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Does classroom instruction stick to textbooks? A case study of fraction division.

Li, Yeping (ed.) et al., Mathematics curriculum in school education. Dordrecht: Springer (ISBN 978-94-007-7559-6/hbk; 978-94-007-7560-2/ebook). Advances in Mathematics Education, 443-464 (2014).

Summary: In this chapter, we examined the consistency between textbook and its implementation in classrooms. By investigating how two selected Chinese teachers taught fraction division over four consecutive lessons, and making use of an existing study on the treatments of the same content unit in textbooks, it was found that the sample teachers essentially adopted their textbooks. The teachers put great effort into developing students' understanding of the meaning of fraction division and justifying why the algorithm of fraction division works by employing a problem-based approach and using multiple representations. They followed the textbooks regarding the conceptualization of concepts and algorithms, the topic coverage, the sequence of content presentation, the approach to developing the concepts and algorithms, and the selection of problems and exercises. Meanwhile, the teachers also demonstrated certain flexibility in constructing their own problems for introducing new knowledge and consolidating the learned knowledge. Finally, the authors argued that the Chinese strategies of adopting textbooks might be attributed to their teaching culture and professional development practice.

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