

Summary of Method

This study compared the algebra achievement and mathematics course-taking patterns of two groups of students at a suburban high school in the eastern United States. The Traditional cohort used a traditional curriculum and schedule throughout high school. The Reform cohorts attended the same high school with primarily the same teachers as the Traditional cohort, but they used a semestered block schedule and the IMP (Fendel, et al., 1997) curriculum.

The analysis of algebra achievement compared students on three subscales: “Algebra in Context,” “Symbol Manipulation,” and “In-depth Algebra Problem Solving.” These subscales were derived from an algebra assessment designed by the Core-Plus Mathematics Project (Huntley, et. al, 2000), and were administered to students in each cohort at the end of Grade 11. Items on the assessment were scored by a panel of experts using a scoring rubric, anchor items, and practice papers. Grade 6 test scores were used as covariates to control for differences between the two cohorts in initial ability. The analysis also investigated whether there is any interaction between treatment and prior ability as measured by sixth grade test scores.

In order to analyze mathematics course-taking student transcripts were reviewed to compare the number of hours that students from each cohort spent registered in mathematics classes in Grades 9-12. Hours registered in all mathematics classes, and hours registered in advanced mathematics classes were compared separately. Instead of formal hypothesis testing, a graphical display was used to detect important differences between the two groups in mathematics course-taking.

Yearly student enrollment in Advanced Placement courses was reported, using data obtained from student transcripts. Student grades on Advanced Placement exams administered by the College Board were obtained from annual School Profiles published by Suburban High School.