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What's your angle on angles?

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Summary: Although the nature of the research varies, as do concepts of angle, research in general supports the supposition that angle is a complex idea, best understood from a variety of perspectives. In fact, the concept of angle tends to be threefold, consisting of: (1) the traditional, static notion of two rays meeting at a common vertex; (2) the idea of an angle as the space between these two rays (angle as wedge); and (3) a more dynamic idea of angle as a representation of a turn. Trying to make sense of a more dynamic concept of angle requires a move beyond paper-and-pencil tasks, leading to technology as a useful aid. Thus, in an attempt to provide students with such opportunities, the authors of this paper developed activities that focus on angle and angle measure and that incorporate hands-on activities, graphing calculator applications, and computer software. For several years, these activities were implemented in a college geometry course designed for preservice elementary and middle school teachers, and have recently been implemented in a sixth-grade classroom. This article focuses on the outcomes of the research with the sixth-grade students, concentrating on what transpired as the students engaged in these activities and what concepts of angle evolved during and after their experiences. (Contains 3 figures.) (ERIC)

Classification: G43 R23

Keywords: angles; elementary geometry; geometric concepts; educational technology; teaching methods; learning activities; graphing calculators; computer software; grade 6; outcomes of education; educational research