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TURNING THE "LEARNING SWITCH" ON [1)]

Children with Developmental Delays: What does the brain need to bring order into the disorder?

*Presentation given by Nancy Aberle at the International Science Congress "**The Cooperative Brain**", Graz (Austria), Nov. 4-5, 2010*
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Ricardo is 3 years old. He is delayed in his development and has no specific diagnosis. He cannot bring himself to sitting, he cannot roll over and he seldom makes eye contact. He can bring his hand to his mouth to eat an apple, but he has never touched his own head with his palm, and he has not moved his hand over the midline of his body to reach for something. If he is put in sitting position, he can stay there. He can easily balance on the edge of a surface with his legs lifted and stretched out in front of him.

Most of the time, he lies on his back with his arms next to his body and his legs extended. Before beginning having sessions with me, he could not change from this position himself. From lying on his back, he would often lift both outstretched legs and arms at the same time. With great effort through his whole body, he would simultaneously lift his shoulders and shoulder blades, bringing his chin away from his chest as if to look over his head. His hands, arms, feet and legs were stiff when he lifted them. Each time, he lifted his limbs approximated 45° away from the floor. This was the only movement he did while on the floor, and he did it often. He could also pull his hand away if someone touched it.

When we began to work together, I asked his parents, What can he do himself? Is there anything that he tries to do and shows that he is frustrated when he cannot do it? They told me that he does not try to do new things and that the above mentioned movement progressions were the only movements that he could do himself.

At the beginning of our first lesson, I tried to touch his hand, and he pulled it quickly away. His mother then told me that sessions with other therapists had not gone well. I had to find movement progressions that he found interesting and did not overwhelm his undifferentiated nervous system. It was important to begin with move-



ment possibilities that he could do and show him ways to coordinate the movement easier. I knew that if he began to form intentions and experiment with how he did things, I could help him to “turn the learning switch on”.

In preparing to teach at the International Science Congress in Graz, I reviewed videos of the early lessons with Ricardo[2)]. I could see that within a few months, he had learned to move one hand independent of the other, he learned to move his hand over the midline, and for the first time in his life, he touched the inside of his hand to his own head.



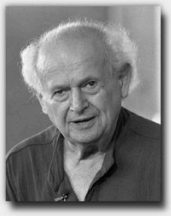
He began to make sounds and varied them in a playful way. He learned to shift his weight, to bend his legs while lying on his back, and to roll to the side or to the belly. By leaning on one elbow, bending his legs and lifting his head, he could come to side-sitting. He also came onto all fours and made his first attempts at crawling. During this time he began to seek and keep eye contact with his parents and others. His mother told me that it was the first time that he looked for her and smiled at her across a room full of family. Most important, he had the experience again and again of having an intention and being able to accomplish it.



When a practitioner gives Feldenkrais or ABM lessons, the quality of the lesson is defined by what the child learns to do. When children learn to feel how they can use the different parts of themselves, they can learn to achieve what they want to do with less effort. If I can help a child to move in a more differentiated way, and they are excited about what they have learned, then they will use this new function spontaneously. They can integrate the usefulness of this learning, and their ability to self-reference improves in their daily lives. In this way, their brains begin to do the job of the brain and they “learn to learn”.


Principles from Feldenkrais and Anat Baniel Methods

The following principles from the Feldenkrais and Anat Baniel methods can be helpful for parents of children with disabilities and professionals working with children:



Dr. Moshé Feldenkrais (1904–1984) was a scientist with an exceptional understanding of human development and learning. More than 70 years ago he began to research how the human brain organizes movement. His work has helped countless people and has changed the understanding of how the brain, self-perception and the body relate to each other.

Anat Baniel (San Rafael, California) worked and travelled with Dr. Feldenkrais for many years. More than 27 years ago, Dr. Feldenkrais brought the first child to her for her to work with under his supervision. Since then she has become known world wide for her successful work with children and their families.
http://www.anatbanielmethod.com

Nancy Aberle comes from the USA and is a certified Feldenkrais and *Anat Baniel Method*[sm] *for Children* practitioner. She has a full-time practice in Zurich and specializes in working with children. In 2006, she founded Feldenkrais Post Grad Studies together with Wolfgang Steinmüller. She gives practice-oriented seminars for Feldenkrais practitioners called "WORKING WITH CHILDREN" in Zurich, Paris, Berlin and Graz.
http://www.feldenkrais-nancy-aberle.ch

♢ Turning the Learning Switch On

Movement is information for the nervous system. The brain organizes movement, and movement can support the brain to organize itself better. We can make contact with a child and do certain movements with the child so that the child can turn their learning switch on. When the brain is turned on in this way, the child can learn to feel themselves better, and they can do new things in a more differentiated way. We can assume that when this kind of learning is happening, the brain is organizing itself in a more differentiated way.

♢ The Principle of Maximum Efficiency with Minimal Effort

When we can reduce unneeded effort to a minimum, we also reduce the associated unnecessary activity in the brain. We can learn to notice the quality of a movement and to perceive differences in that quality. A child can learn to feel the lightness of movement in daily life. For example, a child tries to come to sitting from lying on the back and chooses a movement combination that does not get him or her there. When this child uses unnecessary effort, the ability to feel what is happening in the body is limited. This often leads to the child repeating the unsuccessful movement combination with the same frustrating result. If children cannot feel how to lie on their backs and shift their weight, or how to bend their legs and round the back in order to lift their heads, it is usually possible for them to learn similar movements in another position where they can move with less effort. This new learning can then be transferred to the original position and intention.

♢ Moving Slowly Gets the Brain's Attention

We need time to perceive ourselves and our surrounding, especially if we want to feel, discover, do or learn something new. When suggesting new movement possibilities for children to try out, it is important to give them time to understand the idea of the movement. When the movement is repeated, it is equally important that they have time to assimilate it. This dialogue of self-referencing, feeling a new possibility and self-reorganization takes time.

♢ Distribution of Effort

We can vary how we do a movement, until the effort is distributed evenly and proportionately throughout the body. When the big muscles in the middle of the body are doing their share of the work, it is easier to move. Variations in movement progressions can give our nervous systems important information. We can also learn to imagine how a certain

movement would feel if we could do it with ease. Developing the power of the imagination can be very potent and beneficial.

♢ Learning is the Central Goal of the Feldenkrais Method

The Feldenkrais Method is based on the ability of our nervous systems to find new solutions for movement problems. The main focus of this method is learning. We can learn to tell differences in how we move, we can become more aware, and we can feel and assess what is easy to do and what takes greater effort. This awareness can improve the organization of our nervous systems and our movement.

♢ The Nervous System, the Muscles, and the Bones Have Different Jobs

Simply said,
- the job of the brain is to bring order into the disorder
- the job of the bones is to carry the weight
- the job of the muscles is to move us in space.

Dr. Feldenkrais understood that each human brain has its own individual structure, which changes throughout life (neuroplasticity). These changes are dependent on our self-image and our individual experience. The brain changes itself through thought, intention and action. It changes to adjust to a changing environment. It is true that the bones, joints, muscles and tendons have to be more or less in order so that we can move. When we want to move and do a certain function, it is the job of the brain to choose how to move the different parts of our body in relation to each other so that we can move in a way that is efficient and uninterrupted. When the weight is being carried clearly by the bones, when the muscles are free to move us in space, then the brain is doing its job well. When practitioners give Feldenkrais or ABM lessons, we use movement variations to help the brain to do its job better and to improve the coordination between the nervous system, the bones and the muscles.

When a child is doing well, the brain organizes movement, and we can assume that the experimentation with movement organizes and improves the structure of the brain. Dr. Feldenkrais called this process *organic learning*. The way that the brain is used in this process influences its development. Most children enter this learning process automatically and continue in it spontaneously.

♢ Awareness and the Ability to Self-Reference Are of Central Importance

If we want to change the way we move and learn something new, the ability to self-reference plays a central role. We have to be able to feel ourselves, to feel changes in what we do and the outcome of those actions, in order to function in a more differentiated way. The ability to make neutral self-observations (without judging what we do as false or correct) can help us develop an inner feeling for what makes it easier to do what we want to do. When we learn something new or can choose more freely how we move, we always learn in relation to our experience of what we already know and can do.

♢ Through Differentiation, We Can Learn to Move Ourselves in an Optimal Way

In this method we pay attention to what the different parts of the body can do while we are doing a certain movement. The process of trying out new possibilities is called differentiation. Through differentiation we learn to move the different parts of the body more easily and lightly in relation to one another. The lessons often present the nervous system with a puzzle, and in order to find new solutions for these movement problems, we have to be able to move in a more differentiated way.

Dr. Feldenkrais understood that the less effort we use, the higher our sensitivity is. He applied the Weber–Fechner law to learning and movement coordination, which states that subjective sensation is proportional to the logarithm of the stimulus intensity. The noticeable difference between two stimuli is proportional to the magnitude of the stimuli. This is true for all the senses; the more intense the stimulus, the less we can perceive small differences. We have to be able to feel differences to learn something new. Without the ability to perceive differences, there will be no learning.

♢ A Movement Organized in an Optimal Way Is More Comfortable to Do

The feeling of ease and lightness is the best measure of an optimal movement. Humans are capable of moving in a way so that there is no disruption between intention and action, so there is no disruption in the ease of movement. Children without disabilities and developmental delays move with this quality. Children with disabilities and developmental delays need a learning process to be able to move with this quality. This learning process needs to begin with movement progressions that children can coordinate with ease. Improvement comes through the increase in the complexity of the movement coordination. If they are capable of feeling the differences, there will be an improvement in their ability to form intention, their ability to act, and in the organization of the brain.

[1] Anat Baniel Method[sm] for Children, based on the work of Dr. Feldenkrais. Anat Baniel uses the expression “Turning the Learning Switch On!“ in her book “Move into Life“ (2009).

[2] Nancy Aberle *WORKING WITH CHILDREN,* 2010. Videos and audio lessons under www.feldenkrais-nancy-aberle.ch