

RESULTS OF TEACHER LEADER SUMMER INSTITUTE
PRE/POST MATHEMATICS ASSESSMENT – SUMMER 2001

November 2001

Background. Each of the seven M³RP regions conducted ten-day summer institutes for Teacher Leaders in Summer 2001. A primary objective for the sessions was to increase Teacher Leader mathematical content knowledge. The 2001 Summer Institutes coverage included two specific content strands: algebra and geometry. A mathematics content test, developed by Project Directors, was administered at the beginning of the Institute, and a different but comparable test was administered at the end to all participating Teacher Leaders. Each content strand on both the pre- and post-test was worth a certain number of points. Participants could take as much time as needed to complete the tests.

Results. Across the seven regions, 151 Teacher Leaders took both the pre- and the post-tests. The chart below shows mean scores for each of the strands plus the mean increase in score from pre- to post-test (“gain”).

Strand	Geometry			Algebra			Total		
Possible Points	14			19			33		
	Pre	Post	Gain	Pre	Post	Gain	Pre	Post	Gain
Mean Score	5.07	8.73	3.66	6.21	10.72	4.51	11.28	19.45	8.17

The chart below shows the distribution of point scores among the Teacher Leaders on the pre- and post-test. The cumulative percent columns show the percentage of Teacher Leaders scoring in that category or better.

Overall Test Scores (Possible Points = 33)				
Point Scores	Number of TLs Receiving These Point Scores		Cumulative Percent	
	Pre	Post	Pre (%)	Post (%)
0-5	36	6	100.0	100.0
6-10	41	15	76.2	96.0
11-15	35	21	49.0	86.1
16-20	16	32	25.8	72.2
21-25	15	45	15.2	51.0

26-30	8	27	5.3	21.2
31-33	0	5	0.0	3.3
Total	151	151		

T-tests on the total gain and on the gain for each strand show that the gain was significantly different from zero in each case. The observed increases from the pre-test to the post-test were not due to random chance. The possibility of regional differences was also investigated, but no significant differences were found.

In order to test for a regional effect, an analysis of covariance was performed on the difference scores (post-test score minus pre-test score) for the geometry strand, the algebra strand and the total; the corresponding pre-test score in each case was the covariate. This allows one to look for an increase in score while taking into account an individual's starting point. Due to a ceiling effect inherent with the test, teachers who have high pre-test scores are likely to show smaller increases on the post-test in comparison to those who start out with low scores. Taking this effect into account gives a clearer measure of any regional effect.