Learning

The brain and how it works in relation to learning a movement.

What do you learn..

How do we learn?

What influences learning?

How are movements stored in the brain?

Why and when is something fun?

What are the consequences for professional teaching?

Communication

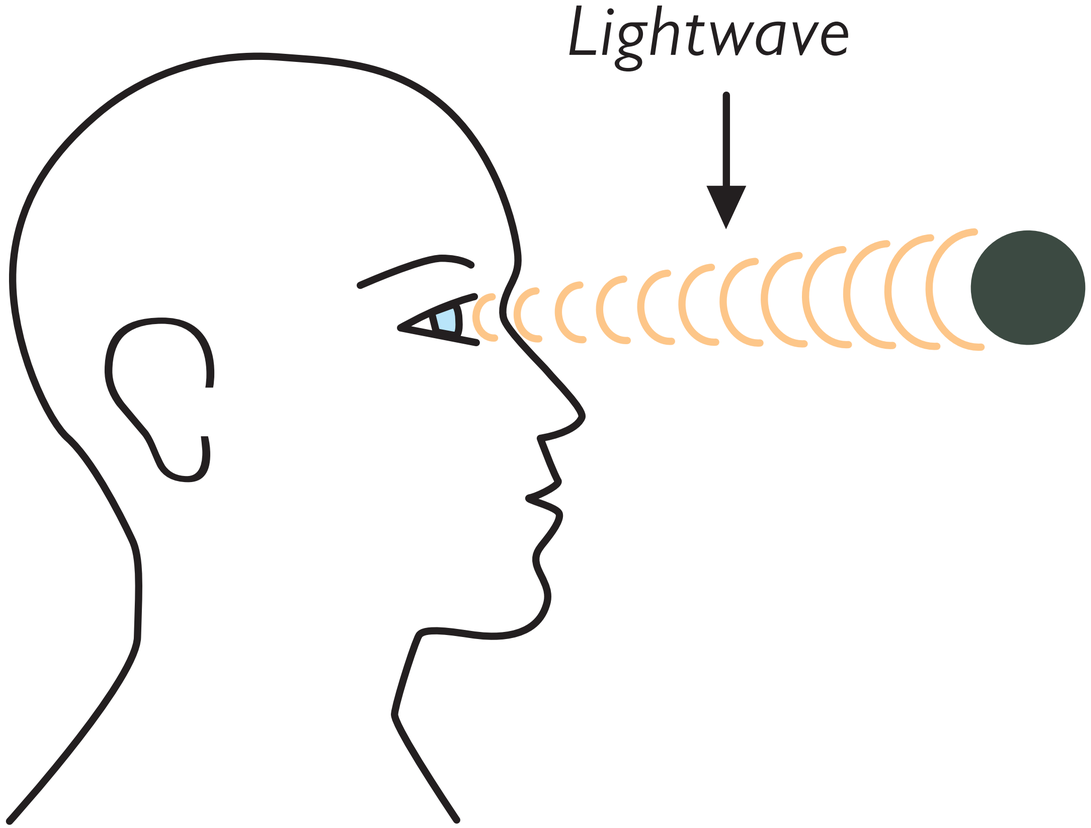
Systematic of Teaching

Teaching means to change through Communication.

Communication

We learn in pictures

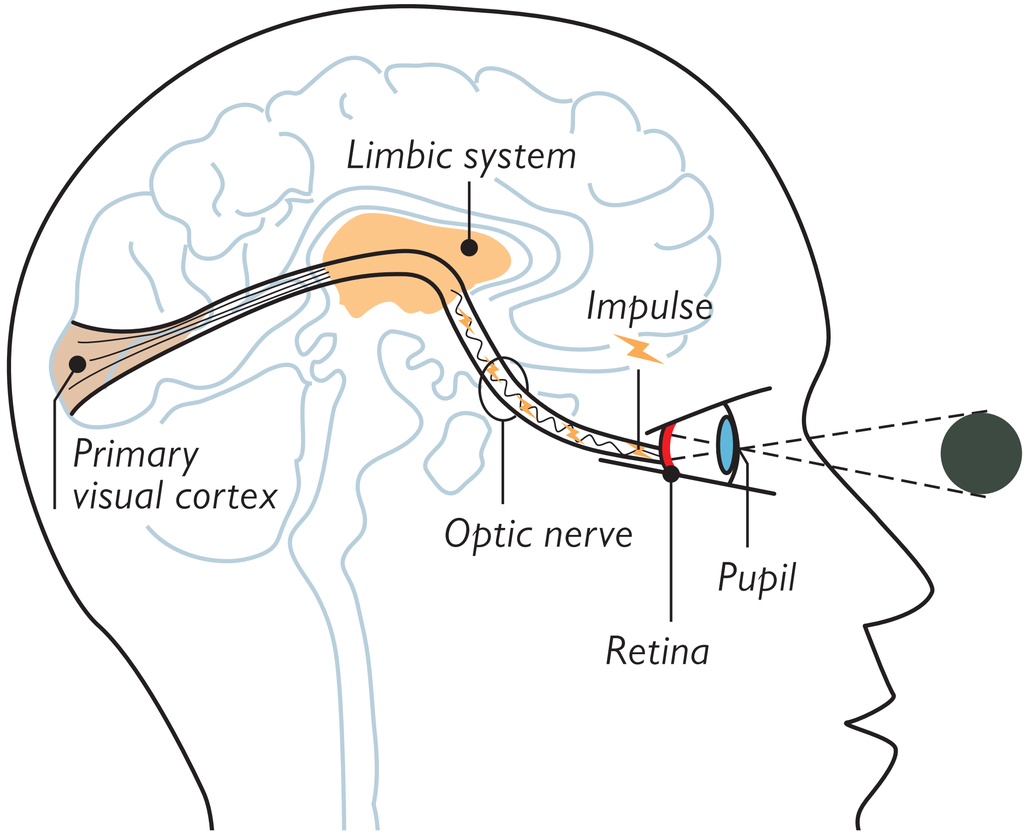
To grasp information, we need a stimulus that is perceived by one of our sensory organs.



Communication

How images are processed

The impulses emitted by the respective sensory organ are now transmitted to the brain via the sensory nervous system.

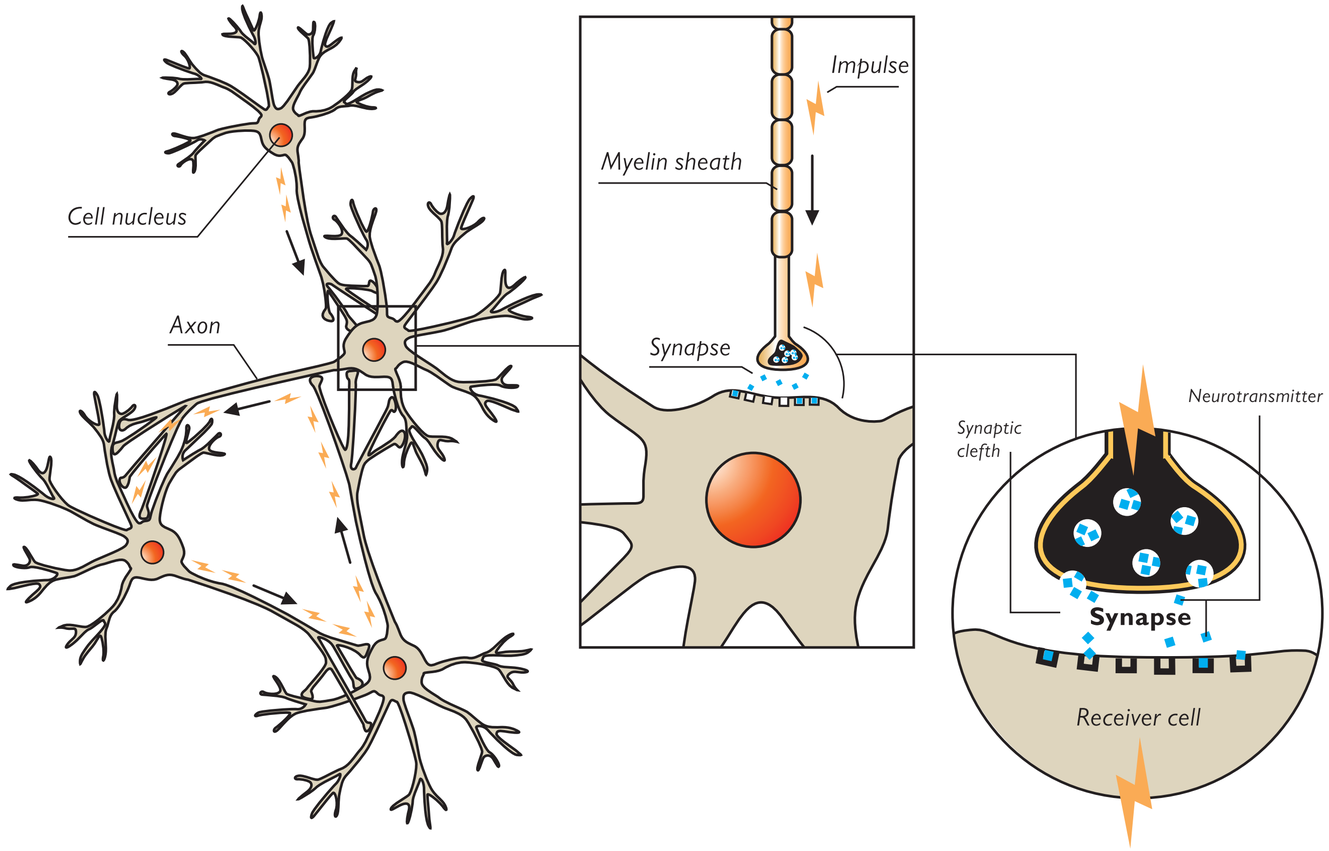


Communication

How images are saved

When an impulse reaches our brain, it is processed in the appropriate area, resulting in connections across synapses.

Structure of a nerve cell (neuron)



Learning process

Systematic of Teaching

Teaching means to change through Communication.

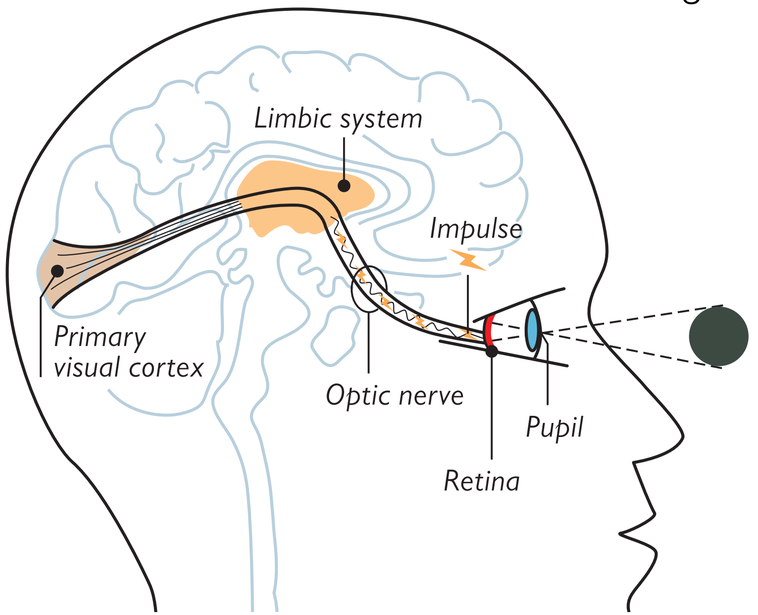
Quantification of Teaching

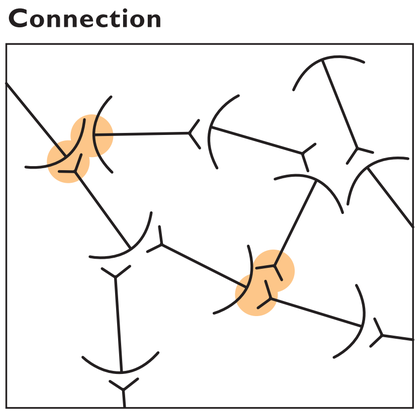
Teaching has been acheived when communication leads to as many as possible, positive networked connections.

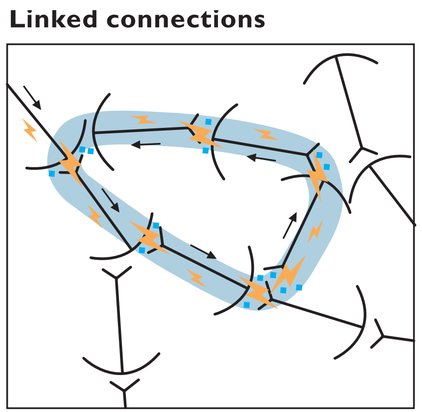
Learning process

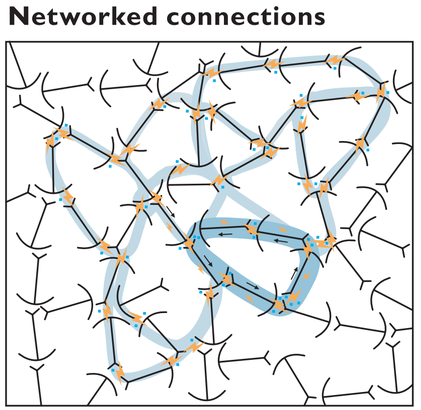
Connection - Linking - Networking

This linking of connections leads to new knowledge and we realize it as newly learned. Learning therefore means to link connections.





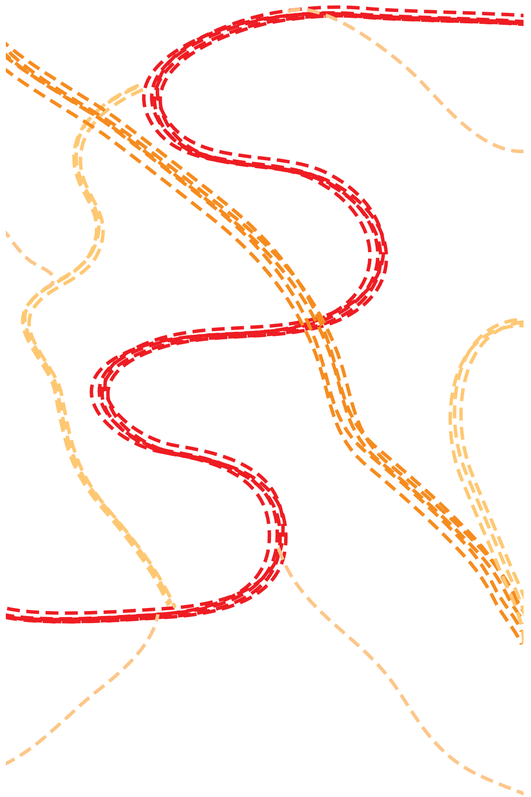


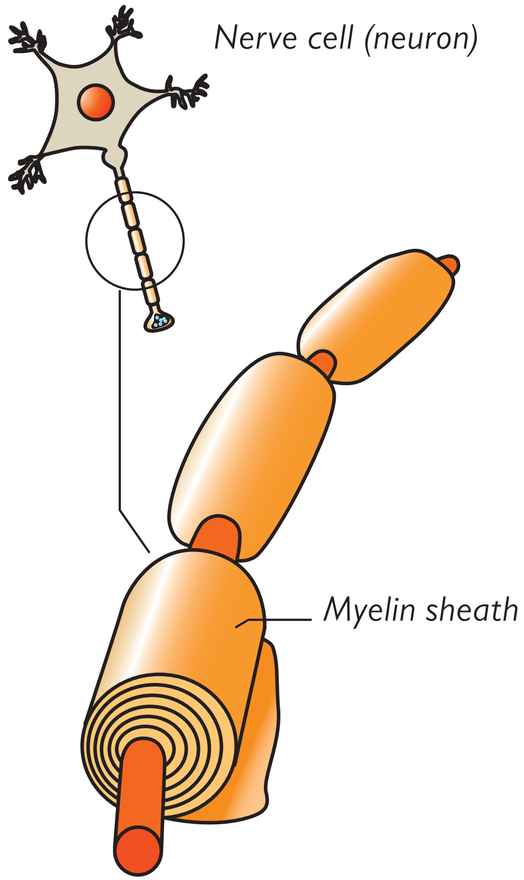


Learning process

Stabilization of the learned

The substance myelin attaches itself around the connection of the synapse when an electrical impulse is applied several times.





Lots of myelin layers = stable connection

Learning optimization

Systematic of Teaching

Teaching means to change through Communication.

Quantification of Teaching

Teaching has been acheived when communication leads to as many as possible, positive networked connections.

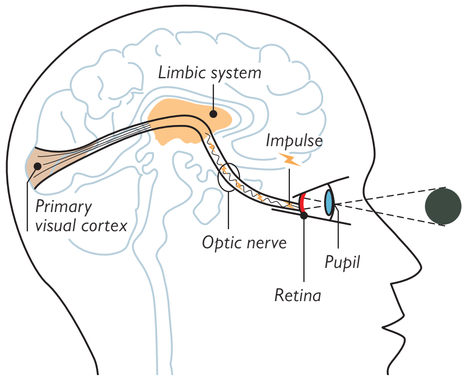
Qualification of Lessons

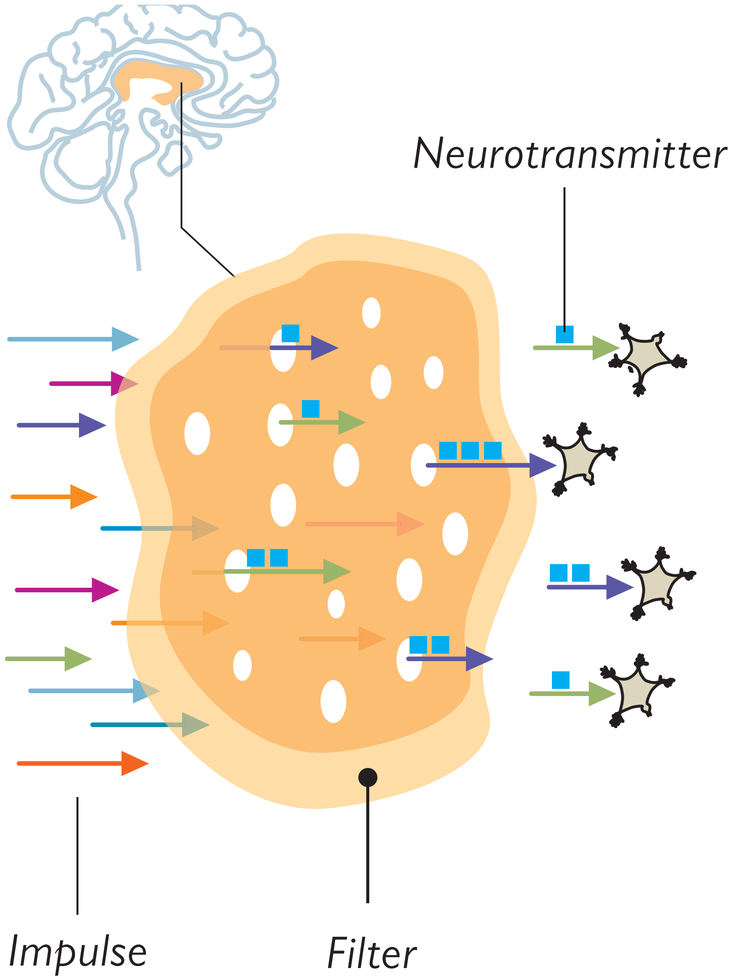
Teaching or Lessons are then optimized, when we have to communicate as little as possible.

Learning optimization

What influences learning?

The flood of information from stimuli is so high that we need a filter system. Only a part of the information that reaches the brain via the sensory nervous system is used.

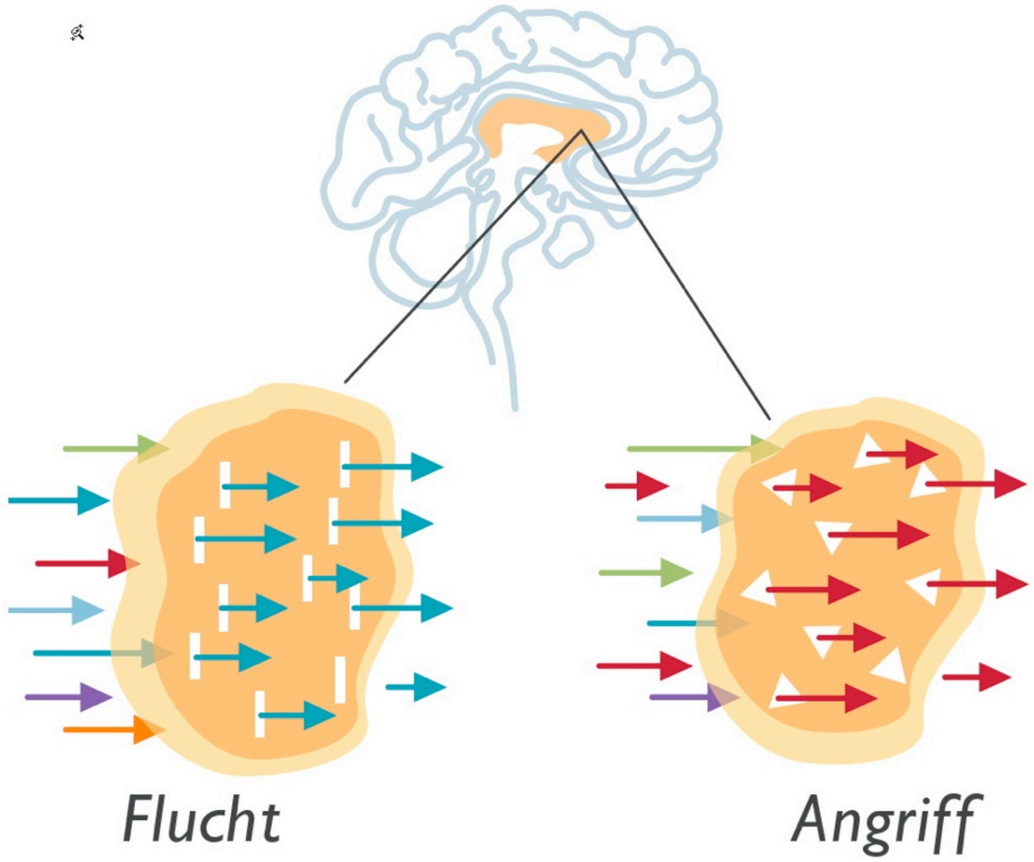




Learning optimization

Emotions determine

Depending on the motivation and orientation of the limbic system, the filter opens or closes.



Learning optimization

The teacher's task is therefore to set the stimuli in such a way that it contains the best possi-ble and most efficient type of information,

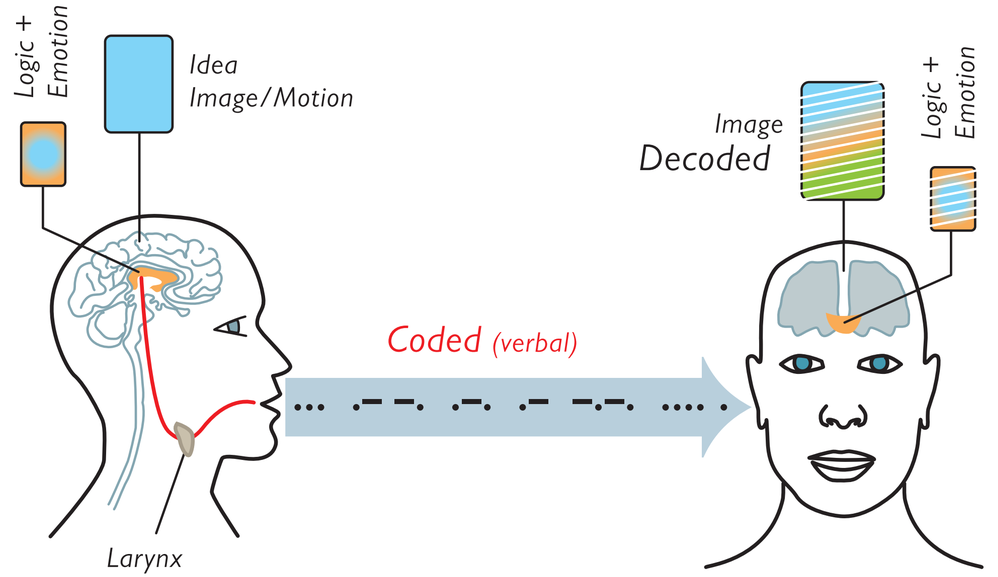
so that a connection is made that enables the skiing motion to be carried out in the given situation.

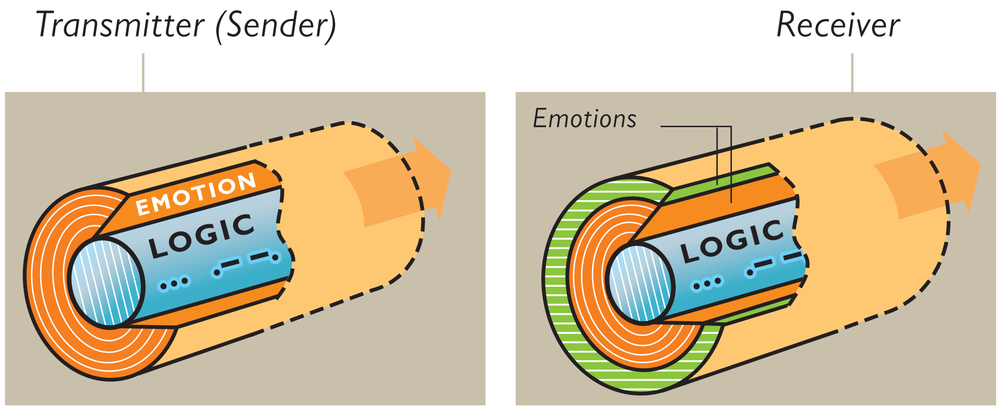
Learning optimization

Emotion and logic

Emotions control the limbic system.

Information is filtered differently by the respective state and emotional condition.



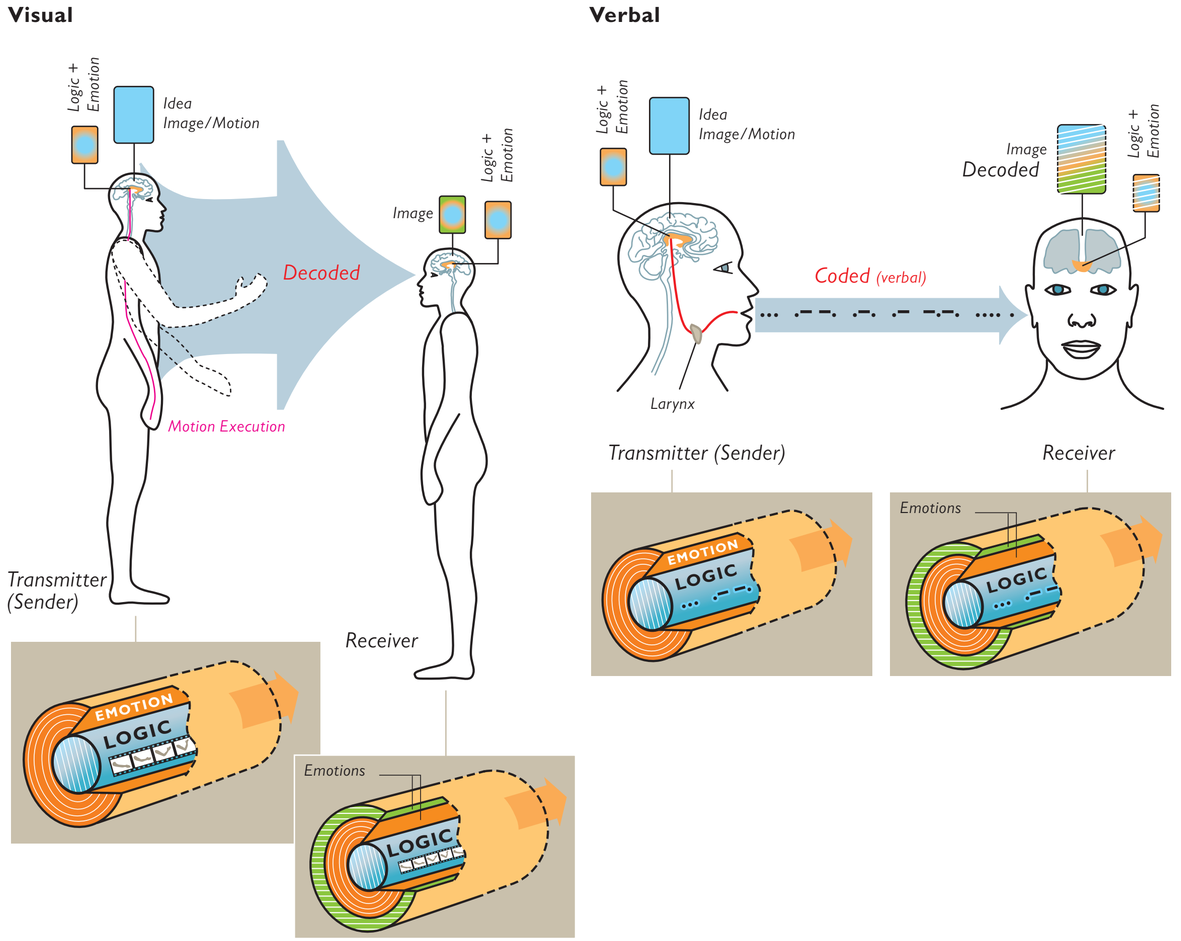


Learning optimization

Coded and uncoded communication

The language I use is actually a code that I send out. The receiver must first understand the code and secondly decode it, i.e. convert it back into an image.

Clear images must be created!!

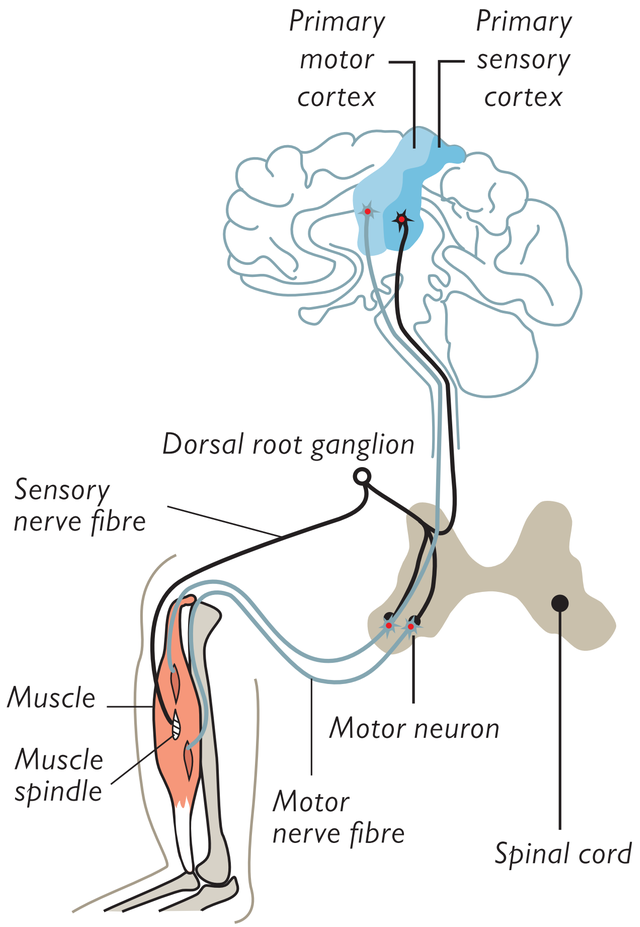


From the sensory to the motor

Control influence

Voluntarily controlled movement occurs via a nerve impulse sent from the motor brain center via the spinal cord to the muscles.

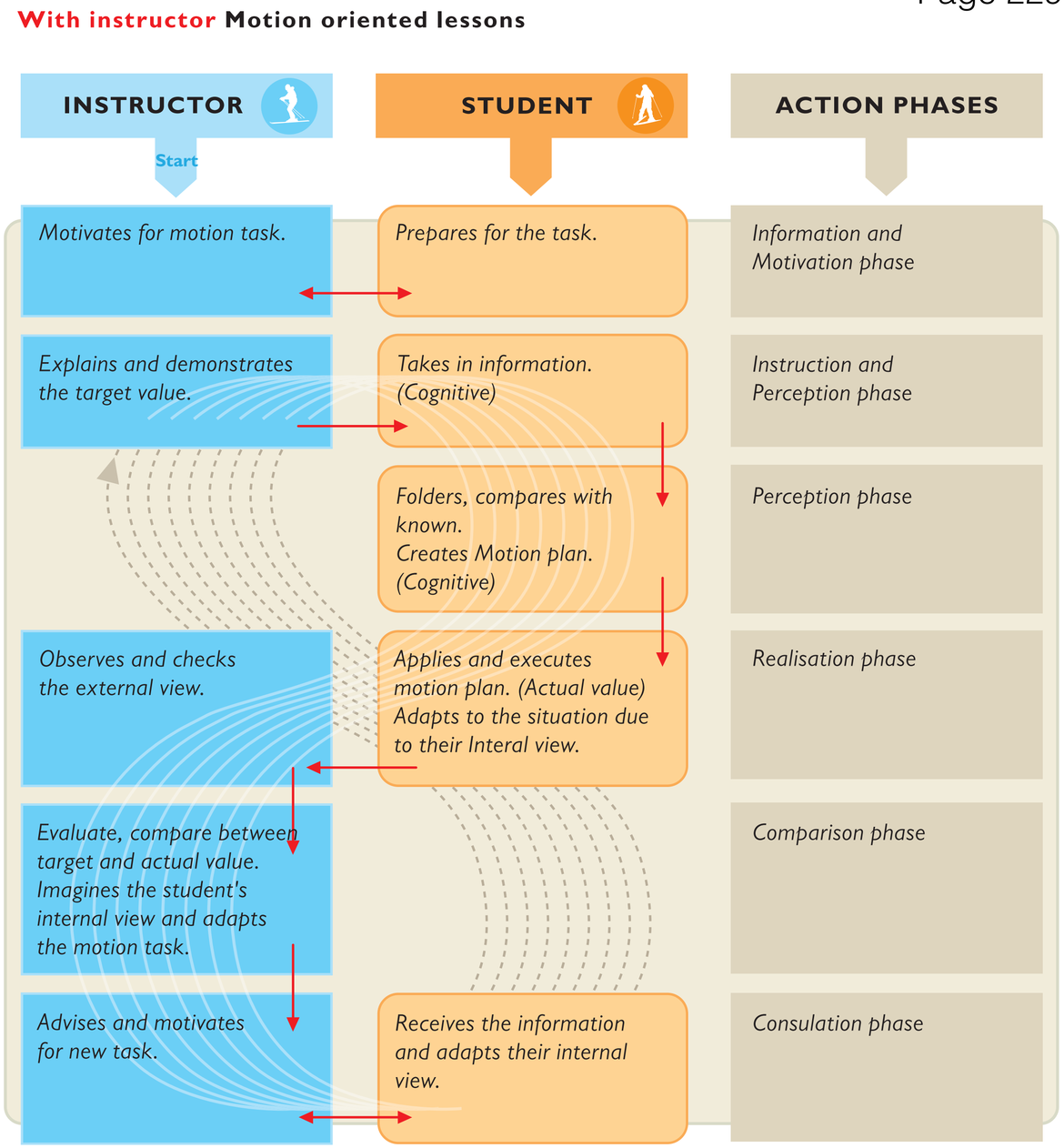
Motor neuron system



Movement learning

With Instruction

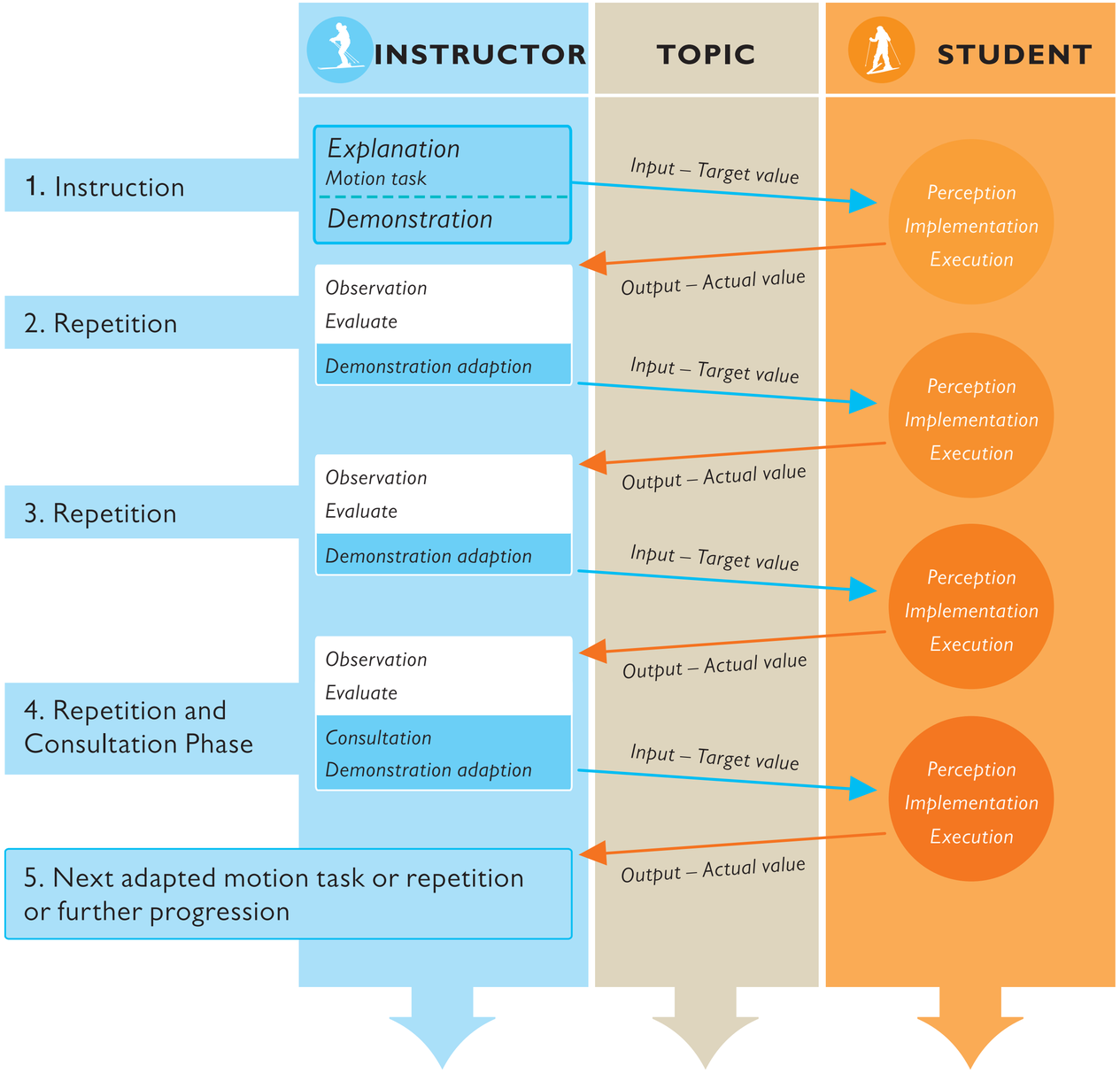
Through instruction, i.e., communicating stimuli that have as their content the description of movement and its functional and application range



Movement learning

Learning new

Counseling is not possible until the student has an idea of the movement.



Movement learning

My personal will must be to want the best for the student.

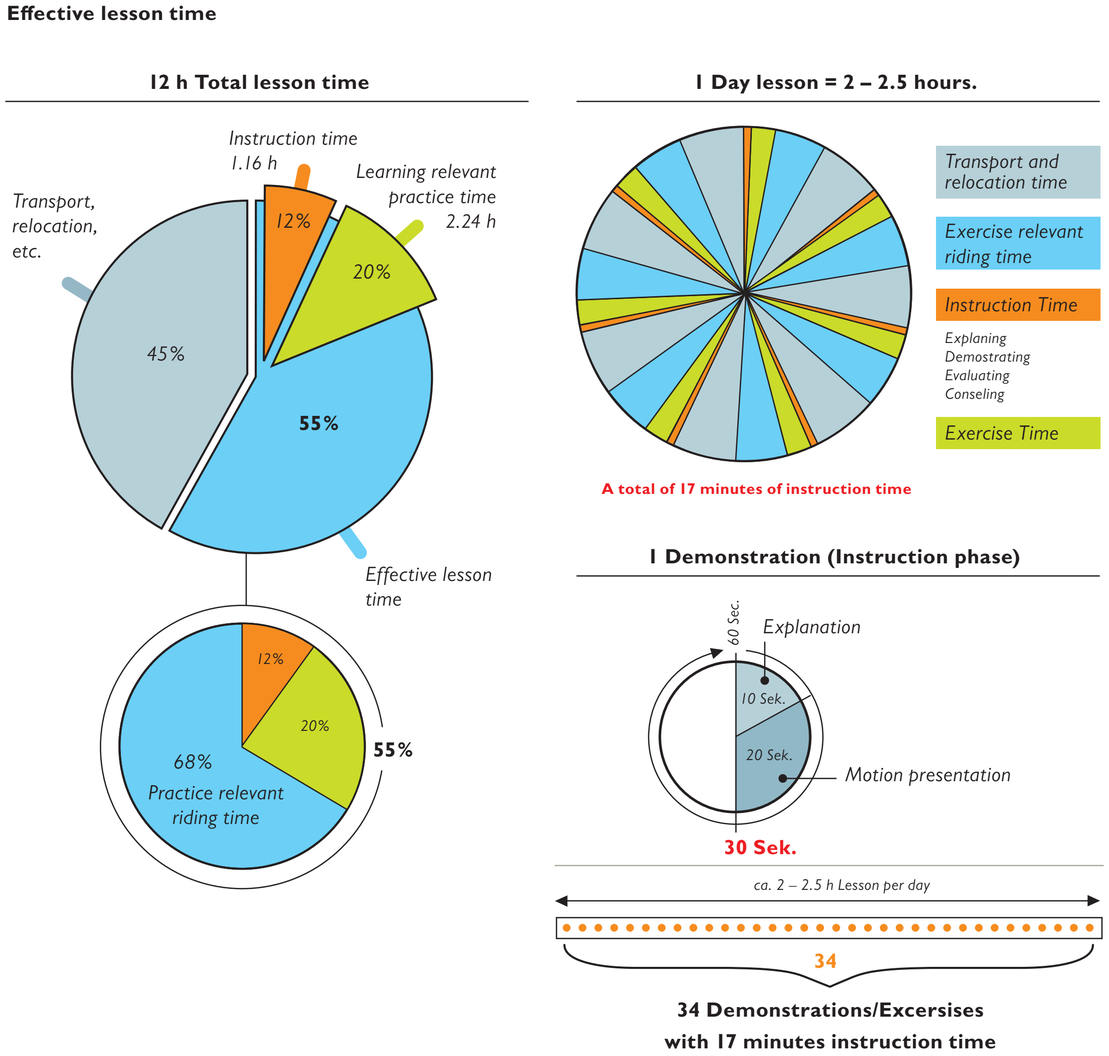
“Only when I subordinate my action to the learning process do I optimise the Lesson.”

Movement learning

Learning time is limited

Practice shows that even with very experienced and top trained instructors (expert level), the effective teaching time accounts for a maximum of 55%, i.e. 6 h 36 min.

12% is instruction time (explaining and demonstrating), i.e. approx. 1h 16min, the learning-relevant practice time accounts for approx. 20%, i.e. 2 h 24 min.



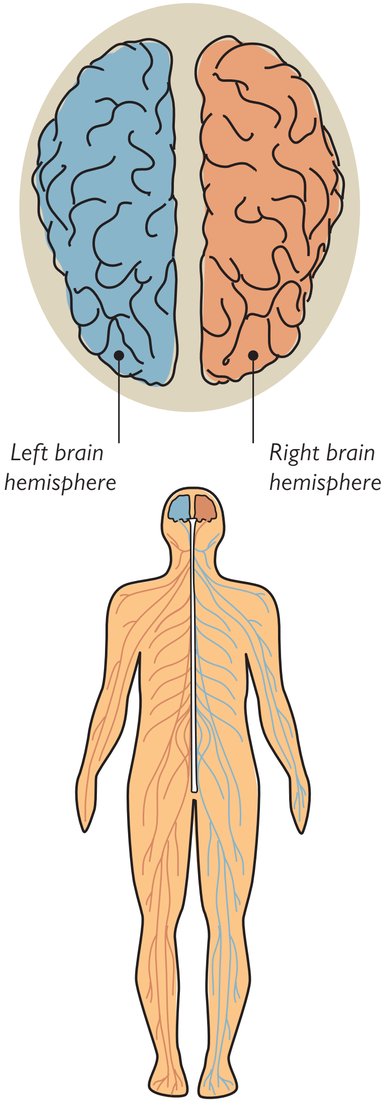
Movement learning

The brain

The cerebrum is divided into two so-called hemispheres. The left and the right hemisphere control the motor movements of our body crosswise.

Left brain hemisphere

verbal, logical, analytical
rational
Detail
Temporal relations



Right brain hemisphere

non-verbal
Emotions
intuitive
Holistic thinking
Spatial relation

Didactic consequence

TO THE POINT:

There is a huge difference between teachers who accompany and teachers who instruct. Teach and optimize for the student and not for yourself.

This means specifically..

Teaching skiing means: adapting, deciding and adapting one's networked knowledge to the respective situational and personal conditions.

There are no patent recipes in teaching that can be applied repetitively.

Definition of teaching

Systematic of Teaching

Teaching means to change through Communication.

Quantification of Teaching

Teaching has been acheived when communication leads to as many as possible, positive networked connections.

Qualification of Lessons

Teaching or Lessons are then optimized, when we have to communicate as little as possible.

What did you learn..

How do we learn?

We learn through communication (best in pictures).

What influences learning?

Emotions influence the learning process

How are movements stored in the brain?

Through new connections, links and interconnections

Why and when is something fun?

In learning success, positive emotions (no stress)

What are the consequences for professional teaching?

I must want the best for the student

I communicate mostly in pictures (demos)

I radiate positive emotions