

ZMATH 2014c.00621

Subramaniam, Karthigeyan

Prospective secondary mathematics teachers' pedagogical knowledge for teaching the estimation of length measurements.

J. Math. Teach. Educ. 17, No. 2, 177-198 (2014).

Summary: Prospective secondary mathematics teachers' pedagogical knowledge for teaching the estimation of length measurements was investigated by examining their personal benchmarks for measurement estimation. Benchmarks for measurement estimation are the meaningful representations of units that serve to increase one's understanding of measurement and one's ability to estimate measurements. Data included electronic journal responses, observation and verbal data, and work samples. Thematic analysis revealed that prospective teachers possessed various benchmarks for measurement estimation that enabled them to estimate length measurements, but these benchmarks for measurement estimation were not evident in participants' pedagogical knowledge for teaching the estimation of length measurements. Participants' pedagogical knowledge for teaching the estimation of length measurements was instead based on the belief that hands-on activities were the only way to teach the estimation of length measurements.

Classification: F79 C39

Keywords: pedagogical knowledge; measurement estimation; prospective teachers; benchmarks

doi:10.1007/s10857-013-9255-2