



Working Group PISA 2006 German-U.S.-International Workshop

Name and Institution

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Sketch of research already carried out

1) TIMSS - Switzerland (1993-1997)

- Focus: analysis of the culture of physics instruction in the upper secondary level
- Theoretical framework: moderate constructivism
- Research methods: questionnaires for students (in addition to the international questionnaire), interviews with teachers
- Results: see Labudde, P. (2000): *Konstruktivismus im Physikunterricht der Sekundarstufe II*. Bern: Haupt, 446 pages.

2) The culture of learning and teaching physics: a video study (2003-2005)

- Focus: physics instruction, grade 9, learning process, instructional methods, context of physics instruction, bi-national study Switzerland - Germany
- Theoretical framework: in some parts based on the theoretical framework of the TIMSS-video study in mathematics and its following studies
- Research methods: video taping, questionnaires for students and teachers, interviews with teachers
- Results: work in progress (the start of this study was only in January 2003)

3) Integrated Science at the upper secondary level: broadening the spectrum of tests and evaluations (2003-2006)

- Focus: testing, evaluation, grading in integrated science at the upper secondary level
- Theoretical framework: see www.ahl.unibe.ch/forschung
- Research methods: document analysis, questionnaires for students and teachers, interviews with teachers, action research
- Results: work in progress (the project will start only in August 2003)

Sketch of planned research

- Aims: enlarging the spectrum of competencies and their evaluation in physics instruction and in integrated science instruction; development of new tests and further instruments; comparison of the culture of physics instruction in the U.S., Germany and Switzerland
- research methods: questionnaires, tests, performance tests (similar to the TIMSS Performance Test, but based on virtual computer based 'experiments')

Additional Prospective Collaborative Projects, Group 6

Cooperation already running

- In the second project (video study) cooperation with the IPN in Kiel
- In other projects of our institution cooperation with other universities in Switzerland and abroad

Further comments

- I would appreciate, if our institution from Switzerland could participate in the planned German-U.S. research projects
- I am looking for grants here in Switzerland, e.g. Government and / or Swiss National Science Foundation.

Bern, July 10th, 2003

Peter Labudde