

The introduction of digital textbooks, with data-driven functionalities, is a recent trend in mathematics education possibly challenging established teaching practices. Hence, the overall aim of this thesis is to explore teachers concerns when digital mathematics textbooks are introduced in their teaching. *Activity Theory* is used as an approach, analyzing teachers planning and implementation of teaching with digital textbooks as activity systems. This makes it possible to understand teachers concerns in terms of systemic implications: contradictions and congruences.

The studies show that planning teaching with a digital mathematics textbook with a high degree of flexibility puts more burden on teachers. They need additional competences and working time. Teaching with data-driven dashboards and adaptive tutoring functionality builds on an individualized approach to teaching. This contradicts established norms building on the collective classroom to develop both mathematics knowledge and abilities, as well as more general skills.

Furthermore, adaptive functionality challenges teachers' perceived control of the learning process and their accountability. On the other hand, the possibility of monitoring students' performance visualized on dashboards and support for adaptation to student needs, provide actionable knowledge in teaching making individualization easier.



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