BICOGNITIVE PROCESSES IN MULTICULTURAL EDUCATION[1]

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Many children from ethnic minorities, unlike the children from the educated middle class, are confronted with the necessity of developing the ability to function effectively in two, often distinct, sociocultural systems: those represented by the school and the home.

THE first period of American social history can be characterized as being primarily concerned with the principle of political democracy, the second period with economic democracy. It requires no stretch of the imagination to characterize the present period as one in which there is a heightened concern with issues of *cultural* democracy.

Since the institution of public education affects one of society's most valuable resources, and thereby profoundly influences the social destiny of countless individuals, it has become the first of society's major institutions to feel the impact of history. One consequence of this development is the increasingly held belief that a child's membership in a particular ethnic group should not deny him or her access to equal educational opportunity. It is within this context that the idea of "multicultural education" has been conceived.

Two definitions of multicultural education appear to be salient in present educational thinking. A first definition stresses the implementation of educational programs designed to foster a heightened understanding among the different ethnic groups in the United States. This concept of multicultural education is basic to the fulfillment of the goal of national unity.

A second definition is based on the critical assumption that the organization of curriculum, teacher education, preparation of instructional materials, and the development of viable assessment techniques requires an acceptable degree of accurate information about the children whom it is intended to serve. It may appear paradoxical that the children from different cultural and linguistic backgrounds should be the subject of more careful and systematic investigation than has usually been carried out on the children of the educated middle class.

One reason for this condition is our heightened awareness that many children from ethnic minorities, unlike the children from the educated middle class, are con-

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Newer conceptions of brain specialization give added importance to the implication that educational theory needs to include a comprehensive understanding of bicognitive development. American public education cannot be put in the position of developing one hemisphere of the brain at the expense of the other.

fronted with the necessity of developing the ability to function effectively in *two*, often distinct, sociocultural systems; those represented by the school and the home. Children who successfully develop the appropriate abilities to function competently and effectively in these two sociocultural systems have come to be referred to as "bicultural."

Recent research on bicultural children has led to the discovery that children who can cope effectively with the demands of two sociocultural systems also are able to perform within those two cognitive styles which have currently gained prominence in the psychological literature. This finding has led Ramirez and Castañeda (1974) to propose the concept of *bi*cognition or bicognitive development.

These authors have based this concept on the following set of assumptions: (a) Public education tends to favor a teaching style that is more appropriate to one cognitive style than the other; (b) Many children from ethnic minorities come from homes which tend to teach in a style more appropriate to the other cognitive mode; and (c) Equal educational opportunity is denied when educational policy and practice favor one teaching and cognitive style over the others.

This present article (a) defines these two cognitive styles, (b) the behavioral characteristics associated with each of these styles, (c) the appropriate teaching styles, and (d) the characteristics of the curriculum that are appropriate for the two styles. These two sets of characteristics are delineated with the intent of encouraging educational policy and practice to help children develop competency in both cognitive styles.

Cognitive Styles: Field Independent and Field Sensitive

The two terms "field independent" and "field sensitive" were first described by Witkin, Dyk, Faterson, Goodenough, and Karp (1962) and emerged from their research on perception. In the field-sensitive mode of perception, the organization of the field as a whole dominates perception of its parts; an item within a field is experienced as fused with the organized ground. In a field-independent mode of perception, the person is able to perceive items as discrete from the organized field.

This approach encompasses a wide range of intellectual and affective variables. For example, field-sensitive children do best on verbal tasks of intelligence tests; learn materials more easily which have human, social content, and which are characterized by fantasy and humor; are sensitive to the opinions of others; perform better when authority figures express confidence in their ability; and conversely, perform less well when authority figures doubt their ability.

Field-Sensitive Behaviors	
Relationship to peers	
1. Likes to work with others to achieve a common goal	
2. Likes to assist others	
3. Is sensitive to feelings and opinions of others	
Personal relationship to teacher	
1. Openly expresses positive feelings for teacher	
2. Asks questions about teacher's tastes and personal experiences; seeks to become like teacher	
Instructional relationship to teacher	
1. Seeks guidance and demonstration from teacher	
2. Seeks rewards which strengthen relationship with teacher	
3. Is highly motivated when working individually with teacher	
Characteristics of curriculum that facilitate learning	
1. Performance objectives and global aspects of curriculum are carefully explained	
2. Concepts are presented in humanized or story format	
3. Concepts are related to personal interests and experiences of children	
Field-Sensitive Teaching Style	
Personal behaviors	
1. Displays physical and verbal expressions of approval and warmth	
2. Uses personalized rewards which strengthen the relationship with students	
Instructional behaviors	
1. Expresses confidence in child's ability to succeed; is sensitive to children who are having difficulty and need help	
2. Gives guidance to students; makes purpose and main principles of lesson obvious; presentation of lesson is clear with steps toward "solution" clearly delineated	
3. Encourages learning through modeling; asks children to imitate	
4. Encourages cooperation and development of group feeling; encourages class to think and work as a unit	
5. Holds informal class discussions; provides opportunities for students to see how concepts being learned are related to students' personal experiences	
Curriculum related behaviors	
1. Emphasizes global aspects of concepts; before beginning lesson ensures that students understand the performance objectives; identifies generalizations and helps children apply them to particular instances	
2. Personalizes curriculum; teacher relates curriculum materials to the interests and experiences of students as well as to her or his own interests	
3. Humanizes curriculum; attributes human characteristics to concepts and principles	
4. Uses teaching materials to elicit expression of feelings from students; helps students apply concepts for labeling their personal experiences	

Table 1.*

Field-independent children do best on analytic tasks, learn materials that are inanimate and impersonal more easily; and their performance is not greatly affected by the opinions of others (Cohen, 1969; Messick, 1970; Ramirez, 1973).

Specific suggestions for the incorporation of the preceding characteristics for educational programs involving assessment, teacher training, and curriculum development are described at length in Ramirez and Castañeda's book, *Cultural Democracy, Bicognitive Development, and Education* (1974).

Bicognitive Development and Educational Policy

Bicognitive development offers a fresh vantage point from which an issue of long standing in the field of education can be viewed. Argument has existed in the field of education between those who believe that the cognitive domain should be emphasized over the affective domain and those who insist that the affective domain should be given higher priority in the determination of educational goals.

* Tables 1, 2, and 3 are reprinted from: M. Ramirez, III, and A. Castañeda. *Cultural Democracy, Bicognitive Development, and Education*. New York: Academic Press, 1974.

It may appear paradoxical that the children from different cultural and linguistic backgrounds should be the subject of more careful and systematic investigation than has usually been carried out on the children of the educated middle class.

By focusing on bicognitive development, however, the bipolar delineation of characteristics according to affective or cognitive domain becomes irrelevant. Competent and effective functioning in both cognitive styles implies integration and equal development of the affective and cognitive domains. The goal that children become more versatile and adaptable to the increasingly complex demands of life in a post-industrial society may be reached by helping them develop the ability to switch cognitive styles—to be cognitive "switch-hitters"—or to draw upon both styles at any given time.

Finally, within recent years, particularly through the efforts of such writers as TenHouten (1971), Sperry (1964), and Ornstein (1973), understanding of the functions of the brain has taken an interesting turn. Evidence strongly suggests that the separate functions of each side of the brain correspond remarkably to those who have been identified with the cognitive modes of field independences and field sensitivity. These newer conceptions of brain specialization give added importance to the implication that educational theory needs to include a comprehensive understanding of bicognitive development. American public education cannot be put in the position of developing one hemisphere of the brain at the expense of the other.

Field-Independent Behaviors

Relationship to peers
1. Prefers to work independently
2. Likes to compete and gain individual recognition
3. Task oriented; is inattentive to social environment when working

Personal relationship to teacher
1. Rarely seeks physical contact with teacher
2. Formal; interactions with teacher are restricted to tasks at hand

Instructional relationship to teacher
1. Likes to try new tasks without teacher's help
2. Impatient to begin tasks; likes to finish first
3. Seeks nonsocial rewards

Characteristics of curriculum that facilitate learning
1. Details of concepts are emphasized; parts have meaning of their own
2. Deals with math and science concepts
3. Based on discovery approach

Field-Independent Teaching Style

Personal behaviors
1. Is formal in relationship with students; acts the part of an authority figure
2. Centers attention on instructional objectives; gives social atmosphere secondary importance

Instructional behaviors
1. Encourages independent achievement; emphasizes the importance of individual effort
2. Encourages competition between individual students
3. Adopts a consultant role; teacher encourages students to seek help only when they experience difficulty
4. Encourages learning through trial and error
5. Encourages task orientation; focuses student attention on assigned tasks

Curriculum related behaviors
1. Focuses on details of curriculum materials
2. Focuses on facts and principles; teaches students how to solve problems using short cuts and novel approaches
3. Emphasizes math and science abstractions; teacher tends to use graphs, charts, and formulas in teaching, even when presenting social studies curriculum
4. Emphasizes inductive learning and the discovery approach; starts with isolated parts and slowly puts them together to construct rules or generalizations

Table 2.

Field-Sensitive Curriculum [a]	*Field-Independent Curriculum* [a]
Content	Content
1. Social abstractions: Field-sensitive curriculum is humanized through use of narration, humor, drama, and fantasy. Characterized by social words and human characteristics. Focuses on lives of persons who occupy central roles in the topic of study, such as history or scientific discovery.	1. Math and science abstractions: Field-independent curriculum uses many graphs and formulae.
2. Personalized: The ethnic background of students, as well as their homes and neighborhoods, is reflected. The teacher is given the opportunity to express personal experiences and interests.	2. Impersonal: Field-independent curriculum focuses on events, places, and facts in social studies rather than personal histories.
Structure	Structure
1. Global: Emphasis is on description of wholes and generalities; the overall view or general topic is presented first. The purpose or use of the concept or skill is clearly stated using practical examples.	1. Focus on details: The details of a concept are explored followed by the global concept.
2. Rules explicit: Rules and principles are salient. (Children who prefer to learn in the field-sensitive mode are more comfortable given the rules than when asked to discover the underlying principles for themselves.)	2. Discovery: Rules and principles are discovered from the study of details; the general is discovered from the understanding of the particulars.
3. Requires cooperation with others: The curriculum is structured in such a way that children work cooperatively with peers or with the teacher in a variety of activities.	3. Requires independent activity: The curriculum requires children to work individually, minimizing interaction with others.

[a] It should be noted that each type of curriculum is designed to facilitate teaching in the corresponding teaching style.

Table 3. Characteristics of Field-Sensitive and Field-Independent Curricula

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