

# „Bodies in motion“

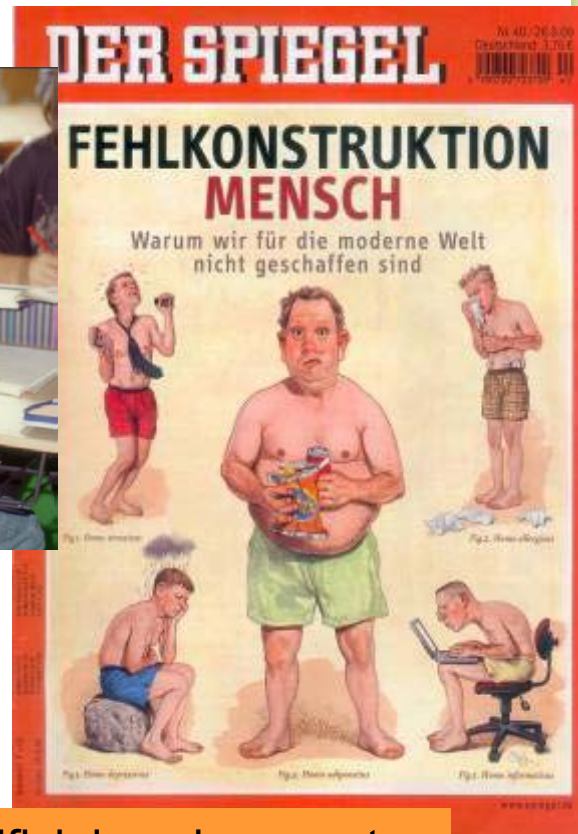
an ergo-dynamic concept for holistic learning and human development



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# The problem at hand



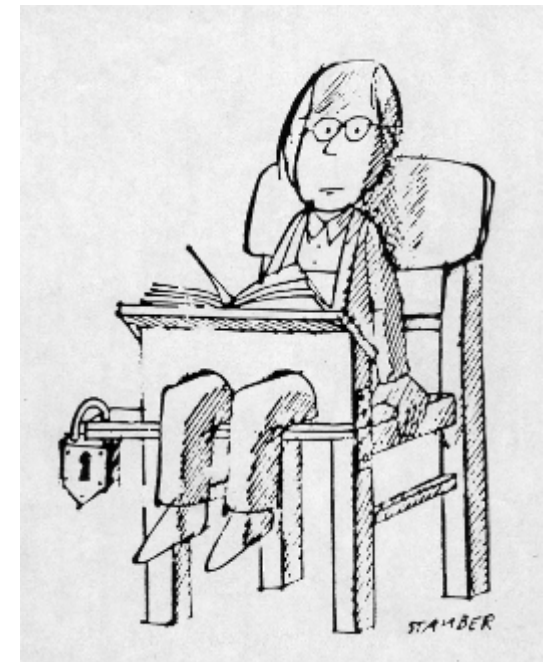
We are exposed to an artificial environment  
we are not prepared for

# The Third Teacher



A child's ability to learn is influenced by the physical elements of the learning environment

Collaborative Project



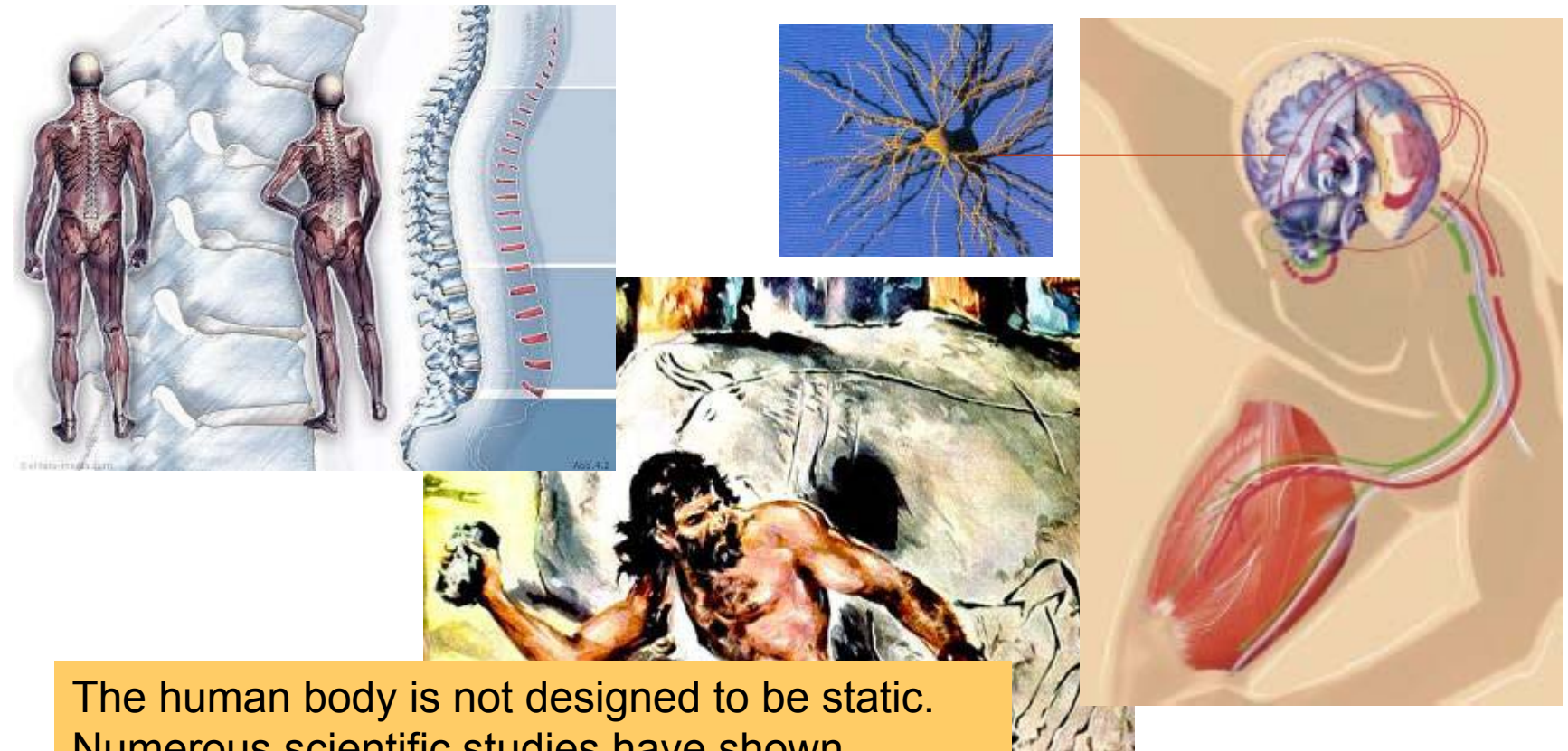
# Well-being – Natural stimulations



Our senses evolved to work together which means that we learn best if we stimulate several senses at once.

We have to satisfy the entire sensory system

# Life is Movement – Movement is Life



The human body is not designed to be static. Numerous scientific studies have shown important connections between body, mind and soul.

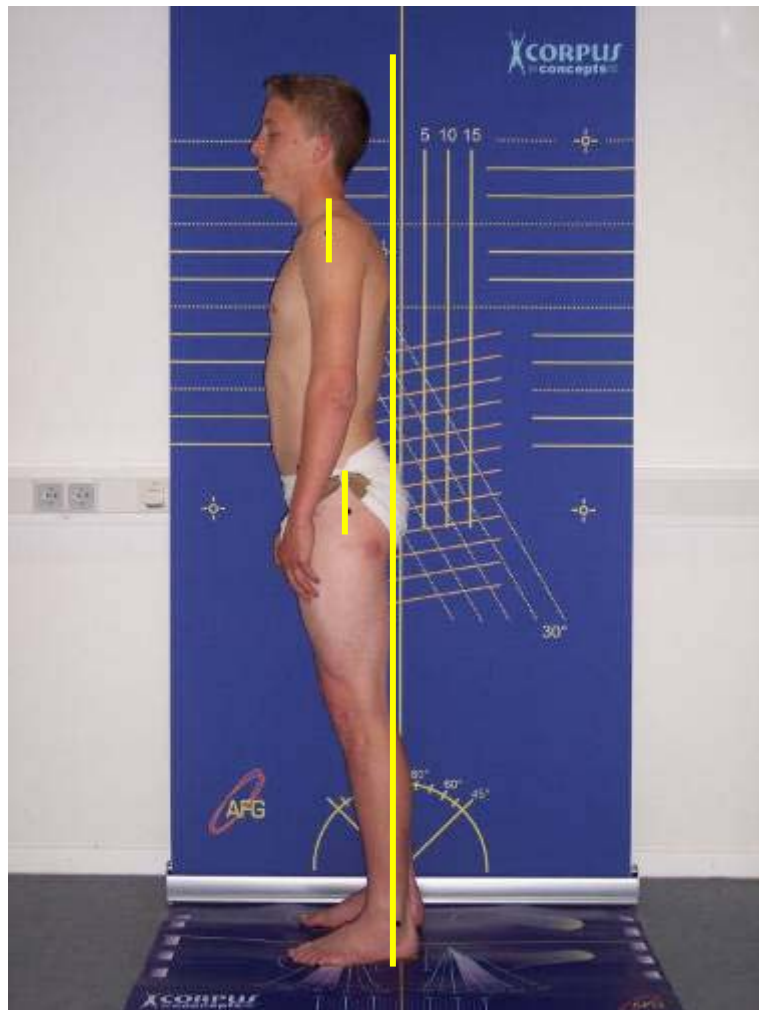
A living organism has to be physically engaged.

# The Importance of Balance

The body must constantly change its center of gravity in order to remain balanced. Greater balance promotes better posture and sharpens your mind.



The sensory system is out of balance, caused by . . .



# The necessity of daily physical activities



Beurteilung der Aktivität (Schritte / Tag) (foot steps a day)	Beurteilung der Aktivität (Schritte / h) (foot steps an hour)
Sitzender Lebensstil (sedentary life style) ( unter 5000)	Sitzender Lebensstil ( 400)
Wenig aktiv (less active) ( 5000 – 7499)	Wenig aktiv ( 400 – 599)
Mäßig aktiv (moderate active) ( 7500 – 9999)	Mäßig aktiv ( 600 – 800)
Aktiv ( active) ( 10000)	Aktiv ( 800)
Sehr aktiv (very active) ( 12500)	Sehr aktiv (1000)



## Get out of the sitting trap !



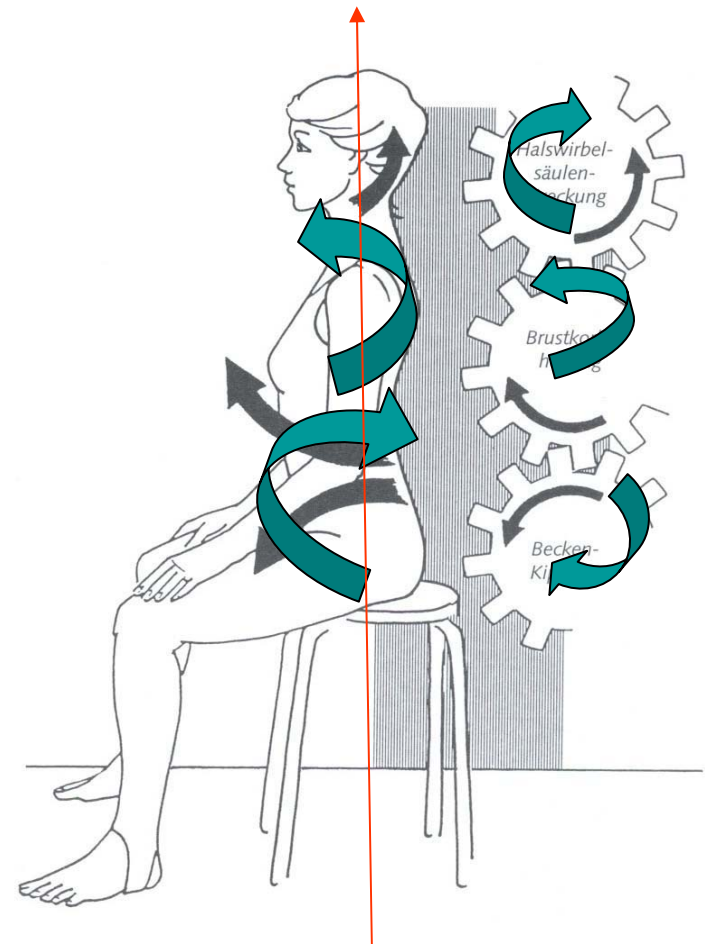
*Health – Relaxation –  
Well-Being – Attention  
and Concentration*

*Ergonomic conditions  
and concepts will  
decide as one important  
**component***

# What our Postural System needs to survive



An open sitting angle and the free flow of your pelvis is important for the natural dynamic functions of your body



All people are alike ...

... only some are a little bigger

correctly-sized school furniture have dramatic health consequences



The adjustment of chairs and desks



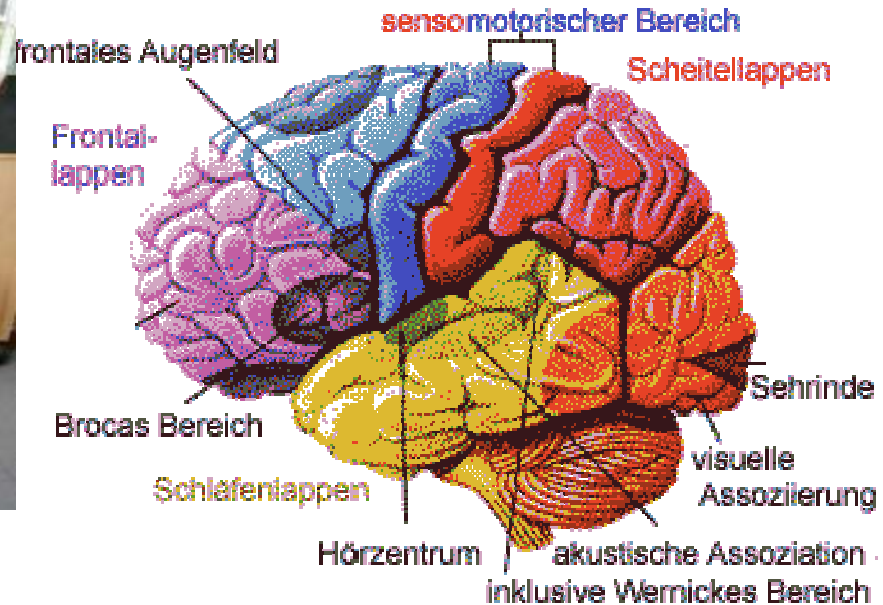


## Move your body and your brain will follow

Because the sitting student is in a constant physical relationship with his chair, school chairs need be able to accommodate a range of natural movements - not hinder them. This need can be met by an ergonomic roll-swivel chair with a seat surface that offers three dimensional movements.

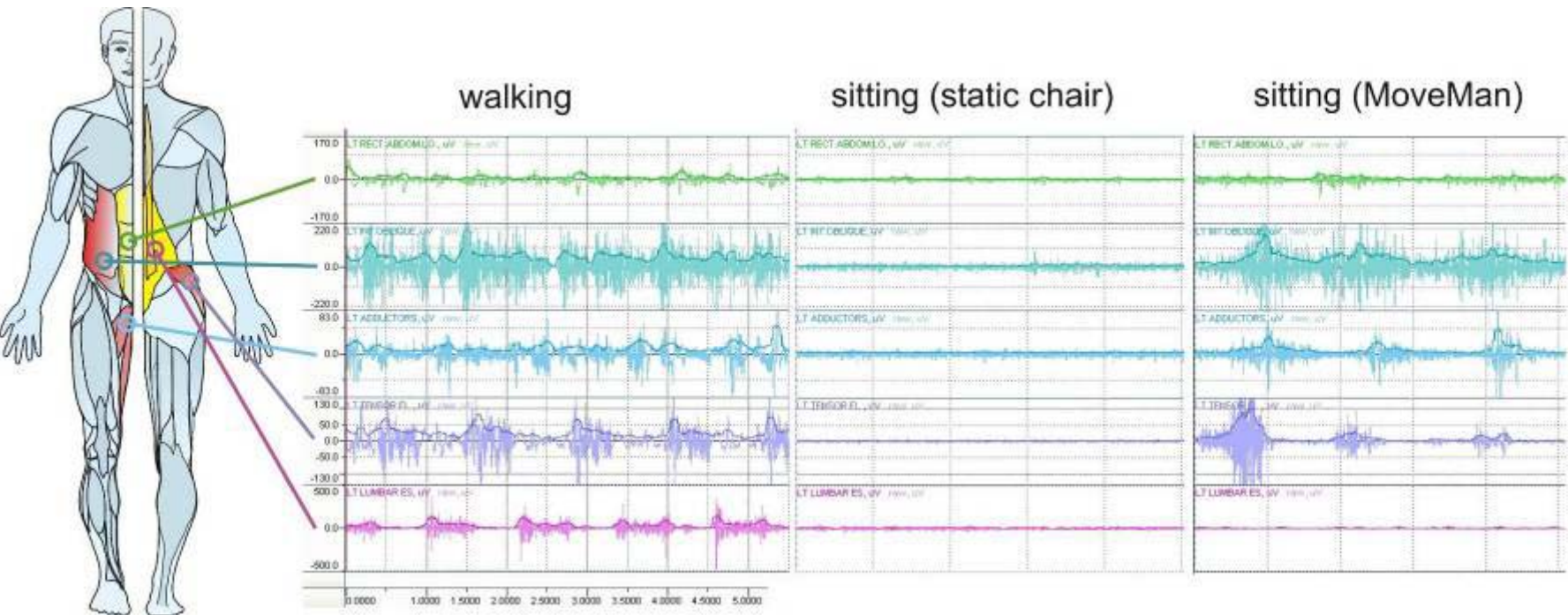
The seat adjusts to all subconscious position changes of the student's body, and simultaneously encourages the body to change itself. Thus active seating has a natural rhythmic effect on the entire postural system.

# Prefrontal Cortex



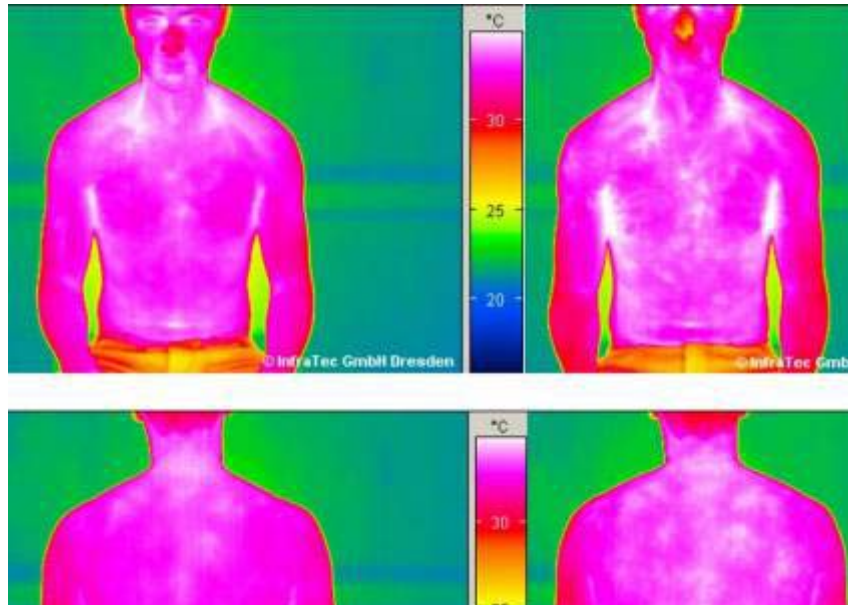
The ability to pay attention increases when given the opportunity to move. These seats give children vestibular-proprioceptive stimulation while they are working on balance, assisting their brains to be ready to learn.

# Muscular Activities while a student is . . .



# Dynamic Sitting: Improving Oxygen Flow While Seated

Breithecker / Ludwig 2008



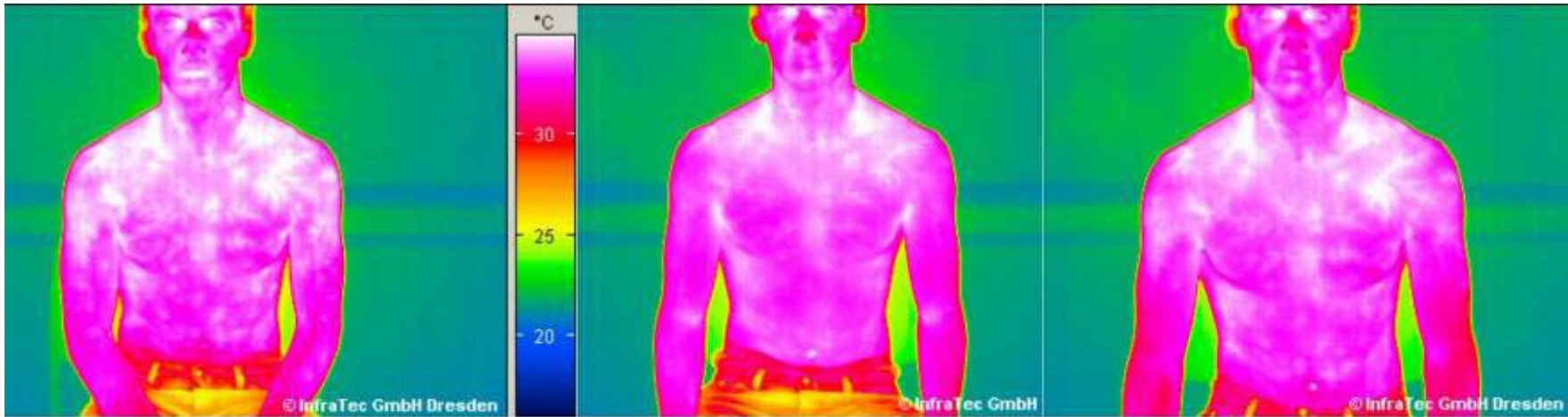
Cells need oxygen, transported by blood, to burn energy. Blood also carries carbon dioxide - waste from the body's burned energy - out of the cells.

The effectiveness of this process is facilitated through **tissue perfusion**, a measure of the exchange of oxygen and carbon dioxide within the body's tissues. It's the basis for keeping individual cells and ultimately human beings alive.

Activities on the school yard)

Sitting on a static chair

Sitting on a flexible chair





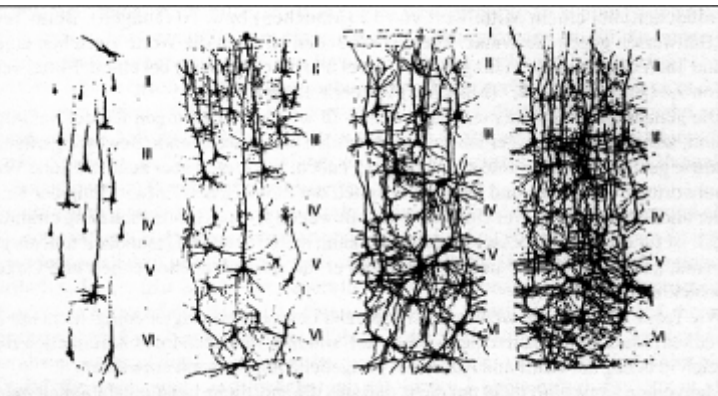
# What your brain needs for surviving



Sensomotoric  
stimulation



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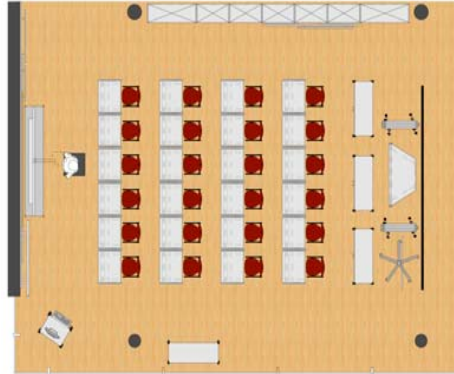


# It is more than sitting . . .



## Engaged Learning

The furnishing must be flexible to support the new kind of teaching . . . engages the physiology

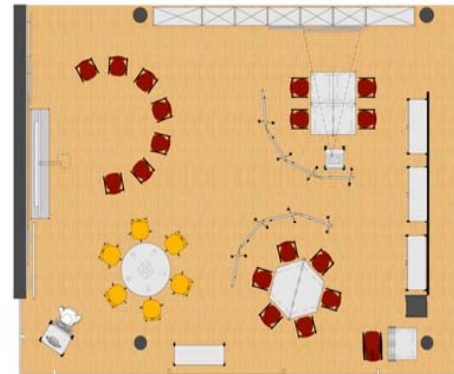


### Frontalunterricht

Flexibles Mobiliar wird im Rückraum geparkt

### frontal education

flexible furniture stored in the back

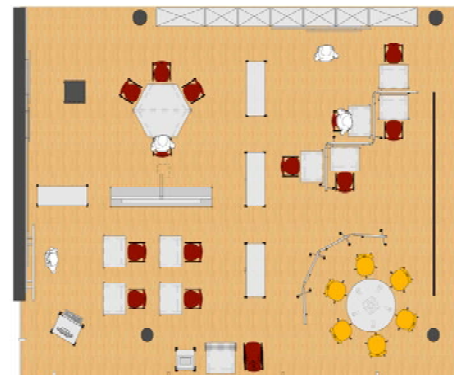


### Gruppenunterricht

Mobile Stellwände zonieren Lernkreise, Gruppentische ermöglichen Gruppenarbeit

### group working

mobile partition walls separate learning circles, group tables enable group working



### Stillarbeit

Hausaufgabenbetreuung, Workshops, individuelle Förderung

### silent working

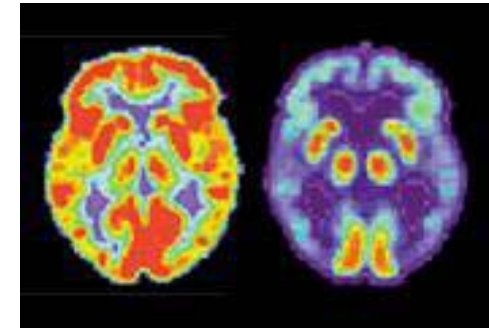
homework assistance, workshops, individual support

# Research: Comparison study of physical activities

ergo-dynamic classroom / 4 years (Breithecker 2005)



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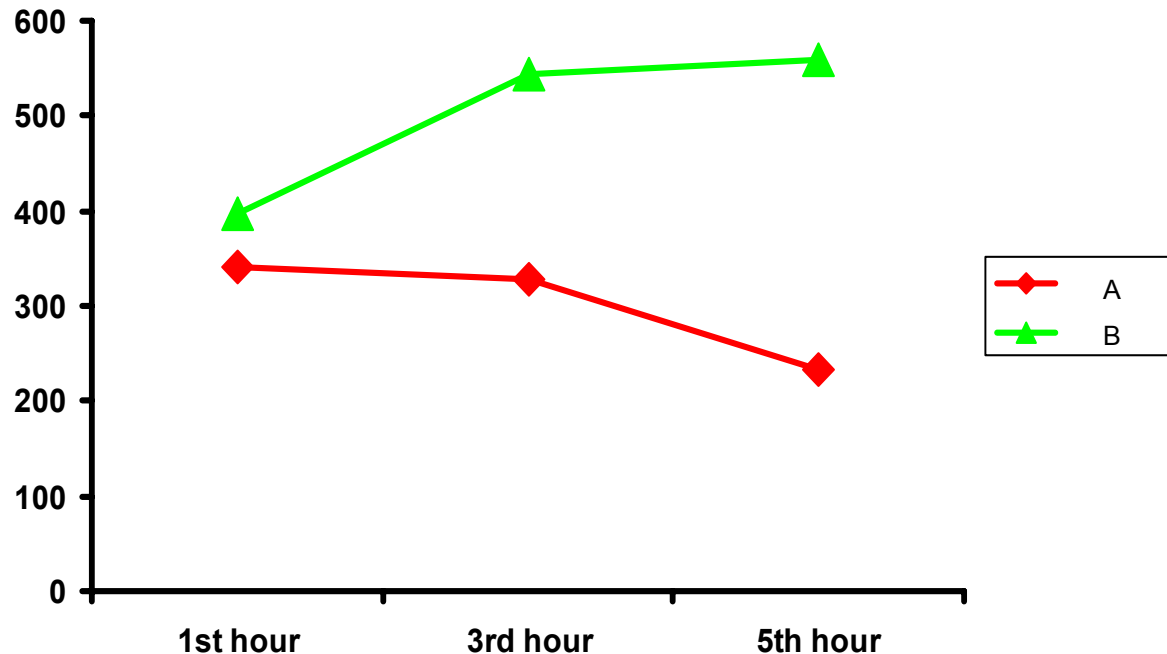


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There is a growing body of scientific knowledge that affirms the positive benefits movement has on learning.

... effects the cellular level, improving the brain's potential to log in and process new informations (Ratey 2008).

## Research: .. movement also benefits the head (Breithecker 2005)



Researches have shown that giving students (Class B) increased opportunities to move while seated – rocking, swiveling – triggered far-above-average levels of attention and concentration during test taking.

*It is easier to get good academic results when you are working in an environment which encourages you to constantly vary your body posture!*



## Physical Movement is based on Mental Movement

Think Outside the Box!

Unfortunately, we are used to the constraints of traditional furniture, so it will take time for people to begin thinking outside the box.

**Decide on dynamic !**

Dynamic sitting provides students flexibility needed to expend energy and, at the same time, to focus on their work - instead of having to focus on how to keep still.

Further informations on the concept  
contact

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