

### ***Zepeda & Mayers was cited by the Peel DSB Admin. Report***

A review of this academic article for references to Math revealed the following:

#### ***Group 3: Effects of Implementing Block Scheduling Methods and Designs***

Four other studies (Pisapia & Westfall, 1997b; Queen et al., 1996, 1997, 1998) reported on the effects of block scheduling on test scores. Queen et al. (1996, 1997, 1998) reported that following implementation of the block, state-mandated test scores initially increased and then later decreased. Pisapia and Westfall (1997b) reported that more schools experienced increased SAT verbal scores than increased SAT math scores. AP exam scores declined. The results of studies examining grade point averages were as inconsistent as those investigating test scores.

#### ***Group 4: Effects of Block Scheduling on Student Learning Methods and Designs***

In a Midwestern setting, Veal and Schreiber (1999) performed ANCOVA tests to examine the effects of a trimester system on student learning in language arts and mathematics.

##### **What did Veal and Schreiber (1999) have to say:**

For reading and language, there was no statistically significant difference in test results.

There was a statistical difference mathematics-computation. Block mathematics is an ideal format for obtaining more credits in mathematics, but the block format does little for mathematics achievement and conceptual understanding.

The results have content specific implications for schools, administrations, and school boards who are considering block scheduling adoption.

Cobb et al. (1999) used an ANOVA with repeated measures to study the effects of block scheduling on **mathematics** achievement and grade point averages at both the middle and high school levels.

**What did Cobb et al. (1999) have to say:**

The block-scheduled students in this study performed significantly less well on standardized mathematics tests compared with their traditionally-scheduled peers.

Many 4 X 4 semester block scheduled schools are currently leaving room in the schedule for year-long, 50-minute classes which can accommodate the needs for year-long attention to **mathematics**, band, chorus, and advanced placement classes. **These kinds of modifications probably hold the key in the long run to establishing the flexibility in scheduling to make the best use of the characteristics educators like of both traditional and block scheduling.**

Lawrence and McPherson (2000) used *t* tests and descriptive statistics to compare test scores for block and non-block North Carolina high school students across the four core content areas (English, **mathematics**, science, and social studies).

**What did Lawrence and McPherson (2000) have to say:**

This study compared the academic achievement of high school students on the block schedule with the academic achievement of high school students on the traditional schedule to determine what impact block scheduling would have on academic achievement. **Results showed students on the traditional schedule scored significantly higher on standardized tests. (Author/LRW)**

Only one study used a qualitative methodology. Using a case study approach, Howard (1997) studied the effects of block scheduling on instruction in an AP **mathematics** classroom.

**What did Howard (1997) have to say:**

This case study reflects block scheduling's effects on advanced-placement **mathematics** courses of one veteran teacher tracking personal progress since 1989. Block scheduling began in 1994, creating problems for the teacher, whose resistance to the reform was based on **declining advanced-placement scores**. Teacher attitude and insufficient professional-development opportunities limit program success. (15 references) (MLH)

Three studies (Arnold, 2002; Cobb et al., 1999; Wronkovich et al., 1997) reported lower **math** achievement for block students than for traditionally scheduled students.

Wronkovich, Hess, and Robinson (1997) used standardized test scores and open-ended survey questions to investigate the effects of block scheduling on **mathematics** achievement.

In a study published in the NASSP Bulletin regarding student achievement in mathematics, Wronkovich, Hess, and Robinson (1997) reported significant findings that raise serious questions about the Lockwood study. In that study, students who had participated in block scheduling over a three year period taking algebra 1, algebra 2, and geometry performed significantly below those who had taken the same three courses under the traditional format on a college mathematics placement test (The Ohio Colleges Early Math Placement Test). The study co-varied ability in math as measured by performance on the Preliminary Scholastic Aptitude Test (PSAT), grade point average and gender. The results demonstrated that the style of scheduling did account for a significant amount of the variance in predicting performance over and above the covariants. And, the difference was up to a 22% increase in mean group performance. The test for significance was two-tailed, and the positive relationship was in favor of those students who had taken mathematics under a traditional format. While this study only covered math, the results taken with what Bateson found and with what