ABSTRACT

MATHEMATICS PROBLEM-SOLVING STRATEGIES, CONFIDENCE, ATTITUDES, AND ACHIEVEMENT AMONG STUDENTS IN GRADES 4 - 8: GENDER AND GRADE LEVEL EFFECTS

This study explored how gender and grade level relate to mathematics problem-solving strategies, achievement, confidence, enjoyment, and perceived usefulness of mathematics. The "Math Strategy CUE Survey" was developed and administered to 1,432 students in grades 4–8 from a rural, primarily Hispanic school district in Central California.

Significant positive relationships among the three affective variables and mathematics performance on the California Standards Test (CST) were found. Significant grade-level effects were found for number sense, confidence, usefulness, and enjoyment of mathematics. Females perceived mathematics as more useful and reported greater enjoyment of mathematics than males. No gender-related differences in CST mathematics performance were found. However, males were found to exhibit greater number sense than females. Males preferred less traditional, more insightful problem-solving strategies than females. Gender- and grade-related effects were found for college-going plans and for student perceptions of whether males or females are better at mathematics.

Denise Dedini
May 2005