

A Study of MDTP Results

The Math Diagnostic Testing Program is a well-established program which produces multiple-choice examinations for use by California high schools to provide diagnostic data for students and teachers and by colleges as placement tests into mathematics courses. The examinations are written and validated by a team of University of California and California State University faculty together with high school teachers. As such, their examinations were pressed into service as a benchmark that CPM students knew the basic computational skills of algebra and geometry.

In the summer of 1993, MDTP provided CPM with data from every school in northern California which could found for which 1/4 to 3/4 of the teachers who gave the examination were CPM teachers. This data was provided without names of either the teachers or the students, but with the classes identified as CPM or non-CPM. The results that follow are based on that information of about 4200 students in 91 classes of 34 different teachers at five schools. The schools are fairly typical urban/suburban schools which are lower to middle class. Three of them (A, C, and D) are trying to teach algebra to all students with all of the problems attendant to this goal--unmotivated students, etc. So the scores should be read with this background in mind.

The principal result is that **CPM students know the basic math skills better than students in traditional classes.** CPM students scored about 9% higher (geometry) to 20% higher (algebra) than non-CPM students at the same school. The scores are lower than one would wish, but given the clientele whose abilities are at the lower end of the ability range, the differences are important.

In the tables below, the numbers given are the number correct. The two algebra examinations each had 45 questions to be answered in 45 minutes, while the geometry examination had 50 questions to be answered in 45 minutes.

Geometry Test (SR45a93)

Schools	A	B	C	D	Average
CPM mean	20.61	21.14	18.74	19.78	20.07
Non-CPM mean	18.75	20.22	19.05	15.55	18.40
%CPM higher	9.9%	4.5%	-1.6%	27.2%	9.1%

Algebra Test (GR45a93)

Algebra Test (EA50a90)

Schools	A	B	Average	D	E	Average
CPM mean	17.08	22.60	19.84	18.01	25.85	21.93
Non-CPM mean	16.11	15.81	15.96	15.16	22.23	18.70
%CPM higher	6.0%	42.9%	24.3%	18.8%	16.3%	17.3%