

The science behind the programme.

There are four elements involved in the science of the Learning Breakthrough Programme.

The first is the function of the vestibular (balance) system. This is the first sense to be

developed when we are babies in the womb. As NASA said in the 1960's, when researching weightless flight, if the body is not in balance then the mind does not work efficiently. If the vestibular is underdeveloped at this stage then the networks of neural pathways may not integrate correctly. This lack of integration can lead to visual difficulties where words move about on the page or the person can read but can't process what is being read, low concentration, fussy eating, can't get to sleep at night, can't make friends, retain spellings, gets fixated on things etc; It really just depends upon which pathways are effected as to which symptoms a child or adult will display.

The second element is the cerebellum. The cerebellum receives information from other structures, like the inner ear and vestibular system, and fine-tunes incoming sensorimotor information to achieve smooth movements. When the cerebellum is damaged or not fully developed, individuals can show movements that are erratic or slow, demonstrate an inability to judge distance, have difficulty performing rapid movements, and walk with an unnatural gait. Although the cerebellum has many responsibilities, its central function is to coordinate and manage motor activities. Balance, coordination, posture, equilibrium and eye movement are all controlled in part by the cerebellum. It also functions to calibrate motor activities such that our movements have a smooth, flowing nature to them.

The third element is hand-eye coordination and right and left hemisphere integration. If the right hand doesn't know what the left hand is doing then the two sides of the brain are not integrating effectively.

The fourth element is eye tracking and focus. If you feel that you can't focus on a task it means that you can't concentrate on what you're doing. If a child or adult can't focus and track an object in space then the eyes are not processing the world correctly. This can result in not being able to read or process what has been read, it may mean that the brain is constantly in chaos which makes even simple instructions difficult to follow, the world can seem a very scary place when you can't read faces and situations.



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