Structural Cognitive Modifiability: Unlocking Human Potential

Authored by

mohammad looti

June 16, 2026

Structural Cognitive Modifiability (SCM) as a theory grew out of Feuerstein's interest to see people whose functioning was low and in certain cases extremely low, in turn became able to modify themselves through cognitive processes, so that they could adapt themselves to the requirements of society. Working with these people has made him aware that modifiability is indeed possible; it was then that he tried to look for the theoretical basis for strong empirical data. The theory of SCM has developed over the years, and has permitted him to create a large variety of cognitive programs which serve as the pillars of the theory

The theory of Structural Cognitive Modifiability is described as "the unique propensity of human beings to change or modify the structure of their cognitive functioning to adapt to the changing demands of a life situation.". This capacity for change is related to two types of human-environment interactions that are responsible for the development of differential cognitive functioning and higher mental processes: direct exposure to learning and mediated learning experience.

Over the years Feuerstein found that human development is not just biological, but from his stand point, also socio-cultural. The theory of SCM originated on two concepts - structure and modifiability. Feuerstein considers these two concepts to be the primary reason for behavioral manifestations of the mental and cognitive structures. The basis for the theory of SCM is derived from three different subparts.

The Human being is the outcome of a triple ontogeny - biological, social- cultural and the interactions of the mediated learning experience (MLE)
Model behavior represents states rather than traits of the organism, and leads to a new and more adaptive definition of intelligence
Brain plasticity results in the generation of new structures, created through internal and external behaviors

The theory SCM is based on a concept of human growth, which is characteristic of its evolutionary nature and of the transformation of its cognitive potentialities into the reasoning abilities and continuous search for solutions to the problems of diverse order raised by its surroundings

At the heart of SCM lies the theory of Mediated Learning Experience (MLE), to which Feuerstein attributes human modifiability. It is MLE which is a typical human modality of interaction that is responsible to the unique character of the human being which is structurally modifiable. Feuerstein offers a variety of conceptual tools including the cognitive map, the deficient cognitive functions and the process orientation which marks and shapes the applied aspects of the SCM theory

In the MLE modality, there are two formal models. One is the Behavioral Model of Stimulus-Response (S-R). The other is from the Cognitive Model (Piaget) Stimulus-Organism-Response (S-

O-R). "MLE has a universal meaning irrespective of language or content in which the mediation interaction takes place."

Feuerstein defines Mediated Learning Experience as a quality of human-environment interactions. "It is much more than a simple pedagogical model and entails the shaping of cognitive process as a by product of cultural transmissions" As such it represents to stimuli, is considered as the "most pervasive" way in which the organism-environment interaction affects the organism. MLE, through which the interaction, human-environment, is mediated by a human being, whose intentionality "transforms the three components of S-O-R of what Piaget formed, into a meaningful way into a compatible combination. Feuerstein places great emphases on the H is the human, O is Organism, R is Response and S represents the Stimuli. Where H interposes himself between the S and the O as well as between the O and the R, there is mediation." This is what is known as S-H-O-H-R theory

Feuerstein notes that MLE represents the unique feature of human interaction and as such it is conceived of as the determinant of the auto plasticity of the human. MLE plays a major role in determining the evolutionary trends and the considerable changes that take place in a humans' mental (cognitive) functioning.A lack of MLE deprives the organism of its auto plasticity which may result in a lack of or reduced modifiability "(example: in individuals for whom the direct exposure is of an active operational nature)."

The theory of Mediated Learning Experience addresses the question, What are the origins of differential cognitive development? This question involves examining the organism (the learner) and the environment(the context in which the learning experience occurs) and the two factors involved are either organic or environmental. Organic factors consist of heredity, maturation level, and others. Environmental factors are sensory stimulation, socio-economic status, and educational opportunities. This theory suggests that these two types of factors constitute only "distal" determinants of cognitive development (factors which cause the differential responses to the environment), while the Mediated Learning Experience (or lack of) constitutes "proximal" determinants.

For MLE to occur, another human being (caregiver, parent, teacher, peer, etc.) interposes him or herself between the stimuli (or the learner's response) and the learner with the intention of mediating the stimuli or response to the learner. This intervention is termed mediation. The mediator (for a child, initially the mother or another nurturing parent figure) modifies a set of stimuli by effecting qualities of intensity, context, frequency, and order, and at the same time arouses the child's vigilance, awareness, and sensitivity. Inadequate MLE leads to cognitive functions that are undeveloped, poorly developed, arrested, impaired, or seldom and inefficiently used.

Clinical experience with the LPAD and FIE has enabled the development of an inventory of deficient cognitive functions, which are categorized across the Input, Elaboration, and Output

Phases of the mental act. Deficiencies of the mental act can impair one phase or all phases, but not all of the time.

The Cognitive Map

Another important conceptual tool of the dynamic assessment process is the need to understand the relationship between the characteristics of the task and the performance of the subject. The "cognitive map" describes the mental act in terms of several parameters that permit an analysis and interpretation of a subject's performance by locating specific problem areas and producing changes in corresponding dimensions. The manipulation of these parameters becomes highly important in the subject-examiner interaction, by helping the examiner to form and validate hypotheses regarding the subject's performance difficulties. There are seven parameters to the cognitive map:

Content of the mental act
Modality or language in which the mental act is expressed
Cognitive operations required for the mental act
Level of complexity
Level of abstraction
Level of efficiency with which the mental act is performed

The cognitive map is an important element in the process of dynamic assessment and the use of the LPAD. It is reflected in the construction of the LPAD instruments and in the examiner's choice regarding the order of the instruments to use with the subject, the amount of time and the extent of focus within the instrument, and the nature and type of mediation to offer within the functioning of the instrument.