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Caballero, Daniela; van Riesen, Siswa A. N.; Álvarez, Sergio; Nussbaum, Miguel; de Jong, Ton; Alario-Hoyos, Carlos

The effects of whole-class interactive instruction with single display groupware for triangles.
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Summary: Whole-class interactive instruction is an instructional approach in which all of the students in a class create knowledge together in an interactive way, mediated by the teacher. The current mixed-method study compared the effects of a specific implementation of whole-class interactive instruction, Single Display Groupware (SDG), with traditional classical instruction of geometry, for 69 third-grade students. In SDG students work in groups that share one area on a large display screen in front of the class. Each individual student in a group has a mouse and together the students in each group need to perform assignments by using “silent collaboration”. In the current study, the assignment for the students was to identify and create different kinds of triangles. Outcomes of interest were learning gains (quantitative) and effectiveness of “silent collaboration” (qualitative). Learning gains were significantly higher for students in the SDG condition than for students following traditional instruction. An analysis of emerging activity patterns showed that students found natural ways to silently collaborate.

Classification: U72 G22 G42 D42

Keywords: collaborative learning; geometry; single display groupware; whole-class instruction
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