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SimCalc and the networked classroom.**

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, 99-121 (2013).

Summary: This chapter describes five major categories of learning activity designs which span a range of possibilities for leveraging the combined representation and communications infrastructure [*S. J. Hegedus* and *L. Moreno-Armella*, ZDM 41, No. 4, 399–412 (2009; ME 2010a.00181)] of classroom network technologies. These five activity structures, including mathematical performances, participatory aggregation, generative activities, small groups, and participatory simulations, have emerged over the past fifteen years from work both within the SimCalc project and in several independent lines of inquiry among researchers in the Kaput Center network. We present examples of each activity structure, and draw on *J. Roschelle* and *S. D. Teasley*'s [“The construction of shared knowledge in collaborative problem solving”, in: C. O'Malley (ed.), Computer supported collaborative learning, New York: Springer, 69–97 (1995)] framework for examining computer-mediated collaborative problem solving in order to assess developments in the study of group-centered learning that have been enabled by this research.

Classification: U50 D40 D20

Keywords: networked classrooms; computer aided instruction; communication infrastructure; representational infrastructure; activity structures; mathematical performance; generative activities; participatory aggregations; participatory simulations

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