

Output without input?

The importance of context information

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Puzzle

The answer is not 6

1	3	5
2	4	?

Input – processing – output?

New insights about how our brain works

NO computer model: input-processing-output

BUT: predictive brain (Vermeulen, P. 2022)

The predictive brain

Our brain makes **predictions** all the time

The better our predictions, the better chances to survive

Constantly checking the accuracy of our predictions

Check based on sensory information through our senses
⇒ **LEARNING**

Risks

Lack of information:

Check is more complicated. Brains want to check, exhausting process
Senses continuously in high arousal

Incomplete information:

Building wrong models => frustration, more time, exhausting

Context information and social learning

Also here: the brain needs context information to check predictions

The same risks

An important impact on developing Theory of Mind

Theory of mind

= social cognition, = the capacity to understand other people by ascribing mental states to them (that is, surmising what is happening in their mind). This includes the knowledge that others' mental states may be different from one's own states and include beliefs, desires, intentions, emotions, and thoughts

To develop theory of mind we need:

- self-knowledge and self-awareness (Sterneman, 2012)
- context information (social learning Wellman, 1990)

Theory of mind and D/HoH children?

Deaf/HoH children develop theory of mind slower than hearing children (o.a. Rieffe et al., 2017, Smit et al., 2019)

This is also true for hearing-impaired children whose language development is within average limits (Nettelbladt et al., 2017)

Exception: deaf children of deaf parents communicating in sign language are on terms with theory of mind development

Theory of mind and D/HoH children

Causes:

Richness of language (less nuances and less emotional related language)

Less incidental learning

Input?

Focus on vocabulary, grammar and knowledge

ToM training

Focus on self-knowledge and self-awareness
Practicing specific language (beliefs and desires)
Training in recognising intentions of others, empathising with other people's thoughts and feelings,...

=> Child and parent!

Training of executive skills

Output?

Language development increases

BUT...

Fatigue (Langen-Van Leijenhorst et al., 2022)

Greater risk of psychological problems attributable to communication problems but also to deficits in the development of theory of mind (Smit, Knoors et al., 2019)

Input

Information about the concrete real situation, within this situation

=> information needed to use as feedback information for one's predictions (real learning)

Who? The hearing persons present must try to make the situation accessible


=> inclusion

Output

Deaf/HoH children, youngsters, adults that have richer opportunities to learn by themselves

Puzzle

In a car



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