

# Refining pedagogy with a humanistic psychology of cognitive mediation

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## Abstract

This paper examines the intellectual legacy of Reuven Feuerstein (1921-2014) through an analysis of how his implied theories and practices serve to align pedagogy with mediational teaching. It offers a closer examination of ten psychological and pedagogical aspects of mediation for the practice of education in the classroom, after outlining twelve characteristics of a mediating pedagogy. The principles of the cognitive map are explained to increase a teacher's understanding of how to transmit content more effectively and more adaptively. This mediating style gives teachers a sense of professional authenticity. The simple role of transmitter of material is changed into that of the expert, guide, director, neighbourly educator, etc. As a consequence of this transformation, many teachers have begun to feel more enthusiastic for their job. It concludes with a summary of Feuerstein's influence derived from these formulations.

## Keywords

cognitive structure, modifiability, mediated learning experience, Learning Potential Assessment Device, cognitive map, instrumental enrichment, learning potential, motivation, affect, transfer

## Introduction

The passing of Professor Reuven Feuerstein in April 2014 occasions a retrospection on the influence of his theoretical formulations and educational applications. As a mentor to many, the implications of his work for psychopedagogy causes us to examine our practices as educationalists. The centre point of influence derives from his theory of structural cognitive modifiability (SCM) and its derived operational concepts of the Cognitive Map and mediated learning experience (MLE).

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The impact and relevance of Reuven Feuerstein's theories and derived practices had great impact on psychology and education, and influenced several generations of educators and scholars. It would not be an exaggeration to affirm that his theories are a kind of compass pointing in the right direction for our role as educationalists. He helped us to see the daily mission of education through a "redefined" "prism of anthropological and pedagogical systems. The impetus was the theory of structural cognitive modifiability (SCM) that provided the potential for a new methodological synthesis through such operational concepts as the Cognitive Map and the description of deficient cognitive functions. Through the application of another of his core concepts, the delineation of parameters of mediated learning experience (MLE), a new paradigm of educational practice became possible. In this, he joined and stimulate a new generation of cognitive psychologists making similar contributions: Vygotsky, Luria, Piaget, Bruner, Cattell, Ausubel, and Sternberg, Gardener, Machado, and others. It also widened the scope of application, connecting with humanistic education and broadening psycho-educational assessment from the psychometric into the dynamic. The hallmark perspective was, and continues to be, *human potential* and *human modifiability*.

This paper looks at the implications of this contribution more deeply, and identifies the relevant elements and characteristic of Feuerstein's contributions. The motivation for doing so is to crystallize the influence leading to operational principles, and move the paradigm further ahead into practices and institutionalized structures. Those of us who have studied with Feuerstein and his disciples see the potential, but also understand the work that must be done to facilitate its implementation. The delineation that follows in this paper will contribute to these goals.

### ***General Perspective on Core Concepts***

Before focusing on specific elements, it will be useful to describe several of the core concepts or implications from Feuerstein's theoretical formulations. They provide a context for what will follow.

Primary among them was his optimistic view of human development and the ability/capacity to change. His observations of the survivors of the Holocaust, filtered through his understanding of cognitive development derived

from his study with Piaget, gave him an understanding of how the mind works in emotional, intellectual, and differential circumstances. Long before we knew much about neural plasticity, he was quoted as saying: “Genetics do not have the last word.”

Feuerstein almost instantly translated his theory into practice, thus creating a “pedagogy” based on his conceptual formulation of modifiability. He offered training and support to increasingly large and diverse professional and lay communities. This approach was based on the belief in human modifiability, in the ability to create systematic programs to promote cognitive change, in considering the aspects of interaction that were needed to facilitate the change—that was labelled “mediation.” Further, in order to focus on what should be the object of mediation for modifiability, the tasks of learning had to be analysed, leading to the development of what was termed the Cognitive Map. However, the foundation of this approach was the delineation of the factors that influence the process of learning, serving as the target of mediation, the cognitive functions that might be deficient or impaired.

These perspectives could be identified, through assessment that needed to be oriented toward the potentials implied, and then interventions could be developed to promote the potential for modifiability. Thus, he developed the Learning Potential Assessment Device (LPAD), and the Instrumental Enrichment (FIE) programs. Finally, the implementation and sustainability of these interventions required attention paid to the conditions and circumstances of their application, leading to a focus on the Shaping of Modifying Environments (SME).

### ***Training to Become Mediational Teachers***

The question now turns to how to bring together the conceptual and implicational elements of the Feuerstein approach. Teacher training was a *sine quo non* of application. Using the LPAD or FIE required systematic and focused training that influenced not only pedagogical practices but also basic knowledge and philosophy. Embedded in the training, that encompassed both theory and technique, were 12 aspects defining the characteristics of a “mediating pedagogy,” and differentiated mediated intervention from other methods:

- **Humanizing:** accepting, knowing the student, welcoming, supporting, accompanying, engendering positive affect
- **Adaptive:** making changes, seeking alternatives, shared teacher/student input for change, meaningful
- **Motivational:** successful, building self-esteem, promotes positive feelings, practical
- **Mindful:** questioning, encouraging critical self-judgment and dialogue, reflecting, using Socratic methods
- **Socializing:** egalitarian, inclusive, cooperative, collaborative
- **Inter-disciplinary:** seeks relationships in all areas, cultures, surroundings
- **Stimulating:** creative, moving, searching, open to diverse stimuli and methods, questioning
- **Effective:** it works, teaches strategies, shows applications of life, successful outcomes
- **Reflective:** teaches cognitive abilities, shows and values how to think, analyse, criticize
- **Methodological:** practices inductive and deductive processes, planned, systematic strategies
- **Transferable:** makes changes, can be applied elsewhere, creates rules and formulae for analysis, generalizable
- **Transcendent:** looks to the future, teaches how to learn throughout life.

### *Translating into Practice*

This section of this paper discusses the implications of the above discourse on translating the Feuerstein contribution into practice, particularly for classroom applications. In doing so, it clearly points to the necessary changes and new focus that is provided for pedagogical practice.

1. **Providing a psycho-pedagogical and scientific foundation for the mediation of instructional content:** the theory of structural cognitive modifiability (SCM) explains many of questions for educators concerning the psychology of learning. They recognize a coherent inclusion of the principles of anthropology, sociology, psychology and pedagogy in the theory that can and should be infused into their

teaching practices, as educators who mediate their students. References to other theorists such as Piaget and Vygotsky and others (see above) are similar to and relevant, fitting well with Feuerstein's educational theory and vision.

The system of constructive, powerful and optimistic thought processes generated by considering SCM theory helps in the difficult task confronting mediators of students who are uneducated, lacking maturity and whose schooling has failed them. In many countries, teacher education programs do not give prospective teachers much, if any, background on learning theory and its relations to child development. Belief and confidence in the students' ability to overcome their defects is one of the most emphasised points in the educational mediation (guidance) proposed or implied in SCM theory and practice. Gradually mediators begin understanding and using the meaning of SCM. In the absence of a "Feuerstein" conceptualization of the process of change, teachers have a relatively undefined or amorphous scientific platform, upon which the planning of objectives and following upon student progress is difficult and imprecise. This is often, for the teacher, a cause of discouragement, fatigue, and frustration.

For such students, again in the absence of a coherent and positive theory such as SCM and MLE, the results of mediation may be satisfying but are slow in achieving their goals, because work with under-developed students leads to constant tiring work and does not always receive recognition or reward for the efforts made in following the programme.

The method of mediated interaction explained in Feuerstein's "*Criteria for mediation*" is a source for understanding the role of the mediator. The process of learning is not only enlightened but establishes empathy between learner and teacher. This situation helps in finding ways to motivate students to accept genuine change and growth.

The mediator employing the theoretical aspects of SCM and MLE finds new aspects in education: art, science, life fulfilment available for the student. Education demands faith and soul, patience, and vocation—on both parties, teacher and student. The application MLE is first benefitted by the student (mediatee), but also transforms the mediator (the teacher). One begins to realise that every theory depends on its objectives and certain coher-

ent methodologies, if it is to succeed. This conviction causes the forging in each mediator a more scientific and demanding background from the students themselves through the mediation of the qualities of intentionality, transcendence, and the mediation of meaning—the first three, universal parameters of MLE

2. ***Establishing a program based on how knowledge is acquired—through the analysis of tasks based on application of the Cognitive Map:*** The lack of knowledge by teachers regarding the analysis of the content of the curriculum is not uncommon. Without understanding, the nature of the tasks and activities required of student, teachers convey the content of the curriculum in the absence of *what* is learned and *how* it is acquired.

In this context, finding new techniques of methodology from using the Cognitive Map, (Feuerstein, et al, 2006) has been an eye-opener for many teachers. In fact, this description of mental processes usually learned as they are trained in the use of the Feuerstein Instrumental Enrichment (FIE) Program and/or the Learning Propensity Assessment Device (LPAD) has affected their improvement as teachers in the various content domains of their classroom instruction. The change for many mediators is evident: They now work with the intention of making their efforts effective. The teacher/mediator employs a different process: as the teacher modified instructional processes, results are observed on how students learn, how to assess the processes, which affect them and make them ready to learn. Analysis of the Cognitive Map helps to clarify the didactic principles of the most complicated kind, which results in a chain of consequences and in energizing *mental operations and functions*.

The method has a series of components which benefit it especially when the mediator sets them in motion with complete freedom, and when they are adapted to the cognitive styles of each student. Using the *Socratic method* by asking questions, the teaching of strategies, the model, personal work, cooperation with a group, inductive and deductive usage, personal mediation, etc. are a store of wealth, which engenders dynamism in classrooms. The overall goal that guides these newly employed strategies is the objective of *learning how to learn!*

One of the first principles of the mediator comes from the teachers' own need to set up their own programme, to foresee and search for resources that

help to set in motion all the proper didactic elements. Seeing the students so motivated encourages the mediator to adopt new means with greater optimism.

3. *Making relevant (transforming) the teacher into a “teacher/mediator,” both with regard to didactic style and student-teacher interaction:* This mediating style gives many teachers a sense of professional authenticity. The simple role of transmitter of material is changed into that of the expert, guide, director, neighbourly educator, etc. Although all this does not exclude certain necessary and serious work—there is information to be conveyed, tasks that must be mastered—as in every worthwhile process of changing people and things. Note as well the need for the teacher to keep up to date with professional competence.

As a consequence of this transformation, many teachers have begun to feel enthusiastic for their job. The teacher’s role now begins to be necessary to awaken the dormant gifts of the student, and the teacher is aware and gratified by his/her role in this process.

The transcendence and size of education opens up new horizons, in recognising the completeness of MLE within the full meaning in its theory of SCM. The new roles, which are analysed, emphasise its identity and make sense of the processes of communication by the teacher, who sets no limits on the dedication to giving integral educational opportunity and experience to students.

4. *Drawing attention to processes that are cognitive, affective and social—encased in teaching how to think:* The mediator sees how all aspects of humans are complementary. There are no separate areas. Being human is indivisible and demands respect within its complexity. This all-inclusive perspective demands a significant re-definition. It requires serious reconsideration from the perspective of the philosophy of education. Changes and results aimed at are seen from a different point of view. Even when dealing with micro-changes we realise the demands required from the observation of every characteristic of the person. Kant’s “sapere aude” (dare to think), calls for professionalism in the mediator in order to teach others how to think. Understanding, early rising and application of knowledge are the consequences of daily drama. Mental structures that get con-

fused become steady again and assimilation is a phenomenon to which the mediator must pay constant attention. The construction of the mind moving from the concrete to the most interior, to symbolic language, to that of codification, of fluid intelligence, which solidifies structures with any kind of concept. The formation of the reasoning power, of critical consciousness, of logical thinking, require of the mediator a responsible move to formation in mental categories, in order to help others to reach the best ways of thinking.

5. ***Requiring in the learner the development (and use) of empathy, motivation, and implication:*** for many mediators a tremendous change occurs when they make the student the centre of their work. They think of their students' needs, motivation, abilities, as well as their skills and social relationships. It is not the text which counts but the result. The mediator feels a need to be motivated him or herself in the first place, so that the student can imitate him (the mediation of meaning). Adaptation to the student's needs is the first necessity. Creating goals, awareness of the hidden strengths, which seemed non-existent, helping to advance, to be personalised without excluding others means rejection of all determinism.

Motivation with experience leads to success with the return of self-esteem, recognising oneself as capable of doing things by oneself, able to learn. Night becomes day. This miracle depends on the mediator.

Being open and available, the mediator can be remarkable. However, one must not remain in an easily controllable region: one must encourage growth in one's colleagues. Initially, and ultimately, the mediator finds it necessary to think of a foreseeing pedagogy—not abandoning, but placing it in a secondary position—through the early encouragement to lay foundations which will result in maturity without its accompanying problems, by bringing out basic abilities which will ensure later progress.

6. ***Employing systematic programs to address deficient functions and enhance learning potential:*** within the Feuerstein methodology, a program for addressing deficient cognitive functions and mediating the enhancement of well-established functions to promote high level thinking has been developed and has been used for more than 5 decades—the Feuerstein Instrumental Enrichment (FIE) programs. Using FIE system the mediator is able to correct cognitive functions,



which are weak or deficient and thus strengthen the development of learning abilities. Using such a program, identifying deficient or fragile cognitive functions, the teacher/mediator is to some degree acting clinically and therapeutically—being able to point out student's failings in learning, needs for intervention, methods to bring changes about. Cognitive deficiencies can be a big obstacle. The exposure to systematically designed programs such as FIE facilitate changes in students in a remarkable way of learning and gives security by indicating the processes needed in learning anything. The problems and mistakes of the students turn out to be beneficial—cueing focus on needs and effective strategies of change. Learning turns out to be transformational in an unforeseen manner. The mediation embedded in the didactics of FIE does not condition the learner; rather it promotes autonomy so that the mediation gradually is taken on by the student him or herself. The mediator hopes that the autonomy will be total, sustained, and transpositional.

7. ***Integrating insight and self-determination into strategic learning:*** mediation results in *the realisation of how one learns*. This is all embracing. It points out the path to the meaning and transcendence of what the student learns. It is genuine learning. Asking one's own questions and searching for reasons for one's mistakes and one's successes leads to insight. The learner acquires a fuller, deeper, and wider understanding of what is learned, that is more complete, constructive and re-reconstructive, and gives meaning to the surroundings and relationships of everything we learn. In this regard the mediator should address the potential state of *cognitive negativity*. By employing various methods and questions, including divergent and hypothetical thinking and the requirements of logic, MLE should bring about solutions for two of the biggest problems in learning: abstraction and transfer. Classroom tasks benefit from the kind of thinking mediated in FIE. The process needs time, repetition, and practice, and should be seen *in the crystallisation of all manners of learning and how they are applied* in the different contexts used in the classroom. This is—for both mediators (teachers) and mediatees (students) one of the most satisfying pedagogical experiences....and a constant challenge to sustain and facilitate.

8. *Enhancing and extending the professional persona of the teacher—as guide, director, organizer of the learning process, tutor, and therapist:* The professionalism of the teacher moves through a process of training and practice. If successful, self-esteem, mastery, and enthusiasm is realized. The understanding and implementation of SCM and MLE enhances these outcomes—one’s eyes are opened to positive potentiality in learning. New areas of transcendence in the student are identified, and this has social impact. Through this wider vision of the potential in teaching and learning, the role of the teacher in the educational establishment and therefore in society is widened. The teacher’s role and influence cannot be reduced simply to teaching, but via tutoring, directing the processes of learning, the goals expand to encouraging the maturation of the student—creating the conditions that teach the student to acquire a process, which really leads to change. This infuses a renovating element in teaching and learning. Results do not depend solely on the teacher or the student, but on other elements, which envelop the process. They need to be seen in a climate of relationships, the persistent increase in motivation in the student, methodological renewal of methodology, different levels of needs, further contact with the family, etc. These requirements oblige teachers to undertake permanent and on-going training as a necessity to make teaching worthwhile and effective.
9. *Transforming assessment of functioning into a dynamic model of learning:* The Feuerstein formulation focuses on a psychodiagnostic dynamism. It confronts other methodologies of assessment by evaluating causes, solutions, and expectations more in accord with other characteristics of the student—comparing the student to his or her own potential for modifiability rather than looking for normative comparisons. The mediator becomes an expert explorer of the *causes of problems of students, and assesses the potential (and processes) to bring changes about*, in the defective areas of students. Instead of underestimating, the information acquired through mediation, one feels nearer and more bound to this new kind of access to the knowledge of the person being educated. The mediator learns to accept and take on the evaluation in all its elements and all that it implies. Mediated evaluation is included in the process. The

good mediator is persuaded by the detailed and specifically focused functional knowledge of the student's various individualities. Moreover, he maintains auto-evaluation as an indispensable praxis in every aspect of learning.

- 10. *Creating a modifying environment, linking with parents and teachers to achieve their objectives:*** many programmes fail to solidify their results because they are formed in suffocating surroundings that can be hostile. A plant in order to grow needs its own microclimate at first, but then acclimatization follows up around it. Thus, Feuerstein formulated the need to *shape mediating environments* (SME) that became one of the three domains of application, along with assessment (LPAD) and intervention (FIE). Mediators realise that many of the causes, which impede their hoped-for results, are maintained or at least exacerbated by the unwillingness to make the changes in the surrounding environments that cause or contribute to the failings of the students. It is hard to change structures. Schools are conservative, traditional and stable. Changing education is difficult. Adequate steps are either not taken to change or are inadequate; the first being the business of formation or training and putting new ideas into practice. Bringing change down into the "trenches" of action is difficult—affecting head teachers, the parent community, and the like. Thus creating a mediating and modifying environment must actively involve mediators who work in therapy and education to take up and meld into the *directive programme* of the establishment necessary and required changes—in structure and practice as well as opinion. Work should not only accept these ideas in theory but should use them in teaching and as a means of reaching one's objectives.

Coherent and convinced teams must be set up which advance on proven principles towards a better quality of education. Endless lists of corollaries can be identified: the role of the educational establishment should be in its surroundings, linked with families and the surrounded and involved community. Schools educate for life. Concrete objectives in time and place always contain influence from and for the life of persons and societies close by.

## In Conclusion

The implications of this new paradigm are vast and demanding. However, they can be accomplished, as has happened in many places in the world, albeit usually on small scales, although there have been some larger applications, such as in the State of Bahia in Brazil. Both by systematic development, but also through changes that are not imposed but caught incidentally. Beginning with a small group, the ideas and life style gradually takes hold, as the effects of the changes are perceived and observed.

The style of mediation should contain attention to how it works the central place of the student in every endeavour, new strategies and methods of learning, educational orientations for teaching to think and learning how to learn, etc. All these should go ahead gently via the mediator and in an educational atmosphere.

The new roles of the teacher/mediator brought about by technological and social changes, reach out in unsuspected ways. If until now the teacher has chosen the textbooks, in the future he/she will have to be an expert in choosing website programmes and know how to utilize such resources.

To end we must add something new about the functions of the mediator, among them are:

- Control of technological advances in view of ecology;
- accepting the role of women in the work place;
- universality of communication websites;
- new educational areas and informal education;
- different languages in information and communication technology ;
- impact of post-modernism in values and life-styles;
- new competences in society concerning knowledge;
- Flexibility for people to adapt to new jobs in future society.

Perhaps some of those matters are transferable to the educational centres established to help especially those students with difficulties in learning, who are backward and risk being dismissed from school, but who need a change of structures, if we genuinely want an educational system, which is successful, inclusive and universal. Professor Feuerstein, through his theories, the development of programs, and his professional and spiritual guidance showed us that it was possible and that we can and must achieve it.

## **Acknowledgments**

The author wishes to thank for translating the English version of the text, originally written in French, as well as Lou Falik (University of San Francisco State) and Jo Lebeer (University of Antwerp, Belgium).

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