

ZMATH 2014c.00114

Whitenack, Joy W.; Ellington, Aimee J.

Supporting middle school mathematics specialists' work: a case for learning and changing teachers' perspectives.

Math. Enthus. 10, No. 3, 647-678 (2013).

Summary: In this paper, we highlight one whole-class discussion that took place in a middle school mathematics "Rational number and proportional reasoning" course, one of the six mathematics courses teachers take to complete our state-wide middle school mathematics specialist program. Statistical measures indicate that teachers made gains in their understanding of concepts and substantial gains in their views of teaching and preparedness. We provide a microanalysis of one of the lessons, to explain, in part, how they might have made this progress. To develop our argument, we coordinate a social analysis with an analysis of the types of specialized mathematical knowledge that teachers might have considered as they engaged in these discussions. As we will illustrate, these types of classroom discussions provided teachers opportunities to consider new visions for mathematics learning and teaching.

Classification: B53 D49 C49

Keywords: inservice teacher education; subject content knowledge; research; teaching; teaching methods; proportion; rational numbers; mathematics specialists; professional development; middle school mathematics; lower secondary; teacher characteristics

http://www.math.unt.edu/tmme/vol10no3/7.TMEvol10no3_Whitenack_pp647.678.pdf