

The Theory of Structural Cognitive Modifiability and Mediated Learning Experience*

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Cultural Difference and Cultural Deprivation

The effects of MLE on the modifiability and flexibility of the individual are best illustrated by relating the level of modifiability of certain ethnic groups to the mediational and transmissional processes typical of the particular culture.

Our encounter with the Yemenite children who arrived in Israel in the Magic Carpet operation of 1945-1948 first made us aware that a very low level of functioning could coexist in individuals with a very rich culture that differentiated between these individuals and other groups and provided them with a well-defined identity. One of the characteristics of such a group is its high level of modifiability. Indeed, the Yemenites proved they were able to learn and modify their functioning meaningfully. On the other hand, during the long years of our work in Youth Aliyah, we were confronted with children from other ethnic groups who had great difficulty in changing their levels of functioning. The differences between these two types of ethnic groups were not in their manifest levels of functioning (which were equally low), but rather in their levels of modifiability. The ease and pervasiveness of change that one group displayed contrasted sharply with the difficulties of the other group in adapting to the new culture and its requirements.

In an attempt to explain the striking difference in modifiability between groups who were otherwise similar in their low manifest cognitive, academic, technological, and occupational level of functioning, we looked into the cultural antecedents of the two groups. This allowed us first to hypothesize that the level of modifiability is directly related to the differential level of cultural transmission in each of these cultures. Only after many years of study have we been able to conclude that a sharp distinction must be made between cultural difference and cultural deprivation as the source of difficulties in the adaptation of the individual to a new culture.

When immigrating into a new and different dominant culture, the culturally different individual may prove to be a fast learner of those parameters of functioning that are the most critical for adaptation to the dominant society. Despite the fact that they are culturally different and devoid of certain linguistic, conceptual, and technological skills, there are immigrants from developing countries who show an amazing propensity to modify their level of functioning by using their areas of strength and adapting them to the

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requirements of the strange and often hostile dominant culture. In many cases, this propensity to learn and become modified through this learning makes them achieve high levels of functioning and efficiency despite their low level of language mastery and limited orientation in other crucial areas. Thus, cultural difference not only does not hamper adaptation, as was previously assumed by sociologists referring to the culturally different as the traditional society, but such difference may actually prove to be an enhancing factor of adaptation.

Cultural difference must be contrasted with the phenomenon of cultural deprivation. In this context, cultural deprivation is defined as the alienation of groups, or of individuals, from their own culture. An individual who has not been exposed to MLE or could not benefit from it is marked by low modifiability and a limited propensity to benefit from direct exposure to stimuli and events. Even when culturally deprived persons are better equipped linguistically and with other skills required by the new dominant culture, their adaptation is far inferior to that of the culturally different. Often, the culturally deprived are born within the dominant culture, living side by side with the socializing and educational agents of this majority culture. Yet they are totally unaffected either by this proximity or by the attempts to orient them to adaptation.

A good illustration is the story of R whose parents were highly cultured people involved in the arts. Their excellent financial status enabled them to travel and to provide a very rich and highly stimulating environment for their children. None of their children, however, was able to benefit from this rich world of informal learning opportunities. Furthermore, they were even less prepared to make use of their school experiences. One of them, R, was declared mentally defective – a diagnosis that was disproved by our dynamic assessment. Other children of the family were considered learning disabled, differing among themselves only in the degree of severity.

The author was able to trace this condition to a family constellation that obstructed the parent-child mediational interaction to the extent that it left the children alone in the exciting world in which they lived. They were unable to utilize their family experiences beyond the immediate gratification they were provided. Thus, at the age of fifteen, when R was asked to say something about the many countries he had visited, not only was he unable to name the countries, but he could not even remember, except for some rudimentary recollection, where he had been or with whom. This was his condition despite a good memory as revealed by dynamic testing. Further, R could not distinguish one place from another and could not relate places to times of visit. It became clear, and the parents confirmed, that these cognitive parameters were never discussed with the children before, during, or after the visits. This was also true for many other experiences that left no traces in R's repertoire. At the age of fifteen, for example, R could not relate ice, water, and steam as the three conditions of matter (solid, liquid, and gas), and considered them as isolated, disparate substances. The author was so surprised by R's ignorance that he reacted insensitively," regretfully hurting the boy's feelings. This incident clearly shows how little we adults, teachers, and parents are aware of the gaps, not only in knowledge, but, even more, in the prerequisites of learning that are necessary to turn experiences into effective tools for further learning.

Years later, when interviewed by a journalist, R recalled this episode: "I had seen ice turning into water, and water into steam, and yet couldn't see them as products of the transformation process of one and the same matter." R unwittingly described the

characteristic shared by many of the culturally deprived. That is, an episodic grasp of reality makes the individual passively experience the perceived stimuli without relating them to either what has preceded and, even less, to what is expected to follow. An episodic grasp of reality makes learning from experience, with its subsequent changes in the individual's cognitive structure, almost impossible. Individuals or groups that have been offered MLE or received cultural transmission have been equipped with effective modes of perceiving and elaborating their perceptions. This permits them to learn to generalize by actively linking their various life experiences through comparing, coding, and decoding them, by summing up the times of their occurrence, by relating them to the time and space of their occurrence, etc. Out of this linking process, concepts, categories, classes, series, codes, symbols, causal relationships, ideological relationships, and other hierarchically higher levels of functioning are derived. Their origins cannot be traced back to the sole and direct interaction between the organism and sources of stimuli. Rather, all these modes of mental acts have their origin in socially determined, human-based mediational interactions. In the posthumously published writings of Vygotsky (1997; Vygotsky and Luria, 1993, see also Wertsch 1985; Kozulin, 1991), the social process is seen as crucial to the development of human mental activities.

No matter how extreme the difference between culturally different individuals and the cultural environment in which they live, they will be able to learn the new culture and adapt to it by capitalizing on the attitudes, dispositions, modes of focusing and search they have acquired through MLE. In their study of cognitive profiles of different ethnic groups, Lesser, Fifer, and Clark (1965) bring indirect evidence of the difference between the culturally different and the culturally deprived. Members of the culturally different group have profiles that commonly identify a high percentage of the group's population. This relatively strong identity is also marked by a higher level of cognitive functioning. In contrast, the culturally deprived group has a very limited number of people with identical profiles. By the same token, they have a very low level of functioning. The Yemenites, for example, who have developed a very strong identity as a culturally different group, have proven to have had a tremendous influence on Israeli cultural development. Their contributions to music, dance, fashion, and culinary arts have been eagerly accepted by the more advanced and more veteran members of the dominant culture. This Israeli example proves that the dominant culture has accommodated itself to the Yemenites by its assimilation of these cultural values. The integration of culturally different individuals is, of course, strongly contingent upon opportunities they are offered to respond to the strong need to adapt and the pull exerted on them by an advantaged model of the culturally dominant group.

Opportunities for educational and occupational mobility are necessary for cultural accommodation. Whenever they exist, the culturally different group will take advantage of them. This is not always the case with culturally deprived individuals. Devoid of the prerequisites of learning, due to the lack of MLE and cultural transmission, the culturally deprived person often is unable to identify the new goals that life in the more advantaged and higher functioning environment offers. Furthermore, the culturally deprived person is not inclined to identify with these goals. A host of cognitive deficiencies are responsible for this person's limited capacity to benefit from the opportunities to learn, to change, to increase the repertoire of adaptive behaviors and to apply them to situations, such as those produced by immigration, or by radical changes in occupational, social, and even

moral lifestyles. Such cognitive deficiencies include the lack of future, anticipatory, planning behavior; the lack of need for logical evidence; a limited capacity to define problems and inner and outer sources of disequilibrium; the lack of comparative behavior that would permit the distinction between the familiar and unfamiliar, the known and the unknown, and the advantages and disadvantages of certain behaviors; the lack of a capacity to create systems of priorities consonant with more meaningful needs; the lack of use of several sources of information; the inadequate control over one's behavior, making impulsivity the most modal behavior of the individual; a limited representation leading to reliance on the immediately perceived, and the lack of orientation toward using the past and future as sources of guidance for present behavior; a cognitively determined egocentricity; and other deficiencies (see a List of Deficient Cognitive Functions in the Appendix).

As long as culturally deprived individuals continue to live in a familiar environment that they have mastered by over-learning (and by being born into), they may not show signs of disadaptation. The real problem for the culturally deprived starts when the environment requires more than very limited adaptation, when they cannot survive without change. It is then that the deficient functions, resulting from a lack of MLE, have their negative impact and create conflicts whose solutions may not be adequate. Drastic changes in environment through migration or the need to shift from an overlearned, routine, mechanically mastered activity may bring with them states of extreme disadaptation because of the incapacity of individuals, devoid of the prerequisites of learning, to acquire the necessary new skills for their adaptation.

These situations are well known for both children and adults in recent historic occurrences of large-scale migration. In many countries with high technological and educational levels, new immigrants appear unable to cope, and therefore react in ways that have become detrimental both to themselves and to the absorbing society. The author was confronted with the problems of such an ethnic group that came to Israel. (For obvious reasons, the author will disclose neither the name of the group nor its country of origin.) When placed in instructional, educational, and social situations shaped by the dominant culture, the difficulties manifested by the group were so great that strong negative stereotypes emerged regarding the normalcy of the members of this group in terms of their IQ, intelligence, and the integrity of their central nervous systems. In the prognosis for their adaptation and the possible effects of education, some members of the dominant society asked: "Are these people educable?"

A group of psychologists examined 300 children belonging to this group with the Bender-Gestalt test. On the basis of the very low test results, the professionals seriously considered the possibility of minimal brain damage or a certain degree of immaturity of the central nervous system in the children. The author was able to reject this notion by pointing out that an investment in the nature of a mediational interaction on the part of the examiner succeeded to a large degree in wiping out the traces of the hypothesized "minimal brain damage" in many of the cases discussed. Nevertheless, the difficulties manifested by the group were pervasive and affected the children's personalities and emotional states. Extreme levels of anxiety were observed on a behavioral level, as well as subclinically as indicated by Rorschach and other types of observations. A deeper analysis of the deficiencies revealed the cognitive origin of this anxiety that rendered these individuals totally helpless in the confrontation with the new reality. The children could not perceive the character of this

new environment, or see what in it was common or different from what was already known. They were rendered unable to anticipate or predict the outcome of their behavior and were, therefore, in a state of cognitive "blindness." Many of the inadapative reactions that characterized the members of this particular group were attributable to their state of cultural deprivation.

This ethnic group became alienated from its own cultural patrimony. Historical reasons were responsible for the social disorganization and the disruption of traditional social processes. Societal agents, who had previously been charged with fulfilling the role of social and cultural mediators were no longer effective. Internal migration, the loss of the extended family's support, and the limited capacity of the nuclear family to supply mediational needs, interrupted the processes of mediation and cultural transmission necessary for cognitive and emotional development of the children.

It took time and a meaningful investment from both the planners of integration and the leaders emerging from the group itself to reorient the group toward its past, its cultural mores and values. After this occurred, a very meaningful change became apparent in individual members of the group. Today in Israel, this group has become one of the most active agents in leading a revival and revitalization process of its own ethnic culture. Pride in their ethnicity has positively affected the ability of individuals to integrate into the dominant culture as members of their own culture. The current impact of this group on Israeli society surpasses even that of the Yemenites.

In this context, another example worthy of mention is the Native American, particularly the Navajo, with whom the author and many of his colleagues have had the opportunity of working. The preservation and enrichment of their culture and language are seen by native peoples as hinges upon which their survival and integrity exist. On the other hand, there are the policymakers and theoreticians who believe there is a diametric opposition between the American and Indian cultures. They hold that the "Indian ways," cultural values, tribal history, and language must be sacrificed to usher the Native American properly into contemporary American society.

In effect, the denial of value, the loss of orientation toward the nation's past, the rejection of its language and symbols constituted a real depletion of the internal identity and readiness of the Indian youth to identify. The degree of cultural deprivation observed on the reservation was certainly extreme. Some of the group's leaders, becoming aware of the role of MLE in the development of cognitive processes, perceived the extremely negative results of the lack of MLE in the cognitive, social, and emotional condition of the Navajo reservation's youth, in their low level of performance, in their trend to drop out of school, and in their lack of need for adaptation manifested in the proliferation of alcoholism, drug abuse, and juvenile suicide (known to be very high among these young people). A few of the Navajo nation's leaders have adopted the philosophy and theory of Structural Cognitive Modifiability in general, and MLE in particular, as a way to enhance the cognitive and affective condition of their children and, by the same token, they use the theory of MLE as the rationale for reviving the cultural patrimony of the Navajo nation (Emerson 1986; 1991).

MLE has been deemed the most effective theory and applied system to reorient both Navajo juveniles and adults, to offer a legitimization to reinstating the native language ("dena") as the language of instruction, to turn to history as a source of identity and, as some of them put it very clearly, "to become better Americans by being good Indians."

Members of the Native American community face a variety of general problems that they hope to approach through an application of the theory of MLE. First is their desire for the community control of education with the right to reinstitute the Indian language in schools. Self-determination in schools involves decision-making authority over academics, instruction, student guidance and activities, parental involvement, and fiscal and administrative matters. General community development, as well as tribal economic development, will also be affected by MLE programs that, among other things, teach management, analyses, decision among alternatives, projection of relationships, goal setting, planning, and goal achieving. Emerson (1996) summarizes the Native American belief that culture and cognition are linked: "By singing our own songs, we can increase our chances for better and more comfortable lives for our youth and ourselves in the present and future society".

Some of the systems derived from MLE and its philosophy – the Learning Potential Assessment Device (LPAD) and the Instrumental Enrichment (IE) programs – have been applied in the Navajo community (Emerson 1991). Reports on the effects of the implementation of dynamic assessment, intervention for cognitive development, and MLE, though scarce, are highly encouraging. The interest in the adaptation of the theory and practices of MLE has been extended to other Native American groups in the United States and the Northern Canadian Territories. A number of these tribes are using the theory of MLE as a basis for lobbying for the right to institute their languages in their respective schools and to control these schools and the general education of their children themselves as a way to ensure cultural transmission.

Another group that has shown the impact of MLE in the most extreme way are the Jewish Ethiopians who started immigrated from Africa to Israel in the mid-1980s. This group displays the greatest distance from the dominant Israeli culture in many areas. Until recently, only a very limited number of Ethiopian Jews, also called Beta-Israel, were literate. Many of them had neither prayer books nor books of commentary for Bible study. The group's level of technology was extremely rudimentary, with shepherding and elementary agriculture as the main occupations. Their housing, simple clay huts, was primitive, as was their use of utensils. Despite certain significant differences among them, this was true for the majority of the Ethiopian Jewish population.

The fact that the Ethiopian group's entire identity and affiliation to Judaism was based on their origins dating back 2500 years created an almost unbridgeable gap between them and the current dominant Israeli culture. Yet, they were all but culturally deprived. They were culturally different from the Israeli culture, as well as from the surrounding Ethiopian culture, by virtue of very rich articulation of rites, mores, and styles that had been acquired through an elaborate process of mediation and cultural transmission. Illiteracy had made it totally impossible for this cultural transmission to go through impersonal channels, such as reading, writing, radio, or television. All cultural transmission had to be oral-aural, from mouth to ear. This situation probably has had a highly beneficial effect, however. The Ethiopian priest ("the kess"), the religious head of the community, would speak in front of a gathering for hours under the worst climactic conditions. Those among us who have seen children and adults listening, focusing on a speaker for hours without moving, without any sign of impatience, are aware of the effects of such an exposure on the attentional processes of individuals. Those who study the observable behaviors of Ethiopian children and adolescents are amazed by the

richness and particularities of their style, which could not have been developed without intensive mediation, through observation, and by verbal and nonverbal MLE involving intentionality, transcendence, and meaning.

The power of the early mediational interactions in this African ethnic group is evidenced by the variety of styles and behaviors that are characteristic of the total Ethiopian Jewish community. These differ greatly from both the culture with which they were previously surrounded in Ethiopia, and even more so from the groups of cultural difference in Israel. The results of extensive testing of the Ethiopian children with the LPAD in its group form provide us with fascinating preliminary information on Beta-Israel (see Kaniel, Tzuriel, Feuerstein, Ben Shachar, and Eitan 1991).

The group LPAD (consisting of the following tasks: Raven Progressive Matrices; LPAD Variations I and II; Organization of Dots; Complex Figure; Organizer; Numerical Progressions and Figural Progressions) was administered to the 316 adolescents, average age of 15.7. In the experimental group, 75 percent of the population were girls; 25 percent, boys. Each of the tasks, except for the Raven Progressive Matrices, was administered in three stages: premediation, mediation, and post-mediation. The Raven was administered pre- and post- without mediation. Ethiopian adolescents of similar demographic characteristics served as a control group and received the same tasks with essentially the same procedure, but with no mediation between exposures.

Results obtained on these Ethiopians were compared between the experimental and control groups, as well as with data gathered from studies with the same tasks with culturally deprived and regular Israeli adolescents. Results revealed that in all tasks, the experimental group benefited from the mediation given them in terms of learning and transfer as compared to the control group. The performance level of the experimental group was similar to that of regular Israeli groups that had been dynamically assessed. Finally, results indicate that mediation changed the curve of distribution for all participants. Since most of the subjects performed very well in the post-mediation phase, it seemed impossible to predict post-mediation performance from premediation scores. The correlation between the pre- and the post-test was low. The high level of modifiability evident in the results of the assessment left little doubt that the Ethiopian population was culturally different and not culturally deprived.

Indeed, the readiness and propensity to learn revealed by the Ethiopians' performance has become renowned in Israel; it is described by all persons who have worked with them. Educators claim they have seldom seen a group that has acquired literacy so rapidly despite its previous little, if any, exposure to symbols and signs. Despite the fact that the Ethiopian Jews immigrated after decades of oppression, and underwent harrowing trials and unbelievable suffering on their way to Israel – which some have equated with the experience of the Holocaust – they have shown considerable resilience and readiness in order to adapt to the requirements of the open Israeli society with its constantly changing technology. Their adaptation has not been a matter of merely narrowing a gap, but of making a major, difficult transition from a rural, traditional, closed society whose theme was survival, preservation of the status quo, and transmission of culture intact from one generation to the next.

The Ethiopians' social mobility, based mainly upon the acquisition of the repertoire of basic school skills, of information necessary for solving their problems, of modalities of functioning that respond to the requirements of the society in which they live, has made

many of these extremely different children accede to levels of functioning that would have been totally inaccessible to them without the deep changes they underwent. However, the modifiability they displayed in learning to read and write, in acquiring the basic school skills and the operations of mathematics became a source of disappointment once difficulties were revealed in their adapting to higher mental processes, such as abstract thinking. What went wrong in the Ethiopian children's development?

Teachers, educators, and caregivers had wrongly assumed that the same rapidity and efficiency the Ethiopians had shown in the acquisition of basic school skills would continue with the same rhythm and ease in areas of conceptualized abstract thinking without requiring further intervention. This erroneous assumption did not consider the need of the culturally different to receive mediation in areas that are not constructed by the process of unfolding or maturation, but rather are the product of specific mediation without which they could not be acquired. The genetic view of development and the idea that formal operations develop as a natural result of the combined effects of maturation and active interaction with stimuli and experience have adversely affected educators. It was considered totally unnecessary and superfluous to mediate to individuals the need for logical thinking, the need for comparative behavior, the use of multiple sources of information, representation, and the need for inferential thinking.

In the case of the Ethiopians, it was falsely expected that once they mastered basic school skills, they would be able to accede (without any additional intervention in hierarchically higher cognitive functions and operations) to the types of thinking necessary for higher academic studies. To the great distress of all involved, however, from a group of twenty Ethiopians who had been given a year's preparatory studies for university entrance, only one student was able to pass the entrance examination. The preparatory studies consisted of content knowledge. The failure of the university candidates made some of the policymakers involved in the education planning question their previous assumptions about the group members' intelligence and their potential for higher education.

The University Student Counseling Services, alerted to the problem, took upon itself a project of promoting cognitive abilities and facilitating the absorption processes of the Ethiopian students. Each student received the IE program twice a week, with additional enrichment specific to the demands of the university. As a result, of the fifteen students who finished the new preparatory program, nine were accepted to regular university studies. It was necessary for the others to receive additional intervention before they could be accepted. As the director of the Student Counseling Services stated, "We believe that one of the major factors in the matrix of their studies which resulted in the increase in the students' level of achievement was Instrumental Enrichment" (Kron 1986).

The culturally different, even though modifiable, need to become equipped with conceptual, relational, operational, and linguistic tools that are not currently in their repertoire in order to succeed in their adaptation to the dominant culture. Once such a systematic investment is made, however, structured cognitive modifiability, which is the result of early MLE, permits the individual to benefit rapidly.