Because it is seen as one constitutive factor of instructional quality, research in teaching and learning increases attention on teachers' expertise. To explain success in student learning for example, recent studies used content knowledge and pedagogical content knowledge as predicting variables for expertise. This study analyses potential disadvantages of these approaches: Competent situational classroom management requires more than just content knowledge and pedagogical content knowledge. The topic of this publication is the analysis and description of additional domain-specific competencies. It proposes a model compatible with existing approaches which consists of three components of domain-specific competencies: first, a basic component of mathematical and mathematical pedagogical knowledge, second, reflective competencies, and third, action-related competencies. It is also discussed how these three constructs could be operationalized. It is proposed complementing the known paper-and-pencil item formats with video- and computer-based formats to increase the validity of tests.

Moreover, design and results of a feasibility study with teachers and prospective teachers from secondary level are reported. The results show that, in principle, it is possible to measure the three areas of competencies separately.