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**The COACTIV research program: methodological framework.**

Kunter, Mareike (ed.) et al., Cognitive activation in the mathematics classroom and professional competence of teachers. Results from the COACTIV Project. New York, NY: Springer (ISBN 978-1-4614-5148-8/hbk; 978-1-4614-5149-5/ebook). Mathematics Teacher Education 8, 79-96 (2013).

Summary: This chapter provides the methodological background for all analyses reported in this book, describing the various studies that constitute the COACTIV research program. The first main study in the program was the COACTIV study, which laid the theoretical and empirical foundations for the COACTIV research program. In this study, aspects of the professional competence of a sample of 372 secondary school mathematics teachers were assessed using questionnaires, tests, and task analyses. An important feature of this study was its embedding in the 2003 PISA student assessment, which made it possible to investigate effects of teacher competence on instructional quality and student-related outcomes. This first main study was complemented by several smaller validation studies. The second main study, COACTIV-R, used a longitudinal design to investigate 856 teacher candidates during the practical induction phase of preservice teacher education in Germany over the course of 1 year. The third main study, BilWiss, investigates the nonsubject-specific general educational knowledge of a sample of more than 3,000 teacher candidates immediately after completion of the university-based phase of teacher education. The chapter provides information on the designs, samples, and instruments of these studies.

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