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The Kaputian program and its relation to DNR-based instruction: a common commitment to the development of mathematics with meaning.

Hegedus, Stephen J. (ed.) et al., The SimCalc vision and contributions. Democratizing access to important mathematics. Dordrecht: Springer (ISBN 978-94-007-5695-3/hbk; 978-94-007-5696-0/ebook). Advances in Mathematics Education, 437-448 (2013).

Summary: The Kaputian program for research in mathematics education is characterized by five foci: equity, quantitative reasoning, gradual development through the grades, advanced technology grounded in classroom context, and a particular epistemology. Its research questions concern the development and implementation of mathematics curricula that are founded on and organized around these characteristics. In this paper, the author discusses (1) these characteristics as they pertain to students' engagement with the mathematics of change and variation and (2) the relation of the Kaputian program to DNR-based instruction in mathematics.

Classification: D20 U50

Keywords: computer aided instruction; equity; quantitative reasoning; technology in mathematics classrooms; gradual development; curricula; educational research; DNR-based instruction

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