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The testing-effect under investigation

Experiences in Kiel

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Overview

• Kiel and Colleagues
• What is IPN?
• What research is conducted at the IPN?
• How is research financed and organized at the IPN and Germany?
• And what is your thesis about?

Kiel and colleagues

IPN

• Leibniz Institute for Research on Science and Mathematics Education
• Five departments:
  – Biology education (Prof. U. Harms)
  – Chemistry education (Prof. I. Parchmann)
  – Mathematics education (Prof. A. Heinze)
  – Physics education (Prof. M. Euler)
  – Educational sciences (Prof. O. Köller)
  – Research methodology (Prof. O. Köller)

Research areas IPN:

1. Aims and models of mathematics and science education;
2. Prerequisites and evaluation of concepts for mathematics and science instruction;
3. Implementation and evaluation of concepts for mathematics and science instruction;
4. Pedagogical - psychological diagnostics and research methodology;
5. Educational monitoring;
6. Mathematics, science and technical education in out-of-school learning locations;
7. Fostering talents and competitions.

Research projects at IPN:

1. ELBE (Detection of Cognitive Learning Processes and Eye-Movements using Eye-Tracking-Methodology)
2. Sinus (Increasing the Efficiency of Mathematics and Science Education in Primary Schools)
3. Chemnet (E-learning)
4. Kondiff (Competence models as a basis for a diagnosis-supported individual support of students in primary and secondary school)

www.ipn.uni-kiel.de
Research projects at IPN:

- Large scale projects
- Multiple researchers involved (1-3 post-doc, 1-2 phd’s, professor)
- Each post-doc and phd has, within the project, his own research field (studies)
- Phd candidates get only 50% or 67% of a fulltime fee to run the project. The dissertation is own responsibility.
- Generally no additional courses (ICO) but recently some universities start up grad schools.

IPN Financing

- Part of Leibniz community (86 research institutes: sciences, engineering, environmental, social- and mental health sciences).
- Partly payed by the federal state (Bundesland) and partly by the state.
- 2 other communities compete for money: Max planck institutes and Frauenhofer institutes.
- Other research incomes: DAAD (exchanges, conferences)

My research at the IPN

1. Do tests influence study behavior?
2. Do self judgments influence study behavior?

My Dissertation thus far

- Study 1: Study behavior of students (of different educational levels) and metacognitive awareness of testing.
  - Students see tests as:
    - Learning tool: “When I make a test, I can remember more”
    - Diagnostic tool: “A test makes clear to me what I know and what I do not know”
    - Instruction tool: “A test gives me insight in the questions, the teacher will ask”

- Study 2: Is testing also beneficial for application of principles and procedures?

- Study 3: Is testing also beneficial for transfer of principles and procedures to new application questions?
My Dissertation thus far

• Study 4: Can cueing effects explain the testing effect?
  • Expectations:

My last year

Writing, writing and even more writing....