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Abstract

Title: Mediated Learning Experience for the Intellectually Disabled Children

A common concern raised by teachers of the intellectually disabled child is his/her apparent inability or reluctance to think critically and creatively. Recent intervention studies suggest the importance of a dynamic teaching method to modify and improve such cognitive functioning based on the theory of mediated learning experience. This methodology was developed by an Israeli psychologist Professor Reuven Feuerstein who had succeeded in using it to correct deficient cognitive functioning and to enhance the learning capacity of the intellectually disabled to the extent of being able to train them to serve in the army. The underlying philosophy of mediated learning experience is that the intellectually disabled child's intelligence does not remain fixed throughout life. Feuerstein's innovative methods of testing and teaching show how the intellectually disabled can change and be modified if provided with the right kind of intervention. The strategy is to make them how to think, something which few thought possible. This paper provides an understanding of Feuerstein's cognitive intervention programs and mediated learning strategies which focus on the process of learning itself. The main goal is not the learner's acquisition of information but the development, refinement and crystallization of those cognitive functions that are prerequisites to effective thinking. Case studies of how the lives of intellectually disabled children have been enhanced by mediated learning experience will be discussed.

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## **Mediated Learning Experience for Intellectually Disabled Children**

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Special education dealing with intellectually disabled (ID) children in the school system is usually characterised by the teacher-centered approach which assumes that these children with various learning difficulties should be accepted as they are, since they are incapable of being what they were supposed to be. The teaching-learning relationship is quite passive-acceptant and some form of hidden compassion is combined with the need to protect such children from daily tasks beyond their conceptual, physical and emotional reach.

This passive-acceptant approach is reflected in various ways in the schools as for instance, psychometric assessment is aimed at locating the stable, unchanging characteristics in the ID child and learning difficulties of all types are labelled to classify ID children into their appropriate groups with the desirable type of treatment. Curricular programmes and materials are planned and developed in such a manner that key subject areas are spelt out in a simplified, slowed down version. Perhaps a great emphasis is placed on reproductive and manipulative materials. There is a marked absence of creative activity work calling for a higher level of thinking or independent performance .

The ID child is usually put in a non-challenging environment and in this 'protective' educational framework there is no systematic attempt to modify his behaviour. He is restricted to specific tasks requiring a much lower cognitive demand and often resigned to his disability, he experiences difficulties which lower his level of motivation and aspiration.

In order to raise the ID child to higher levels of development the passive-acceptant approach must be replaced by an active modification approach. (Feuerstein et.al.,1980). This approach is based on the idea of the Modifying Environment (Beker & Feuerstein, 1990) which is rooted in the assumption that fundamental change can be stimulated by planned, active intervention that

... systematically makes demands on those within it for cognitive, emotional, and social modification in the context of their existing levels of development, skill, etc. It does not 'accept the student where he (or she) is,' but it does 'start where the student is,' building on existing competencies while providing for needed feelings of security. As competency and performance improve, demands rise accordingly, thus establishing ever higher levels of functioning. Whatever the specific setting, the task is to establish and maintain a modifying environment appropriate to the needs of the particular clientele being served. (Beker & Feuerstein, 1989).

The objective, it should be emphasized, is not simply that students should be able to do specific tasks better, but that they should do them differently in ways that will better enable them to approach and master other tasks of the same kind in the future. (Baker & Feuerstein, 1990). This cognitive demand is highly necessary in our knowledge-based economy where so many individual intellectual, social as well as emotional choices have to be made. The ID child too, has to learn to adapt and Baker (1989) emphasises a need for him to establish cognitive and emotional flexibility and the capacity to modify his own thinking, feelings and behaviour in response to internal and external conditions.

In order to make such modes of learning and thinking available to the ID child, much more is required than offering some specific skills or lessons. Ideally the whole school is systematically involved in a sort of three pronged approach to:

1. assess the child's characteristics and his/her level of modifiability more dynamically.
2. offer this information obtained through this assessment to policy makers, teachers, parents and to the children themselves.
3. establish guidelines for intervention based on the preferred modes for increasing modifiability, as derived from the results of a dynamic assessment.

The environment is shaped so that it becomes a modifying environment and with the shaping of the environment, the modifiability of the individuals is increased. (Feuerstein & Rand, 1991).

### Mediated Learning Experience

One key component in the Modifying Environment is what Feuerstein define as Mediated Learning Experience (MLE), 'an interaction in which another human, usually the adult caregiver, interprets the world to the child.' (Feuerstein et.al., 1980). In a mediated learning experience, the teacher or mediator interposes himself or herself between the ID child and the environment. According to Feuerstein the ID child learns by means of two major systems : direct exposure and mediated learning.

Learning through direct exposure is based on Piaget's formula of S-O-R which translated means that the organism (O) or the individual ID child interacts directly with the stimuli (S) of the surrounding world and responds (R). In this kind of interaction with the environment learning is incidental. Mediated learning on the other hand is the more vital approach that ensures effective learning. Feuerstein develops Piaget's formula of S-O-R further to include a human mediator between the world of stimuli, the organism and the response. His new formula for mediated learning is then S-H-O-H-R where H is the human mediator. The human mediator interposes himself between the learning organism and the world of stimuli to interpret, guide and give meaning to the stimuli.

Central to the MLE process is the theory of structural modifiability which represents a comprehensive (holistic) approach to problems of low levels of cognitive performance. According to Kaniel and Feuerstein (1989) structural modifiability relates to the manner and method by which the individual changes. This refers to a

mental structure which, despite its possessing fixed characteristics, is also constantly developing and being modified. The basic premise of this theory is that the individual's cognitive system is constantly undergoing change since it is open and flexible...

...In the course of every individual's development, changes take place such as walking, speaking, reading, etc. These changes are connected to specific types of behaviour. There is no central connection between them, but rather each change (unit of learning) stands independently. In structural modifiability, however, there is a central connection between all units of change, and change in part affects the whole. The connection relates to the manner and method by which the individual changes and to the fact of his being a system that is constantly changing and teaching itself (self-perpetuating)....

... The individual with cognitive modifiability methodically accumulates information, classifies and organises it, seeks laws in what surrounds him, raises hypotheses and examines them. Structural modifiability is an active process in the individual who encompasses the entire range of functions (personality, thinking, etc.) and brings about change which is unexpected on the basis of regular development. (P 167).

The quality of the structural changes can be described by the following dimensions .

1. retention or permanence
2. resistance
3. flexibility or adaptability
4. generalisability or transformability.

MLE is a dynamic process by which structural cognitive modifiability occurs with the help of the mediator (teacher) who organises and interprets the world to the child. When an individual gives meaning to events, helps children select relevant from irrelevant variables, assists in abstracting rules for regularly occurring phenomena, and generally attempts to develop children's ability to think, that individual is engaged in mediated learning.

The MLE approach creates an interactive process which allows the teacher to derive a great amount of information concerning the nature of the difficulties the ID child is confronted with in the cognitive tasks given to him. The dynamic assessment session is marked by a constant feedback process involving both the mediator and the mediatee, with the mediator constantly intervening.

According to Feuerstein and Krasilowsky (1970), many severely deprived adolescents in Israel had benefited from cognitive intervention programs based on MLE. Almost two decades of clinical experience with cognitive modifiability approaches applied to hundreds of socially deprived adolescents as well as experimental work done on groups of retarded individuals, have demonstrated the effectiveness of these methods to evaluate modifiability in youngsters above and beyond their low manifested level of cognitive functioning.

MLE basically has been used by mothers and fathers with their children all the time, usually without their thinking about it. However, many children have not

experienced adequate MLE probably due to parents being very poor transmitters or receivers and as a result these children have not developed the adaptational skills on which further developmental learning depends. Sometimes the cognitive deficits in the child can be organic in nature or indirectly related to parental malfunctioning due to economic or marital stress and mental or emotional difficulties. In any event, when the needed MLE is provided through parents or any adult when that is possible, the cognitive deficits can be successfully resolved.

According to Feuerstein, many ID children who manifest low mental functioning do so not necessarily because of particular 'etiological' factors like heredity and/or organicity, but because of the lack of MLE. The deficiency produced by lack of MLE is mainly in the areas of attitude, orientation, habits and cognitive strategies of the child toward the world and toward himself. Such deficiency may not necessarily occur if MLE is made accessible. It is important to emphasise that MLE represents the quality of the interaction and is no way connected with any school subject matter. Feuerstein had developed ten criteria that described mediated learning which may be seen in various types of situations, different environments and cultures.

- 1 intentionality and reciprocity
- 2 meaning
- 3 transcendence
- 4 competence
- 5 self-regulation and control of behaviour
- 6 sharing
- 7 individuation
- 8 goal planning
- 9 challenge
- 10 self-change.

All the criteria of MLE are interlinked and it is up to the creativity, flexibility and insightfulness of the teacher to respond to the ID child in ways which exploit the mediational potential of the dynamic relationship.

ID children need to enhance their 'propensity' to use their experiences with stimuli in order to become modified and more experienced by this exposure. According to Feuerstein and Rand (1991), they must be rendered more 'flexible' so that their previous ways of thinking can interact with the new data by new ways of perceiving them, new modes of 'elaborating' them, and new and more adequate ways of responding to them. Through this process, they will become better able to benefit from experience.

The first goal of any intervention programme that aims at enriching the ID children will be to have them 'permeable' to the program, by creating in them the prerequisites for learning and that is done through increasing their modifiability. A number of subgoals are necessary and Feuerstein insisted that these must guide the construction of the programme and the selection of its materials and content. These are listed as follows:

- 1 correction of deficient cognitive functions
- 2 acquisition of prerequisite information

- 3 production of generalization and transfer
- 4 development of intrinsic motivation
- 5 creation of task-intrinsic motivation
- 6 changing the role of the ID child.

Case Studies from ICELP. ( The International Center for Enhancement of Learning Potential. Israel. 1990.)

The following cases provide evidence of cognitive modifiability and the successful intervention of MLE. These studies indicate how certain kinds of adverse early experience can be eradicated by the systematic removal of certain depriving conditions and by the intervention of appropriate MLE strategies for the redevelopmental and adaptive processes to continue.

#### MARTIN

Martin was referred by his parents at the age of 18 after many psychiatrists, psychologists, and educators had given up any hope of changing his autistic behaviour and rendering him socially and emotionally functional. His parents, who were growing older, were deeply concerned with their child's future and considered placement in custodial care in Israel as his only possible environment.

During assessment, Martin was resistant and totally inaccessible to questions and completing instructions. When questioned he would exhibit deep anxiety and be unable to answer. In order to bypass his verbal barrier, we started to make him perform tasks, partly by guiding his hands in drawing, placing objects, and touching the keys of a computer. 'Instrumental Enrichment' was introduced even during assessment. Only after 3 or 4 weeks of manipulative observations did we have evidence that he would benefit from our programme.

His parents proved to be highly cooperative, learning how to handle him during vacations by incorporating MLE. He achieved basic academic and language skills very rapidly, but social skills and emotional experience took considerably longer to develop. With the help of the parents, participation in a peer group, and a devoted therapist, he showed good progress.

At present, Martin functions at a relatively high level, continuing to study and work. His artistic development shows great promise. He is no longer autistic, and more and more normal processes have surfaced and crystallized. We anticipate his becoming independent enough to marry and have a family.

#### RALPH

Ralph was referred by his parents from a Latin American country for custodial care in Israel with a supposedly very low level of intelligence (IQ=50), aggravated by behavioural disorders and a very severe deficit in ability to pay attention. His parents could not cope with his uncontrolled, often aggressive, behaviour. When examined with our LPAD (Learning Propensity Assessment Device), results pointed to a much higher potential than that requiring custodial care.

After talking to his parents, we embarked on a programme to prepare Ralph for an independent, higher quality of life in academic, social and occupational areas. However, we never dreamed of the outcome which we witness today. After very intensive remedial activity aimed at his extreme instability, inattention, hyperkynesis and hypomaniac behaviour, we started to develop his thinking functions.

Following a year of intervention, Ralph was placed in residential care among normal culturally different Ethiopians and socially deprived children. He finished the 13th school year at the age of 21 and remained for two more years of vocational training. He was then drafted into the Israeli army, a bench mark for our graduates since adolescents with problems are usually rejected from service. As we write this, he was just promoted to the rank of a noncommissioned officer.

Ralph's parents were not only grateful, but did everything in order to integrate him once again into family life. They also anticipated his joining his father's factory. The LPAD enabled us to capitalize on Ralph's hidden capacities despite his organically determined dysfunctioning and his attention deficiency.

#### Conclusion

The term 'Intellectually Disabled' does not provide us with any tools for assessment and treatment of children who are classified as ID. What is proposed in this short paper is to use the Mediated Learning Experience and structural cognitive modifiability concepts to enable us to locate specific cognitive functions in the child and to assist us to plan appropriate intervention programmes. We have to bear in mind that the location of the ID child's specific learning difficulties is carried out by dynamic assessment.

The MLE approach has faith in the ID child's ability to change and therefore great efforts must be made to offer him many choices. It seeks out the ID child's latent talents beyond his overt behaviour and he should be encouraged to be actively involved and integrated into our society.

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