Universität zu Köln

Mathematisch- Naturwissenschaftliche Fakultät
Seminar für Mathematik und ihre Didaktik

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Learning mathematics for work: theory and practice

Abstract:

In this presentation, I will discuss the main findings from research carried out in workplaces and vocational education. What is it that employees really need to know about mathematics as compared to what students learn at school? And how can we help employees and vocational students develop useful knowledge of mathematics? Answers to these questions will be based on data from the Techno-mathematical Literacies project, carried out in the United Kingdom with Celia Hoyles, Richard Noss and Phillip Kent (2003 – 2007), but also on a recently finished Dutch project titled Boundary crossing between school and work for developing techno-mathematical competencies in vocational education (2007 – 2011). In trying to understand the underlying theoretical issues I also address the merits and limitations of cultural-historical activity theory and propose a complementary theory called inferentialism, which is compatible with Vygotsky's ideas but addresses knowledge more explicitly than does activity theory.