Research for the educational practice

Katrin Hille, PhD
Transfer Centre for Neuroscience and Learning
University of Ulm, Germany
Transfer Center for Neuroscience and Learning

- Neuroscience provides impulses for research on learning
- An interdisciplinary team transfers and creates knowledge about learning in order to improve the learning in and outside the educational system
People

At the start: founded in April 2004 with money for 5 full-time positions for 5 years

Part of Psychiatric hospital: colleagues are medical doctors and researchers in the area of cognitive neuroscience

Currently: 40 staff (psychologists, educational scientists, biologists, sociologist, teacher)
No tenure positions, often part-time
Transfer needs a special research approach
The special research approach

- Psychology as science that answers questions no one has asked …
- Science not for the sake of science but as service for practitioners in need
- Building bridges by doing translational research – from “bench-to-bedside”
Auditive Perception & Learning to Read and Write

EEG-Study: Phoneme discrimination in children at risk

MRI-Study: Auditive perception in adult dyslexics

Psychophysics: Tresholds of perception and Learning to read and write

Webbased Screening: Phoneme discrimination in kindergarten children

RT and MRI-Study: Discrimination of vowel length in adult dyslexics

Predictive validity of a discrimination questionnaire

Neuro-science

Education
Physical Exercise and Learning

EEG study: Physical Exercise and executive control (and genes)

Intervention: The influence of jogging on attention and memory

Intervention: Watching TV and physical activity

Intervention: Preventing Obesity in elementary school children

Evaluation: Physical exercise at school and cognitive ability, mood and attention

Development and Evaluation of Movement games

Neuro-science

Education
Special kind of researchers
Transfer needs a special kind of researchers

- **Interdisciplinarity**: appreciating the perspective of the other sciences
- **Science as Service**: Working on the problems of the real world in a system that almost punishes that research
- **Teaming up specialists** (people who know much about little) with **generalists** (people who know a little about much) to integrate findings and build bridges
Bringing research into educational practice (for innovation)

If a fairy grants me a wish …
- Kevin doesn’t do his homework, imposed sanctions don’t help
- Nikolai refuses to read out aloud and disturbs the class with foul language
- Volkan beats up the geeks on the schoolyard
- Abigail doesn’t care for prime numbers
- Emily declares: The teacher has never talked about the European province that was part of the test. Her parents want to see the headmaster.
Support for teachers

Wish for more support
[1 = not at all; 5 = very much]

- Content
- Delivering Content
- Dealing with students
- Dealing with parents
- Dealing with colleagues
- Administration

Hille & Christoph: Unterstützungssysteme für Lehrer, submitted
Support for teachers

Used support from ...
[1 = not at all; 5 = always]

1. Colleagues: [Bar graph]
2. Headmaster: [Bar graph]
3. Continuing Education: [Bar graph]
4. Office of education: [Bar graph]
5. Books and articles: [Bar graph]
6. Unis & teacher colleges: [Bar graph]
Why is support from universities and teacher colleges not used?

- Never thought about this option
- Would not know where to turn to
- Are they competent enough?

“People there lost contact with reality of school. Their experiences are decades old or they were never or only very briefly at school. They are so specialized that we cannot talk to them about complex problems: Some know about school books and what ought to be learnt but nothing about how children learn. Some are expert for content but don’t know about the students of a certain age. Some know children only from books and brief school visits.”

Hille & Christoph: Unterstützungssysteme für Lehrer, submitted
Where do practitioners turn to?

- The medical system has general practitioners
- Hotels have receptionists and front desks
If the fairy grants me a wish for bringing research into educational practice

- Give teacher / schools access to similar kind of educational help desk people who
  - have a good grounding in school reality
  - know a lot about research of the diverse field associated with school and learning
  - are supported by research that is relevant for practice

- With the task to
  - Take ownership of the practitioners’ problems
  - Provide information or organize additional help
Bedankt!