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Exploratory activity in the mathematics classroom.

Li, Yeping (ed.) et al., Transforming mathematics instruction. Multiple approaches and practices. Cham: Springer (ISBN 978-3-319-04992-2/hbk; 978-3-319-04993-9/ebook). Advances in Mathematics Education, 103-125 (2014).

Summary: In this chapter, we show that mathematical explorations may be integrated into the core of the daily classroom mathematics activities instead of just being a peripheral activity that is carried out occasionally. Based on two episodes, one on the initial learning of the rational number at grade 5 and the other on the learning of algebraic language at grade 7, we show how teachers may invite students to get involved and interpret such tasks and how they may provide students with significant moments of autonomous work and lead widely participated collective discussions. Thus, we argue that these tasks provide a classroom setting with innovative features in relation to conventional education based on the exposition of concepts and procedures, presentation of examples, and practice of exercises and with much more positive results regarding learning.

Classification: D43 D33 F43 H23 C73

Keywords: explorations; teaching practice; tasks; classroom communication; rational numbers; algebraic thinking

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