directions for the developmental-interaction approach. It requires reexamining sources from the past and indicating important issues in the contemporary discourse for potential integration. We ask: What issues were underemphasized in 1972? What relevant compatible ideas were not then part of the discourse? Finally, we consider current challenges to developmental theory and its usefulness for education. We call for a conceptualization of development that takes greater account of its dynamic relation with culture.

Bringing Dewey and Lewin to the foreground

As we noted, John Dewey's belief in the importance of education as a vehicle for social reform; the concept of the active, engaged learning child; and the crucial

role of democratic social processes in schooling was central in shaping the developmental-interaction approach. In 1972, Dewey's influence on psychological and educational theory and practice had waned and his work was seldom cited.[7] Cahan (1992) suggested that "Dewey's conviction that psychology was a tool for the realization of value had no place in a field that self-consciously eschewed questions of value in its search for facts" (p. 213). Unlike mainstream developmental psychology, developmental-interaction was an educational approach and never intended nor attempted to be value-free. Later, Biber wrote of the influence of Dewey and his colleague, George Counts (1932): "It was Counts' vision of a changed society as well as Dewey's image of a changed school that, in the 1930s, motivated many of the members of the Bank Street College community and their colleagues in the City and Country School. . . . It is on this plane that the Bank Street ethos is obviously closely related to John Dewey's philosophy" (Biber, 1981, pp. 14-15).

Perhaps equally significant to developmental-interaction was Dewey's concern with the individual in the context of community: "...the *process* of mental development is essentially a social process, a process of participation; traditional psychology...treated the growth of mind as one which occurs in individuals in contact with a merely physical environment of things" (1991/1936, p. 206). As Cuffaro (1994) expressed Dewey's perspective, "it is not either the social or the individual but the *social individual*" (p. 23).

The idea of self described in developmental-interaction was also informed by the thinking of George Herbert Mead, Dewey's colleague at the University of Chicago:

> The self is both image and instrument. It emerges as the result of a maturing process, in which differentiation of objects and other people becomes progressively more refined and self-knowledge is built up from repeated awareness and assessment of the powers of the self in the course of mastering the environment. The shape and quality of the self reflect the images of important people in the growing child's life. (Biber & Franklin, 1967, p.13-14; Mead, 1934)

The vital connection between social and individual development was emphasized also in the work of Kurt Lewin (1935; 1951/1942; 1946). In *Child Life in School,* Biber and her co-authors counted Lewin as a significant influence on

their thinking. Lewin (1951/1942) was one of a handful of psychologists who was specifically concerned with what he termed the "dilemma" of the relation of general laws to the individual case:

> If one "abstracts from individual differences," there is no logical way back from these generalities to the individual case. Such a generalization leads from individual children to children of a certain age or certain economic level and from there to children of all ages and all economic levels…What is the value of general concepts if they do not permit predictions for the individual case? Certainly, such a procedure is of little avail for the teacher or the psychotherapist. (p. 60)

Lewin's central concept of "the field," the necessity of viewing behavior in context, had a major impact on developmental-interaction. As Franklin (1981) noted: "Lewin is distinguished from his contemporaries…by his view that psychology should be concerned with conceptualizing and studying the actions of persons in situations" (p.75). Although Shapiro and Biber did not acknowledge Lewin's influence in their 1972 paper, his focus on organism-environment relations is reflected in Bank Street's emphasis on children's and teachers' interactions in classrooms and schools. Lewin's direct impact on psychology and education seemed to have lessened by the 1970s, despite significant contributions to education from ecological psychologists influenced by him (see, for example, Barker, 1963; Barker & Gump, 1964). Acknowledging the contributions of Lewin and Dewey and giving their ideas more explicit emphasis will enhance the importance of the psychology of situation in developmental-interaction.

Integrating the ideas of Vygotsky

Lev Vygotsky's work and contemporary elaboration of his thinking provide another powerful resource for emphasizing the connection of the social and the individual. As early as 1962 Bruner, in his preface to *Thought and Language*, pointed out that "Vygotsky's conception of development is at the same time a theory of education" (p.v), yet only recently have psychologists and educators examined the implications of Vygotsky's ideas for educational practice (see, for example, Cole, 1990; Laboratory of Comparative Human Cognition, 1983; Moll, 1990 a, b; Newman, Griffin, & Cole, 1989; Wertsch, 1985). Anticipating the renewed inter-

est in Vygotsky, Bruner (1986) predicted, "if ever there is to be an age in which we cease thinking of the growth of mind as a lonely voyage of each on his own...*then Vygotsky will be rediscovered*" (p. 142, emphasis added).

Although Vygotsky's thinking seems compatible with the family of theories from which developmental-interaction is drawn—concepts from dynamic, gestalt, and developmental psychologists, and progressive educational theorists and practitioners—we must consider the goodness of fit between key concepts in the two approaches. Like the American Progressives, Vygotsky and his colleagues believed that schools could bring about change and that education was the means for developing new forms of thinking (see Blanck, 1990; Rosa & Montero, 1990; Wertsch, 1985, for discussion of the relationship between Vygotsky's life and ideas). The social organization of instruction was therefore vital to the vision of a participatory, collaborative society. Like Dewey, Vygotsky was critical of atomistic approaches that separated mind and behavior. Instead he emphasized the nature of social interactions, particularly the interdependence of adult and child engaged in mutually created collaborative activity within the specific social environment. Schooling becomes significant for children when everyday concepts provide the living knowledge for the understanding of schooled concepts.

Vygotsky's concept of the zone of proximal development represents the "distance between the actual developmental level as determined by independent problem solving and the level of potential development...under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). This influential idea "embodies or integrates key elements of the theory: the emphasis on social activity and cultural practice as sources of thinking; the importance of mediation in human psychological functioning; the centrality of pedagogy in development; and the inseparability of the individual from the social" (Moll, 1990a, p.15). Although change within the zone is characterized as individual change, it does not take place solely within the child. Cognitive and linguistic skill appear "twice: first, on the social level, and later, on the individual level; first between people (interpsychological), and then inside the child (intrapsychological)." (Vygotsky, 1978, p.57). Thinking is understood to occur when children participate in social activities with others; teaching becomes a process of assisted performance (see Gallimore & Tharp, 1990; Rogoff, 1990; Tharp & Gallimore,

1989; Wood, Bruner, & Ross, 1976; Wood & Middleton, 1975, for discussion of assisted performance).

Vygotsky's focus on process evokes comparison with the concepts of Heinz Werner (see especially, 1937). This inherent compatibility may contribute to the goodness-of-fit between Vygotskyan theory and developmental-interaction. Both frameworks begin with the premise that education is a social construction within and through which development occurs. Both share a conviction that schools can and should foster a more participatory society and look to the nature of processes of instruction to achieve that end. Elucidating the contributions that a Vygotskyan perspective can make to the approach remains a crucial task.

Answering challenges to developmental theory

Unquestionably, the concept of development is crucial to the developmental-interaction approach. Critiques of developmental psychology, as of other social sciences, have come both from within (see, for example, Bevan & Kessel, 1994; Bronfenbrenner, 1979; Bronfenbrenner, Kessel, Kessen, & White, 1986; Bruner, 1986, 1990; Emde, 1994; Feldman, 1980; Gergen, 1992, 1994; Kessel & Siegel, 1983; Kessen, 1979, 1990; Kvale, 1992b; Sampson, 1978, 1987), and from educators who question its relevance and importance (see, for example, Egan, 1983; 1988; Kessler, 1991; Kessler & Swadener, 1992; Lubeck, 1994; Mallory & New, 1994; Silin, 1993, 1995). Recent criticisms of developmental theory and its role in education center on its fundamental assumptions, methods, and decontextualized nature.

In a devastating analysis of "the rise and fall of development," Kessen (1990) critiqued the ideas that have dominated and defined modern scientific inquiry: evolution, progress, and development. He pointed out that these concepts are based on an assumption that the scientific method offers a valid means of generating universally applicable findings; further, that they all posit an end state, a telos, toward which development is progressing. We are now more aware of the problematic nature of treating development as a natural and desirable goal. As Dewey (1966/1916) wrote, "when it is said that education is development, everything depends upon *how* development is conceived" (p. 54).

Whereas in an earlier time Kohlberg and Mayer (1972) sought to define

"some general ends of education whose validity is not relative to the values and needs of each individual child or to the values of each subculture or society" (p. 450), today the charge is radically different. There is a growing consensus that psychologists and educators must face up to the value-drenched nature of knowledge. As Kessen (1990) wrote, "[the] fundamental renovation of [developmental psychology] is to surrender the commitment to universality and to simplicity," arguing that "psychologists must accept the moral responsibilities inherent in a notion of development that acknowledges human intention and aims" (p. 30). This represents a major shift from the earlier search for universals—single grand goals to describe developmental processes.

Today the analysis of context has moved to the foreground of psychological and educational conversation. The culture into which children are born is understood to have basic and formative impact on how even the youngest children express themselves and behave with other children and adults, as well as how they form expectations of others' interactions with them (see, for example, Delpit, 1995; Heath, 1984). Descriptions of local knowledge challenge the search for generalizable universals and require both multiple frames for understanding the diversity of human behavior and qualified claims for developmental knowledge. For example, core concepts of developmental-interaction, such as self and autonomy are culturally embedded. A number of studies have demonstrated that parents from diverse cultural backgrounds have a range of definitions of, and place different emphases on, encouraging autonomy and conformity in their children, with direct implications for the children's performance in school. That such constructs are not uniformly apprehended or valued in different cultures should come as no surprise when they have changed their meaning over time, even within the same general culture (see, for example, Bornstein, 1991; Greenfield & Cocking, 1994; Okagaki & Sternberg, 1993).

When the Shapiro and Biber formulation appeared in 1972, the premise of individuality was so embedded in theories of development that its assumptions were rarely noticed and seldom questioned. All cultures have indigenous psychologies with which they construct their view of human nature. These indigenous psychologies direct members' understanding of persons and selves, affecting individual goals and values as well as social policy (Heelas & Lock, 1981;

Sampson, 1988). Sampson (1977, 1987) pointed out that the indigenous psychology of the Western world "emphasizes a self-contained ideal" that is highly distinct, well defined, and capable of standing alone, in contrast to an alternative view of the relationship of self and society that focuses on collectivity, disavowing notions of individuality. Some years ago, Clifford Geertz (1979) argued that the Western concept of self that pervades social science is both culturally and historically relative:

> The Western conception of person as a bounded, unique, more or less integrated motivational and cognitive universe, a dynamic center of awareness, emotion, judgment, and action organized into a distinctive whole and set contrastively both against other such wholes and against a social and natural background is, however incorrigible it may seem to us, a rather peculiar idea within the context of the world's cultures. (p. 229)

Feminist theorists in particular (see, for example, Belenky, Clinchy, Goldberger, & Tarule, 1985; Gilligan, 1982; Goldberger, Tarule, Clinchy, & Belenky, 1996; Hare-Mustin & Maracek, 1988; Lytle, Bakken, & Romig, 1997; Miller, 1984) have challenged the assumptions of the self as an autonomous entity interacting with other autonomous entities (see also, Shweder & Bourne, 1991). We note that Piagetian theory also defines abstract reasoning, the ability to decontextualize and distance from others for decision making, as the goal of cognitive development. Similarly, the paradigm of moral development that Kohlberg based on Piaget's model evaluates responsible action in terms of abstract principles and places lesser value on experiences of relationship and caring (see Gilligan, 1982, for a fuller critique). In a critique of theoretical dichotomization of autonomy and relatedness, Raeff (1997) made the case that "independence and interdependence are inextricably intertwined during the course of self-development" (p. 233). Such rapprochement between theoretical poles is reminiscent of Dewey's earlier insight that the self is both social and individual.

Within psychodynamic theory, Erik Erikson (1950, 1959, 1968) has been a most significant and influential voice, enlarging the concept of personality development to specify conflicts and opportunities across the lifespan and within the cultural frame (see Wallerstein, 1998, for a recent discussion of Erikson's contributions). Nevertheless, an individualistic conception of self is embedded in

Erikson's theory, according to which identity must be achieved before genuine intimacy is possible. Although the earliest developmental task is establishing a sense of trust, and the mature self is characterized by an ability to commit to an intimate relationship, the theory does not make clear how the intervening developmental sequence leads to deep interpersonal connection (see also, Franz & White, 1985; Lykes, 1985).

The emphasis on individuality and autonomy in developmental-interaction also reflects concern for individual freedom. In 1972 Biber wrote:

> Now, autonomy, more than freedom, is the concept that governs educators who are concerned with nurturing individuality…Making choices, developing preferences, taking initiative, setting one's course for problem solving, evolving a code of ethics—these represent autonomous functioning. Combined with competence, motivation, and a strong sense of self, they compose the capacity to cope constructively with life situations; in other words, ego-strength. (p. 66)

At a time when professional and lay people were deeply concerned with trying to understand how the Holocaust could have happened, autonomy was viewed as a developmental goal that had to do with the moral courage to stand by one's principles and support opposition to conformism. This concern was reflected in numerous experimental studies of conformity and obedience to authority (see, for example, Asch, 1952, 1956; Milgram, 1963, 1974). As Gergen (1973) cautioned, "if our values were otherwise, social conformity could be viewed as prosolidarity behavior" (p. 312). A major goal of developmental-interaction thus was to foster independent thinking in support of humanist social values. There was a "high value on the kind of effective autonomous individuality that, in maturity, evolves toward social commitment" (Biber, 1984, p. xiii). This was the way the approach related the growing individual to the culture at large, or what Bruner (1986) called the "cultural posture" of a theory of development.

Educators' criticism of the concept of developmental appropriateness has become entwined with criticism of reliance on developmental principles. We believe it is essential to untangle and differentiate the two (see also, Bowman & Stott, 1994). A lively debate has been sparked by the National Association for the Education of Young Children's (NAEYC) guidelines for "developmentally appro-

priate practice" for early childhood programs (Bredekamp, 1987, 1991; Bredekamp & Copple, 1997). Many welcomed NAEYC's initial formulation of developmentally appropriate practice, but a number of early childhood educators have expressed considerable opposition. Critics charge that such practice is presented as singular, thereby giving insufficient attention to the diversity of the school population (Mallory & New, 1994). This bias follows from the fact that the knowledge base has come primarily from studies of the white middle class (Graham, 1992; Huston, McLoyd, & Coll, 1994; McLoyd, 1990; Spencer, 1990). In addition, critics claimed that the concept of developmentally appropriate practice locates the source of problems within the individual or family rather than looking to societal and economic conditions (Bloch, 1992; Kessler & Swadener, 1992; Lubeck, 1994), and that it does not address the central question of values (Kessler, 1991). From another vantage point, Silin (1993, 1995) has argued that developmental concepts have been used to shield children from knowledge that adults consider too frightening or too complex for them.

We think that using developmental inappropriateness as an argument against discussing difficult or frightening topics represents a misapplication of developmental principles, reflecting teachers' own fears and anxieties. In a time in which the majority of young children know something about war, community violence, racism, homelessness, unemployment, and AIDS, they are undoubtedly confused when school fails to address or clarify their understanding of these and other important parts of their reality. Children's own "funds of knowledge" must be seen as representing ways of learning and knowing to be built upon, not ignored (Moll, 1990a).

It is ironic that Lucy Sprague Mitchell's once-radical proposal that studying children is essential to knowing how to teach them should now be questioned. Programs for children of any age assume some kinds of developmental markers and values about desirable and undesirable behaviors, acknowledged or not. We believe it essential that developmental principles be explicitly articulated as part of the teacher's framework for practical action.

Developmental concepts are complex social constructions with particular, and often contradictory, meanings for children simultaneously living in the worlds of school, home, and community. Teachers as well as developmentalists

need to find new resolutions of the tension between the universal and the particular, mapping the range of developmental pathways made possible by variation in socialization. While the generalized child of developmental research is not a template for understanding individual children, it does provide an essential frame of reference. The general can illuminate the more particular, as well as the converse, an idea argued by Kurt Lewin fifty years ago (see also, Shapiro & Wallace, 1981).

A developmental framework provides a starting point for working with children in a classroom. The children themselves, their families, and the community are also resources for the teacher and for each other. Knowledge of the children's culture and community can help teachers to link students affectively and cognitively to school learning, thereby connecting school learning to out-of-school learning. Although as we noted earlier, valuing the interchange between home and school was integral to the 1972 developmental-interaction statement, we believe it is only recently that there has been greater understanding of both the necessity and the complexity of achieving this goal (see also, Moll, 1990a). Earlier developmental-interaction statements spoke to general principles of inclusion or respect for all human beings. They were not, however, sufficiently explicit about issues of teaching a diverse population, or indeed, any population different from that of the teacher's.[8]

Elder, Modell, and Parke (1993) reminded us that "[a]cross the twentieth century each generation of American children has come of age in a different world of realities" (p. 3). Changes in the structure of society and in the economy have powerful implications for children and schools: many more children are growing up in poverty and a greater variety of family configurations is represented.[9] In addition, the increase in immigration, comparable to that at the turn of the century, has led to a notably more diverse school population.

If, as Banks (1993) suggested, the 1960s was a time of devising strategies for improving the academic achievement of low-income students, then the 1990s can be considered a time to achieve what Frederick Erickson (1987) has called a "culturally responsive pedagogy" (see also, Derman-Sparks & Phillips, 1997; Sleeter & Grant, 1987). Theories of the 1960s reflected then dominant thinking in social science which characterized deprivation and disadvantage in terms of a culture of poverty. Educational reform was directed toward enhancing early socialization

so that children could overcome presumed deficits from their family and community experiences by giving up their language and cultural patterns and acquiring preferred mainstream forms (see, for example, Hess & Bear, 1968; Riessman, 1962). This way of thinking is now understood to establish a white middle-class criterion of competence that is inconsistent with developmental-interaction's value of inclusion. It provides yet another example of how shifts in perspective can uncover previously unquestioned assumptions.

All theoretical accounts have social implications. Education inevitably entails privileging some kinds of knowledge, assuming that there are preferred ways of acting. As Beyer and Liston (1992) plainly stated, postmodernism does not enable moral action. "In any curriculum there are commitments regarding the kind of people we want students to be and become: how they will act with others, form their identities, shoulder social responsibilities, and exercise and act on their own choices" (p. 191; see also, Rosenau, 1992; Smith, 1994). The charge is to be more aware of biases and tacit issues of power, more wary of generalization.

The pairing of research and practice has been integral to the developmental-interaction approach from its very beginnings. Yet, although progressive educators were acknowledged among the sources of the approach in 1972, we now see that psychological theory provided the major concepts. New understandings of how to connect curriculum with children's lives offer promising resources for expanding developmental-interaction. We can learn from, as well as about, the practice of teaching, as evidenced by a growing body of literature on the subject (see, for example, Ayers, 1989; Cochran-Smith & Lytle, 1992; Elbaz, 1981; Goswami & Stillman, 1987; Paley, 1979, 1995; Spodek, 1988; Sylvester, 1994; Witherell & Noddings, 1991; Yonemura, 1986).

Indeed, postmodern thinking assigns an important priority to practical knowledge. As Kvale (1920a) noted: "Research aimed at improving practice…does not pursue knowledge for some universal and eternal audience, but rather seeks to provide knowledge for particular audiences dealing with context-bound issues" (p. 49). Polkinghorne (1992), referring to clinical practice in psychology, spoke of a "postmodern epistemology of practice," and emphasized that "much of practicing knowledge is tacit, dealing with 'knowing how,' rather than theoretical and conceptual, dealing with 'knowing that'"(p. 159). The issues in education are sim-

ilar. Nevertheless, for developmental-interaction to continue to provide a framework for educational practice, there must be critical examination of both theory and practice.

In this paper we have looked back to the early days of the developmental-interaction approach to describe the particular people and questions that shaped its construction. Adopting a metapsychological strategy, we reviewed the central principles of the approach and pointed to ways in which some key aspects of the formulation were embedded in assumptions that more recently have been questioned. We proposed strengthening the approach's psychology of situation by balancing the longstanding attention to individual development with elaboration of the context(s) of development, which were implicit but underemphasized in earlier statements. A more differentiated and culturally responsive understanding of development will provide a stronger basis for practice. Our reexamination of fundamental concepts of developmental-interaction suggests new pathways for revitalizing the approach.

NOTES

1. It has been suggested that *transaction* would be a better descriptor than *interaction* because interaction is said to imply two entities and because Dewey used transaction. When the term developmental-interaction was first introduced in Biber, Shapiro, and Wickens (1971), transaction also seemed to suggest two entities; furthermore, there was concern that its use could lead to confusion with transactional analysis, which was then in vogue. Ironically, today transaction has become a preferred term, often equated with contextual. Rogoff (1990), for example, notes that "the notion of interaction often involves an assumption that the interacting entities are separable" (p. 27). There are limitations in relying on any single term to describe the complex reciprocal relationships of individuals and their social and physical environments.

2. Our analysis is also informed by the social science tradition of examining the evolution of theoretical approaches (see, for example, Franklin, 1981; Kuhn, 1970/1962; Lakatos, 1978 a,b; Langer, 1969; Laudan, 1977; Pepper, 1942; Reese & Overton, 1970).

3. Feminist researchers describe this type of organization as particularly suited to women (see Kanter, 1977).

4. Although Mitchell was a pioneer in calling for gender equity in school and society, she and her colleagues were not identified with the women's suffrage movement that paralleled the rise of their profession.

5. At the time Mitchell and Bureau staff were exploring ways to study children, the field of child development was in its infancy and the once enormously influential Child Study movement initiated by G. Stanley Hall was foundering. Dewey had studied with Hall but, like many early researchers in child development, later had misgivings about the Child Study movement, whose scientific basis and credibility had eroded (see, for example, Cairns, 1983; Kliebard, 1992; Ross, 1972; Sears, 1975; White, 1985, 1992). Although Mitchell and her colleagues also were aware of Hall's work and, in fact, his "The Story of a Sand Pile" was reprinted in

one of the Bureau bulletins, Hall does not seem to have been a significant influence on Mitchell's thinking. In a description of the Mitchells' social and intellectual life in their first years in New York City, Mrs. Mitchell noted that in reading her husband's diary, "I find that he and I read Stanley Hall, a large part of it aloud" (1953, p. 254), suggesting that she had to be reminded that she had read Hall.

6. Papers covered a range of topics, such as the value of nursery school (Biber, 1939, 1942), the importance of play (Biber, 1951), a study of what young children expect of their teachers (Biber & Lewis, 1949), studies of teacher personality (Rosen, 1968, 1972; Zimiles, Biber, Rabinowitz, & Hay, 1964), analyses of teacher education and the guidance process (Biber, Gilkeson, & Winsor, 1959; Biber & Winsor, 1967), and the relevance of schooling for mental health (Biber, 1955, 1961).

7. An obvious exception is Kohlberg and Mayer's influential paper, also published in 1972, which argues for a blending of Dewey and Piaget to yield a rationale for identifying "the aims of education…with development, both intellectual and moral" (p. 493). Kohlberg was, of course, responsible for making moral development "respectable" in psychological research. By interpenetrating Dewey's educational philosophy with Piagetian empirical findings and theoretical structures, Kohlberg and Mayer sought to incorporate Deweyan progressivism into the cognitive-developmental enterprise.

8. In the 1940s, Mitchell and her colleagues extended their work to New York City public schools, primarily those in Harlem. Bureau staff brought materials and curriculum ideas, worked in classrooms with children and teachers, and conducted after-school teacher workshops. Anticipating current concerns, Mitchell (1950, p. 365) asked, "Should curriculum content and experiences planned for the children in our school be influenced by the fact that so many of the children were Negroes? And, if so, how and in what way?"

9. It is well documented that there are many more single-parent families than in earlier times; more children in foster-parent care; more mothers holding full-time jobs; and more children with gay and lesbian parents.

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