Introduction

A methodical way of sensory motor training, Education in Balance™, with the special aim of giving the nervous system a second chance to mature, has given empirical results which indicates that overcoming gravity is of importance for reaching higher cognitive levels.

The Reach of Higher Cognitive Levels Seems to Require the Overcoming of Gravity - A Description of a Method for Sensory Motor Training

Method

The Frames

Education in Balance is a method of sensory motor training developed by Mats and Irene Nilsson (Figure 1). The training is divided into five integrated parts and follows the sequence of neural development.

1. Stereotypical fetal and neonatal movements. Devised by Blythe and Goddard Blythe, Nilsson and Nilsson, following the patterns of the "Primitive Reflex" system. "The early movements of the fetus and neonate, which were previously viewed as passive byproducts of rapid neural wiring are now viewed as interactive, that is, having a crucial effect on the underlying structure and function of the central nervous system." "

2. Vestibular stimulation, which we find to be important for the integration of the stereotypical movements into the nervous system. "Stimulation of the vestibular nuclei generates muscle tone and liberates the nervous system from these infantile reflex patterns." 3

3. Games with the special aim of enhancing muscle strength and body awareness.

4. Gross motor milestones. The unfolding of rolling, creeping and crawling mirrors the child's possibility to be disobedient to gravity.

5. Exercises in erect position. At the end of the programme the child is ready to train balance in standing position.

The client is training 15 min/day at home together with a parent and is reassessed and given new exercises every seventh week over a period of two years.

During the first year of life, the "Primitive Reflexes" are supposed to be suppressed to leave room for Postural and Racial actions. As the latter appear, rolling, creeping and crawling are likely to unfold. If one or more of these "Reflexes" remain uninhibited it / they will partly close the nervous system and will most probably become a hindrance for further physical and intellectual development.

The training at Vestibularis™ seems to show that vestibular stimulation is a necessary component when it comes to suppressing the "Reflexes". The result of the training also gives support to McGraw's Neurobehavioral Theory of Development and Consciousness.1

The aim of the training is therefore, as mentioned above, to give the nervous system a second chance to mature by setting back the neurological clock and repeating specific and stereotyped movements in a certain order.

Results

At the end of the training we find it empirically evident that as the "Primitive Reflexes" are suppressed, the Postural and Racial movements unfold. Our preliminary findings in a group of 60 children give measurable support to the hypothesis that it is possible to give the nervous system a second chance to mature, despite the client's age. We have also noticed that our client's ability to handle both unilateral stimulation in general and the time of training. Their behavior also improves as well as the self-esteem and they are generally performing better at school. According to Ornitz, the vestibular system has the greatest responsiveness between six and 12 months with a lev of reactivity between the age of 10 and 14 years.

Discussion

It is my suggestion that the initially partly closed nervous system opens up as a result of the sensory motor training programme described. Another result from the training seems to be increased possibilities to reach higher cognitive levels. Sixty years ago, McGraw had a Neuro Behavioral Theory of Development and Consciousness as described by Dalton.1 (Figure 2). McGraw described the importance of sequential order in motor development. She also suggested that the challenge of overcoming gravity being inherent consciousness. Following our results of the training, I speculate that a driving force for growth and development is man's inborn urge to overcome gravity.

The influence of gravity on developing consciousness seems to be neglected since it has been recognized by parents, schools and the society at large. It is not only a matter of being able to master one's own body, but also a matter of being able to develop a value capacity. This is not to say that the whole brain is involved,11 but rather that the brain and body parts are used in a situation that makes the child struggle against gravity must be taken seriously.

Acknowledgments

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References