Role of Instruction on Spatial Skills on Middle School Students

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Abstract: The curriculum should give students opportunities to visualize and represent geometric figures with special attention to developing spatial sense. Spatial sense is the mental process used to perceive, store, recall, create, edit, and communicate spatial images. This study was conducted to investigate the effects of instruction on spatial visualization skills of sixth and seventh-grade students. About 40 students from two sites, representing a wide range of socioeconomic status, participated in the study. The spatial visualization unit engaged students with 2-D figures, 2-D pentominoes, 3-D pentominoes, Dime solids and 3-D Dynamic software. The instrument used was the Spatial Visualization Test, with a test-retest reliability of .79, and Cronbach's reliability coefficients for various groups of students ranging from .72 to .86 on the pretest and from .82 to .88 on the posttest.

Samuel Obara is an associate professor of mathematics at Texas State University specializing in mathematics education. His research interests include the use of technology, problem solving and spatial reasoning. He received his M. A. in Mathematics, MEd, and Ph.D. in mathematics education from the University of Georgia.