

Conductive Education and Structural Cognitive Modifiability*

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ABSTRACT The theory and practice of Structural Cognitive Modifiability developed separately but contact with Conductive Education indicated considerable common ground, particularly the belief in the possibility of change when need is identified. Mediated Learning Experience may serve as an explanatory tool for Conductive Education and supplement its effects with respect to developing cognitive operations. The two approaches depend upon activity and testify to the plasticity of the human brain, and could usefully collaborate in their future development.

Keywords Conductive Education, cognitive modifiability, mediated learning experience, cognitive development

Discovering common ground

In our development of the theory and practices of Structural Cognitive Modifiability, we found ourselves confronted by a mass of professionals, and also parents, who considered certain conditions of human beings as fixed – unchangeable and unmodifiable. Of course, the motor disabilities, the neuromuscular and skeletal-muscular types of disabilities, were especially considered as having very little chance to change, except in certain conditions. The mental conditions of the individual were also considered as irreversible, as unchangeable – human beings born with a given level of functioning will have to finish their lives with the level that they were born with, irrespective of what they may have achieved over the years. The IQ will stay the same. This way of conceiving of the human mental structure still exists and continues its very inappropriate influence on education, and is resistant to any idea that indeed human beings are modifiable.

Going to Budapest, I was given the opportunity to see the conductors work with children who could barely move their limbs, and were placed near a wall, while the conductor was coming by and enticing each child to stretch out the hand and touch the toy that she was presenting. You could see the way by which the Pető approach was able to make the nerves, muscles and skeletons change and move in a very different way than they were able or predicted to. It was for me an incredible revelation, because I try to do this with the mental functioning of the individual. I found myself not only encouraged and supported; I saw that the concept of modifiability is not only relevant to the mental functioning and the thinking

modalities, but even to the muscles, the skeleton and the nerves of the body. I recall being so excited when I saw the way in which the conductors did this work and I had the good fortune to have long discussions with Mária Hári, in which she described to me the processes that I had observed. This made me feel on common ground with a very important movement and its ways of functioning.

By the same token, I conveyed to Mária Hári, and to the conductors who were attending our discussions, something of the theory of Structural Cognitive Modifiability that I had developed over the years, to a large extent through my work with survivors of the Holocaust. Those children, who went through the most terrible traumas that one can imagine, were accepted and educated through Youth Aliyah¹. The behaviour of some of them, immediately after their landing in Israel, presented us with some questions: Can these people be rehabilitated? Can one bring them back the joy of life that they lost during their trauma? Can one make them feel it worthwhile to build a new life within a nation just starting to develop its existence? Can we, as Ezekiel asks, ‘revive these skeletons’ (Ezekiel 37:1–14) after the Holocaust took away everything from them? And the positive answer we gave was not based on experience, it was an answer based on a *need*.

Need to change

Here I want to emphasise the important part played by the need that individuals may have in seeing somebody suffering from such disability, the need to help, to modify and to change the condition to one more viable, more

¹ Jewish organisation which rescued children from the Nazis and arranged for their re-settlement.

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acceptable, making meaningful and possible a more functioning existence. This need that we have as human beings – upon seeing the disabled – is the most important determinant of what we will do to create conditions that will produce the desired change. Need – if I really want my fellow man living in a different level of life – makes me believe that it *will* be possible. Here you may ask ‘What does science have to do with belief?’ I want you to know, with regard to this issue, that belief generated by need is the *sine qua non* – the most important determinant – in reaching out for real achievements in any area of scientific inquiry and action, in particular for reaching out to the disabled to change their lives.

Belief generated by need is a very important element, and I found in the work of Mária Hári and her colleagues, following the work of Dr Pető, and transmitting it to the conductors, a real belief that change is possible because it is experienced so strongly as a need.

Here I come to my major source of admiration. This belief has created a modality of thinking and of creativity in those implementing the approach. I admired the incredible richness of the modalities of functioning, of inventing ways of making children move, how to make the children motivated, how to make them do what seemed to be impossible given the extent and degree of their motor impairment. The enormous diversity of modalities and the amount of learning required to understand what is behind the effectiveness of the modalities continue to be absolutely fascinating.

Parallel – and complementary

Mária Hári, listened to the theory of Mediated Learning Experience that we have developed as a modality to help children better to understand and respond to their world, better to use their experiences and the excitement and meaning of their encounters with given stimuli. At a given point she expressed her understanding of the close convergence with what occurs in the Pető movement. The theory of Mediated Learning Experience seemed to both of us to be the basis for the wonderful work done in the Pető practices. She felt that the theory of Cognitive Modifiability and the theory of Mediated Learning Experience are indeed a ‘winning’ combination. They enable the individual in need to benefit from interactions such as lie within both the Pető methodology and our own approaches to the mental and behavioural functioning of the individual (Lebeer, 1995).

For many years I have been discussing this issue, and I was fortunate to attend a number of workshops in

Budapest and in other places. There was one element in my point of view that I presented, and I am pleased to present it here. Making a child who is motorically disabled modify his level functioning is a great event, a great ‘miracle’. I consider, however, the need to offer increase in these children’s level of modifiability of their *cognitive* processes in a very systematic way, to play a very important compensatory role for the limitations that their physical condition imposes on them. Wherever such limitations exist, even if partly or to a large extent overcome, the mental element – the cognitive processes, the capacity to become modified by learning experiences, the need to be able to use mental processes wherever, and beyond whatever limitations are imposed by the physical condition – are a necessity. In my discussions with Mária Hári and other members of the group creating the wonderful school of conductors, I emphasised the need to introduce methods that will permit the development of cognitive and mental operations, and strategies that will go beyond the physical limitations and compensate for them.

The ‘hardware’

We discussed the possibility of producing structural cognitive modifiability. This means to create modalities of mental and cognitive functions not previously present in the individual’s repertoire. At that time, and until relatively recently, we were referring primarily to the modifiability of the behavioural dimensions of the mental processes. It was not appropriate to consider the possibility of a direct effect on the ‘hardware’ of the brain itself (the structure of the neural network), the network of neurons that were damaged in one or more ways, or undeveloped by genetics or heredity or other conditions. One could not hypothesise directly that the brain itself was being changed! Here, it was clear that the Pető approach was introducing behaviours not previously in the motor/behavioural repertoire. One could certainly speculate, and we did quietly, that there might/must be some neurophysiological changes as well. For many years, I asked myself, as a human being, who is very concrete and very limited in thinking and in communication, how is it possible to create meaningful structural changes in the mental behaviour without their being reflected in changes in the neural system itself. In my interactions with a number of prominent neurologists, I hinted that maybe something happens in the brain, and I was cautioned to be careful. It was a time when such hypotheses were considered to be pure heresy but there was silent consensus that the time would come, with the anticipated advances in the neurosciences when such hypotheses might be more acceptable. Now that time is here, and the welcomed advances in non-

invasive methods of imaging used in neurophysiological investigations (fMRI, TMS, etc.) make it clear that cognitive and behavioral modifiability are accompanied by, and in many cases create, structural and functional changes in both neurophysiology and neuroplasticity.

Thus, we are now at a time and place, in neuroscience and in practice, at which the Pető approach and the theory of structural cognitive modifiability receive very significant support from the neurosciences. The plasticity of the brain shows that whatever has been destroyed can be regenerated. The most important determinant of regeneration is activity (Van Praag, *et al*, 2000). It has now been demonstrated that activity imposed on the brain changes it, and brings about regenerations in those parts which have been destroyed or underdeveloped, and with them the functions that are associated with them. The reappearance of cognitive and mental behavioural functions is strongly linked to the regeneration of the ‘hardware’.

Collaborate

From this point of view I consider the two movements, the Pető movement and the theory of Structural Cognitive Modifiability, as having much in common. First of all awareness and acceptance of the need – even those who know and believe that modifiability is possible, but do not have the need to help the individual, will do very little to turn their belief and knowledge into something operational. And despite the evidence of neuroplasticity now brought by the neurosciences, you still see certain groups who continue to advocate the impossibility of modifying human beings. Witness is the popularity of *The Bell Curve* (Herrnstein and Murray, 1994) in the mid-1990s, and the recent comments of James Watson, the discoverer of DNA (reported by Hunt-Grubbe, 2007) regarding genetic inferiority of certain ethnic groups. So there continues to be resistance to the concept that individuals who are low-functioning can go beyond their presently manifest, existent levels of functioning. There remains great resistance to doing what is necessary to help human beings overcome their condition. This is due to the lack of the need to help the other, to help our fellow human beings. This is so strongly contrasted by the Pető movement, by conductors, and to a large extent by our theory of Structural Cognitive Modifiability applied by the International Center for the Enhancement of Learning Potential². I would like to offer an example. We now have a population of people who came to Israel from Ethiopia, who lived in a preliterate culture. They never learned to read or write.

They lived in an extremely culturally different society that did not emphasise the types of activities that we have as a prerequisite to becoming a contributive member of society. Many of them were considered as able to accede to higher levels of functioning, in spite of their deeply ingrained illiteracy, and the strong dependency on oral transmissions of their culture. In recent years we have examined thousands of these children and we have proven that, despite their cultural difference, their difference does not create barriers to their functioning. An appropriate modality of mediating to them the new dimensions of life, has made them function on much higher levels than their initial functions would predict (for example, Feuerstein *et al.*, 1988; Kozulin, 2006). It is the need to help these populations, without renouncing their differences, to become contributive and accepted members of society, that helped us integrate them.

This is but one example of many that demonstrate that individuals who present with limitations and disabilities of diverse kinds can be turned into higher functioning individuals despite the many unfortunately still prevailing. In many cases the changes are made possible by the *need*, and the *commitment* to fulfil this need.

We look for opportunities to co-operate further with Conductive Education, to add to its activities the vital dimensions of cognitive and intellectual excellence, to enable further compensation for disabilities that still represent limitations even though changed. I wish Tsad Kadima not twenty years, but one hundred and twenty years of further activity and success, for as it is written ‘the poor shall never cease out of the land’ (Deuteronomy 15:11). So I wish Tsad Kadima to be there and be of help, and we will be happy to join them in their endeavour.

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² www.icelp.org

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