

Changing minds and brains for cognitive development: preliminary results

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Introduction: Mental models may be understood as the usual way of neurocognitive functioning of a person. There are two mental models – operational (OMM) & strategic (SMM). SMM is required for strategic thinking, but OMM is the most frequent mental model. For succeeding in Executive positions, one needs the competence for the strategic thinking. In this way, operationally minded people must face the challenge of crossing over from operational to strategic thinking. Human beings are modifiable. Modifiability is different from development. Development proceeds according to natural and biologically programmed sequences; it is linear from one point to another. By another side, modifiability may be understood as a departure from a given pattern of grows and change the course of development. Neuroscientists and Psychologists are increasingly showing that there's actually a lot that can be done for brain and cognition modification. Brain exercises like the right mental workouts can significantly improve our basic cognitive functions. Cognition may be thought essentially as a process of making neural connections in the brain. To a certain extent, our ability to excel in making the neural connections that enhance cognition may be inherited. However, because these connections are made through effort and practice, it may be said that cognition can expand and fluctuate according to mental effort. In this way, we hypothesize that a person by doing some specific exercises could produce modification in his/her cognitive structure.

Materials and Methods: four OMM persons (Silva, 1992) are involved in this clinical project. The used exercises were selected from exercises proposed by the Art Therapy [1], Drawing with the brain left side [2], Lateral Thinking [3] and Cognitive Modifiability Theory [4] that is a theory that considers brain structures to be modifiable following clinical cognitive intervention and exercises. The project is underway and there were 15 sections with an average duration of 60 minutes.

Results: In the interviews, they reported an increase in global perception mode, a reduction on anxiety, amplification of creativity, more significant application in the learning process, an improvement on the creativity and the individual autonomy. They also reported a marked increase of "significant intuitions", referring to them as "It comes without my thinking" which indicate an increase in the frequency of occurrence of strategic thinking.

Conclusion: The present work indicates that the work on the proposed exercises, in controlled clinical trials, showed significantly improve on essential cognitive functions, as reported by interviewed participants. These preliminary results may be seen as an indication that cognitive functioning could be challenged and changed. These results appoint to a new avenue for research on neuron-cognition, which may have some kind of impact in many areas like executive development, learning process, leadership, mental improvement, and in the dynamic neurocognitive rehabilitation. It also may be a way for crossing over the Operational Mental Model to the Strategic Mental Model, and have implications for the decision-making process, leadership and entrepreneurship development, and for the strategic thinking competency.

References: [1] Gruce, L. Art therapy, 2012; [2] Edwards, B. Drawing with the brain left side - workbook, 2012; [3] De Bono, E. Lateral thinking, 1992; [4] Feuerstein et al. Changing minds and brains, 2015)