

ZMATH 2016a.00351

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Writing as a tool to demonstrate mathematical understanding.

Sch. Sci. Math. 115, No. 6, 302-313 (2015).

Summary: In this study, I examine how using a writers' workshop model in mathematics creates a space for students to write about their mathematical thinking and problem solving and how their writing impacts instruction. This case study of one classroom with one teacher spanned 6 weeks and included 18 implementations of an adapted version of the Writers' Workshop (WW) in a fourth-grade mathematics class. On a biweekly basis, the data were reviewed and changes made to the model. The analysis of the students' writing revealed (a) their understandings and misunderstandings of the mathematical content, (b) their readiness for more challenging tasks, and (c) their connections to prior knowledge. Students used writing to demonstrate their understanding of mathematics and show their mathematical processes. In some cases, examining only the numerical work failed to illuminate the students' understanding, their writing provided deeper insight. Students recognized writing as a tool for learning; this was evident in interview responses.

Classification: D42 C52 C32

Keywords: writing; learning processes; communication; mathematical understanding

doi:10.1111/ssm.12131