Teachers Teaching with Technology

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The two sessions of the T^3-discussion group covered the main aspects of the work of T^3 Europe, particularly in Germany. Each session was organized along two sub-topics beginning with a brief input on a concrete example and ending with a specific question or questions. A discussant then opened a plenary discussion by making some comment on the questions or the input. This resulted in four lively debates which of course did not provide answers to the questions but did provoke the participants to think metaphysically about them.

Using technology: *best practice in using technology for teachers' professional development*.

Oliver Wagner used some best practice examples from his own work, and raised the following questions:

Is it possible to construct a PD session without "button pressing"?

What are the main aims for PD sessions and how do you reach them?

What are the wishes of teachers on PD sessions?

Using technology: *the use of analysis and experimental work to bridge mathematics and science*.

Daniel Thurm talked about the use of technology in mathematical modelling to link mathematics and science. He discussed the modelling cycle and the role that technology

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can play at different stages of the modelling process. Using a cooling cup of coffee as a concrete example illustrated the potential problems that can arise. He raised the question:

How do we avoid falling into the trap of finding a mathematical model and then failing to encourage students to explore the underlying reasons as to why the model fits?

Changing knowledge and beliefs of teachers as they begin to use technology in mathematics teaching

Angela Schmitz illustrated the way that the use of technology can have a significant influence on the learning of mathematics. But teachers have divergent opinions on its use and for every change in instructional methods, their beliefs play a decisive role. After a brief look at the state of research on the beliefs of teachers in secondary schools on the use of technology in mathematics instruction the question was asked:

How can teachers' beliefs about the use of technology be changed?

Changing knowledge and beliefs of teachers using formative assessment

Hana Ruchniewicz described a digital self-assessment tool. FaSMEd is concerned with raising achievement through formative assessment and has partners in 8 European countries. She raised the following questions:

How can one assess whether or not a student can

- model real situations mathematically?
- use mathematical representations?
- translate a description of a process or situation into a graph?