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Evaluation of the

“If I Had A Hammer” Program in

Memphis City Schools 2007-08

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Hammer Program Evaluation for Memphis City Schools 2007-08

The Hammer program was implemented in eight schools, with a total of 116 students attending at least one day. Table 1 provides data for non-matched student scores (all students who had a pretest (N=116) or a posttest score (N=85)). Average attendance for all schools was 11.9 days (SD (Standard Deviation) = 3.1, median = 13) out of 15. The median is the point at which half of the schools fall below, and half above. Delano had the highest average attendance rate of 13.75 days, while Cypress had the lowest average attendance rate of 10.18 days. The average pre- to posttest score gain across all schools was 23.52 percentage points. The percentage gain ranged from a high of 118.8% for Douglass to a low of 22.9% for Cypress.

- All schools combined as well as each individual school experienced a gain in test scores from the pretest to the posttest, with an average pre- to posttest score gain across all schools of 23.52 percentage points.
- The attendance rate, on average, for all schools combined was 79.3% (11.9 out of 15 days).

Table 1. Non-Matched Student Pretest and Posttest Scores, Gains, and Attendance

Groups	N	Pre-test		N	Post-test		Test Scores		Attendance	
		Mean	SD		Mean	SD	Percentage		Mean	SD
		Percent			Percent		Gain	Gain	Attendance	
All Schools	116	40.13	18.6	85	63.65	20.2	23.52	58.6	11.88	3.1
A. Maceo Walker	20	34.25	16.3	12	70.00	18.9	35.75	104.4	10.50	4.8
Corry	14	44.64	19.2	9	60.00	9.7	15.36	34.4	10.36	3.2
Cypress	11	50.46	16.5	5	62.00	10.4	11.54	22.9	10.18	2.3
Delano	24	40.63	18.4	23	70.44	15.5	29.81	73.4	13.75	1.6
Douglass	8	30.00	10.4	8	65.60	34.8	35.63	118.8	10.94	3.2
Sherwood	14	49.29	18.5	8	63.75	15.8	14.46	29.3	12.93	1.4
Springdale	18	28.89	16.6	15	45.33	18.0	16.44	56.9	12.44	1.9
Westside	7	52.14	18.7	5	77.00	19.2	24.86	47.7	12.57	1.7

Table 2 provides information for 85 matched student scores (all students who had both pre- and posttest scores). Average attendance for all schools was 12.88 days (SD = 2.2, median = 14) out of 15. Delano had the highest average attendance rate of 13.91 days, while Douglass had the lowest average attendance rate of 10.94 days. Paired t-tests were used to determine if posttest scores were significantly higher than pretest scores. For all schools combined, the average posttest score (63.65) was significantly higher than the average pretest score (38.71) ($t = -11.758$, $p < .001$). The percentage gain in average scores across all schools was 64.4%. The percentage gain for each school ranged from a high of 118.8% for Douglass to a low of 17.2% for Sherwood. Paired t-tests were also used to determine if posttest scores were significantly higher for each school. Each school had a

posttest gain, and all schools except Corry and Cypress had significantly higher posttest scores.

- All schools combined, and all individual schools except Corry and Cypress experienced a statistically significant gain in test scores from the pretest to the posttest, with an average pre- to posttest score gain across all schools of 24.94 percentage points.
- The average attendance rate across all schools was 85.9% (12.88 out of 15 days).
- Two schools, A. Maceo Walker and Douglass, experienced a 118% increase in their scores from the pretest to the posttest.
- Effect sizes¹ were extremely large. For all schools combined, the effect size between pre and post was over a standard deviation (1.27), while the range for individual schools was from 0.70 to 2.56.

Table 2. Matched Student Pretest and Posttest Scores, Gains, and Attendance

Groups	N	Pre-test		Post-test		Gain	SD	Effect Size	t	p	Percentage Gain	Mean Attendance	SD
		Mean Percent	SD	Mean Percent	SD								
All Schools	85	38.71	19.2	63.65	20.2	24.94	19.6	1.27	-11.758	<.001**	64.40	12.88	2.2
A. Maceo Walker	12	32.08	17.1	70.00	18.9	37.92	20.8	1.82	-6.306	<.001**	118.20	13.42	2.9
Corry	9	46.67	21.2	60.00	9.7	13.33	19.0	0.70	-2.101	0.069	28.60	11.78	3
Cypress	5	47.00	19.2	62.00	10.4	15.00	14.6	1.03	-2.301	0.083	31.90	11.60	1.8
Delano	23	41.09	18.6	70.44	15.5	29.35	13.7	2.14	-10.291	<.001**	71.40	13.91	1.4
Douglass	8	30.00	10.4	65.63	34.8	35.63	33.4	1.07	-3.014	0.02*	118.80	10.94	3.2
Sherwood	8	54.38	20.1	63.75	15.8	9.38	10.8	0.87	-2.447	0.044*	17.20	13.00	1.5
Springdale	15	26.33	14.3	45.33	18.0	19.00	13.7	1.39	-5.389	<.001**	72.20	13.07	1.2
Westside	5	47.00	20.2	77.00	19.2	30.00	11.7	2.56	-5.721	0.005**	63.80	12.40	1.5

*Significant at p < 0.05 level, **Significant at p < 0.01

Changes in pre- and posttest scores for the total group and for individual schools can be found in Table 3. Almost 90% of all students had increased scores on the posttest, while only 8% of students showed a decline from pre- to posttest. Both A. Maceo Walker and Westside had 100% of their students increase their posttest scores. Douglass had the highest percentage of students whose scores declined on the posttest (25%).

- The vast majority of students (nearly 90%) for all school combined had an increase from the pretest to the posttest
- The percent of students who increased at each school ranged from a low of 75% to a high of 100% (A. Maceo Walker and Westside).

¹ Effect sizes were calculated by dividing the pre- and posttest mean difference by the standard deviation of the mean difference. The effect size indicates the number of standard deviations by which the posttest mean differs from the pretest mean. Positive effect sizes would indicate higher posttest means, while negative effect sizes would indicate higher pretest means. For example, an effect size of +0.50 would indicate a half of a standard deviation advantage for students' posttest scores—a highly substantial educational impact. Generally, in education, effect sizes exceeding +/-0.20 would be considered meaningful and fairly strong.

Table 3. Matched Student Pretest and Posttest Score Changes

	Increased		Stayed the Same		Decreased	
	N	Percent	N	Percent	N	Percent
All Schools	76	89.4	2	2.4	7	8.2
A. Maceo Walker	12	100.0	0	0.0	0	0.0
Corry	8	88.9	0	0.0	1	11.1
Cypress	4	80.0	0	0.0	1	20.0
Delano	22	95.7	1	4.3	0	0.0
Douglass	6	75.0	0	0.0	2	25.0
Sherwood	6	75.0	1	12.5	1	12.5
Springdale	13	86.7	0	0.0	2	13.3
Westside	5	100.0	0	0.0	0	0.0

A Pearson Correlation (R) was used to determine if a significant relationship existed between the number of days students attended the program and posttest scores. The initial correlation that did not control for pretest scores indicated that there was not a significant relationship between attendance in the program and posttest performance (see Table 4). However, when posttest scores were used controlling for pretest scores, there was a small, positive correlation between attendance and posttest scores. As the number of days in attendance for the program increased, posttest scores had a tendency to increase.

- Attending more days in the Hammer program was significantly related to higher posttest scores when posttest scores were statistically adjusted for pretest performance.

Table 4. Correlations for Posttest and Attendance (N=85)

	R	p
Posttest score with Attendance	0.203	0.062
Posttest score with Attendance controlling for Pretest scores	0.241	0.027*
*Significant at p < .05		

Overall Summary and Recommendations

- Students showed strong gains overall. For students who had both pre- and posttest scores, all schools combined, and all individual schools except Corry and Cypress experienced a statistically significant gain in test scores from the pretest to the posttest. Effect sizes for all schools and for individual schools were extremely large, indicating a large gain from the pretest to the posttest. In addition, the effect size for the overall gain in the current report compared favorably to that of the prior MCS study.
- Nearly 90% of students for all schools combined had an increase from the pretest to the posttest.
- Those students who attended the program more frequently did somewhat better (controlling for ability on the pretest).
- It should be noted that the present study did not include a comparison of program (Hammer) students to a control group that did not receive the program. Thus, the results should be considered only suggestive of positive program effects at this point. Further evaluation studies that include a treatment vs. control group comparison are encouraged.