Turning Education On Its Head

Summary of Presentation to the Whistler Waldorf School by Douglas Gerwin

Douglas Gerwin spoke in detail about recent developments in brain science and how it applies to Waldorf Education. Most importantly, he discussed how science is showing that the brain is not "hard-wired" as previously thought. Instead, it is malleable and plastic.

He specifically discussed the following points: how does the brain grow; how does the brain function and what is the implication of these in terms of a Waldorf education.

Like any organ in the human body, the brain grows by dividing existing cells, not by adding new cells. The original cells divide and progressively differentiate.

As a child develops, neural pathways are laid down in the brain. Myelin forms around the pathways and helps to preserve them. This process is called "myelinization."

The best way to myelinate the brain during the early years is through **unstructured, self-directed play**. In grades 1,2, and 3, myelinization is further stimulated through the practice of the arts. There is a direct connection, in other words, between this myelinization and the development of cognitive skill in math and language. Myelinization continues into adolescence and early adult life, especially in the lobes connected with higher cognitive functions.

Already quite early in the development of a healthy brain, these neural pathways need to be pruned. If this pruning does not occur, cognitive development can be impeded. When it comes to neural pathways, at a certain stage, "less is more."

The developing picture of the *growth* of the brain is hierarchical, from brain stem to limbic system to cortex (including the neocortex). If any, one developmental stage is inhibited, it will impede the growth of subsequent phases.

The hormone cortisol, caused by stress, attacks the myelin sheathing around the neurons and damages health.

Rather than viewing education as a process of delivery of material retained, brain science requires a different model of education that develops the organs (including the brain) in a way to retain their maximum flexibility because, if these organs retain their flexibility, they will work more successfully.

An education of unstructured play in the early years will maintain this maximum flexibility of the brain. The arts are especially important in the elementary years to develop these requisite flexible organs. During the high school years, it is especially important to develop a curriculum that stimulates the imagination as a faculty of cognition.

The cultivation of this flexibility leads to an ability to think in terms of whole pictures which, in turn, leads to thinking in health. To summarize, the wisdom behind Waldorf education is supported by the latest discoveries in brain science.

About Douglas Gerwin

Douglas Gerwin is the Director of a Waldorf High School Teacher Education Program in New Hampshire. He also serves as Co-Director of the Research Institute for Waldorf Education. He is a Waldorf graduate and has taught for more than 30 years at the university and high school levels. He earned his doctorate in Psychology and Literature at the University of Dallas, has written numerous articles and edited six books related to Waldorf education. He divides his time between adult education and teaching adolescents, as well as mentoring Waldorf schools across North America.

Watch the complete video presentation here: https://youtu.be/1a5JTvv-l7c