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Christian Hirsch* (christian.hirsch@wmich.edu), Western Michigan University, Department of Mathematics, 1903 W. Michigan Avenue, Kalamazoo, MI 49008. *Using Contextual Problems to Support Student Discovery in Pre-Calculus Mathematics: Exemplars and Efficacy.*

Since 1992, the Core-Plus Mathematics Project (CPMP) has been engaged in a program of research, development, and evaluation of an innovative four-year high school mathematics curriculum. Each course advances students' understanding of mathematics along interwoven strands of algebra and functions, geometry and trigonometry, statistics and probability, and discrete mathematics. The design of the curriculum materials draws ideas from the tradition of guided discovery teaching and learning and recent research in cognitive science. In each strand of the curriculum, students encounter important concepts and techniques through carefully organized collaborative investigations of mathematically-rich contextualized problems. Examples illustrating CPMP approaches to guided discovery and the efficacy of the curriculum in developing conceptual understanding, mathematical thinking, and problem-solving abilities will be discussed. (Received September 21, 2007)