

Some Strengths of the Research Design

This study was designed to test the theory that implementing a semestered block schedule together with a *Standards*-based curriculum and adequate professional development and planning time would improve mathematics achievement. The study investigated a falsifiable prediction of that theory. While a research study conducted over several years at a school site is subject to inevitable threats to internal validity, two strengths in the design of the current study deserve mention.

First, there was no “selection bias” of the type that could have been caused by reporting on a site that was known in advance to have implemented a successful intervention. Rather, Suburban High School was selected as the site of this study because it was beginning to implement a program that theory predicted would lead to improved achievement in mathematics. Data collection began in the spring of 1997, before any results were available to indicate whether or not the implementation would be successful.

Second, the measures of achievement used in this study were not designed with the IMP curriculum in mind. The Algebra Achievement test was designed to accomplish the purposes of this study, that is, to provide a fair yardstick which could compare the algebra achievement of students who had utilized a traditional curriculum to the algebra achievement of students who had utilized a curriculum designed to implement the *Curriculum and Evaluation Standards* (NCTM, 1989). But the test was not designed by the researcher or by anyone associated with the IMP curriculum. Rather, it was designed for a different study (Huntley, et al., 2000) and with a different curriculum in mind, Core-Plus. The secondary test of achievement used in this study, participation rates and scores on the Advanced Placement Calculus BC exam, was of course not designed by the researcher or anyone associated with the IMP curriculum. The other, non-test, measure of achievement reported in this study, student enrollment in mathematics classes and in advanced mathematics classes, was a natural measure of the impact of a reform program that has been used in studying other interventions (Gamoran, Porter, Smithson, & White, 1997).