

Universität zu Köln

**Mathematisch- Naturwissenschaftliche Fakultät
Seminar für Mathematik und ihre Didaktik**

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**History of mathematics:
Illuminating understanding
of school mathematics concepts for
prospective mathematics teachers**

Abstract:

The use of the history of mathematics in teaching has long been considered a tool for enriching students' mathematical learning. However, few, if any research efforts have investigated how the study of history of mathematics contributes to a person's mathematical knowledge for teaching. In this presentation I will share the results of research conducted over four semesters in which I sought to characterize what prospective mathematics teachers (PMTs) understand about the topics that they will be called upon to teach in the future. In particular, I will focus on how the study and application of the history of solving quadratic equations illuminates what PMTs know (or do not know) about this essential secondary school algebraic topic. Additionally, I will discuss how the results signal important considerations for mathematics teacher preparation programs with regard to connecting PMTs' mathematical and pedagogical knowledge, and their ability to engage with history of mathematics to improve their own and their future students' understanding of big ideas in mathematics.