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Stylianou, Despina; Smith, Beverly; Kaput, James J.

Math in motion: using CBRs to enact functions.

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Summary: This paper reports on results of an exploratory study on undergraduate pre-service teachers' understanding of graphical representations of motion functions. The study described pre-service teachers' explorations using a CBR device. Pre-service teachers' growth was studied in two dimensions: (a) in their learning of the mathematics involved and (b) in their learning of the pedagogy related to the mathematics and the technology used. Through their interaction with the device, pre-service teachers were able to overcome common misconceptions with respect to the mathematics and also to develop pedagogical insights regarding the teaching of the concepts.

Classification: U79 I29

Keywords: calculator based ranger; CBR; educational media; technology; graphics calculators; motion functions; distance; velocity; acceleration; graph of a function; preservice teacher education; research