Minnesota Math Outcomes Analysis 2013/14

Grade Levels: 3, 4, 5
ST Math Program: Gen-4
Analysis Type: Two-Year
Treatment-Year: 2013/14

Baseline-Year: 2011/12

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Abstract

This analysis covers all grades using ST Math in Minnesota in 2012/13 and 2013/14. It identifies those grades with nominal or better implementation of the ST Math program, and matches them to randomly selected, similar math-performance, comparison grades. The nominal ST Math users are an aggregation of 24 grades 3, 4, and 5 at 15 schools. They were matched to 72 similar, randomly selected control grades at 68 schools never using ST Math. Grade-wise growth in math proficiency was evaluated (i.e. growth in same grade, same school, from 2011/12 to 2013/14) on the MCA proficiency levels and scale scores. Grades 3, 4, and 5 aggregated showed a significant 10.7 points of growth in MCA Level 3 or Level 4 for ST Math users, compared to -1.1 points for comparison grades.

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1   Introduction

1.1   Background

This is a quasi-experimental analysis at the grade-mean level. Entire grades represent the units of analysis, and outcome measures are the 2-year changes in grade-mean MCA Level 3 or Level 4 percentages. The treatment grades used the ST Math program for 2 years, beginning in the 2012/13 school year. The control grades were selected to have similar math attributes to the treatment grades during the baseline year (2011/12), and did not use ST Math in 2013/14. The treatment grades' selection pool was all schools using ST Math in grades 3, 4, and 5 in Minnesota. The control grades' pool was all schools not using ST Math in grades 3, 4, and 5 in Minnesota.

1.2   Program Description

The ST Math program is a supplemental math program covering grade-level Minnesota math standards. The ST Math content consists of visual representations of math standards, concepts, and procedures, presented to students as "Puzzles" of virtual manipulatives, with which they interact to pose solutions. Each time the student poses a solution, the computer visually animates the Puzzle, diagram, or symbols to show why the posed solution correctly solves, or why it does not solve, the math problem (puzzle). The Puzzles are arranged into sequential groups, called "Levels". To proceed to the next Level in sequence, the student needs to master his/her current Level. Mastering a Level requires solving 100% of the math problems, or Puzzles correctly. In this way, the program is self-paced. Students must correctly solve approximately 4-12 Puzzles, with only 1 failure and retry allowed, to proceed. Levels are sequenced together into Games and, again, the student must master each Game to get to the next Game in sequence. Games are sequenced into "Learning Objectives" (e.g. 'Fractions Concepts'). The ST Math curriculum of approximately 20-25 Learning Objectives can be rearranged in a year-long, grade-level syllabus to match district math pacing through the school year.

   The Puzzles typically start with concrete representations of the math, without abstract symbols, math vocabulary, or even English words. Gradually, through subsequent Levels or Games, abstractions are introduced. For example, a Puzzle might start with "n" green blocks on the screen, and then at a subsequent Level may represent the quantity with the numeral for "n" (no green blocks anymore). In this way, three things are accomplished: i) language proficiency prerequisites to engage with the program are minimal, ii) non-mathematical distractions (e.g. back-stories for word problems) are minimized or eliminated – thereby reducing load on working memory, and iii) the actual math in the problem can be represented clearly, simply, and unambiguously.

   Besides the self-paced progress made by students in their one-to-one environment, the program is designed to be referenced by teachers during their regular math instruction. It is supplemental to core or basal math instruction and instructional materials. As the great majority of grade-level math standards are covered in the ST Math digital curriculum, completion of 100% of the entire ST Math curriculum (i.e. completing every Game) is required to cover all grade-level math standards.

   To achieve nominal progress through the program, there is a time-on-task requirement. MIND Research Institute has found that application of adequate time-on-task is generally sufficient to get virtually all students to make sufficient progress through the program. Students are recommended to use the program in school for at least two 45-minute sessions per week, or 90 minutes per week, over about 35 weeks. Analyses of ST Math usage have shown that consistently following this schedule throughout the school year is usually sufficient to achieve 50% or more Progress through

ST Math content. Progress is a percentage of ST Math content coverage, and is defined as Levels completed by the student, divided by the total number of Levels in the curriculum. In addition, MIND's historical analyses have shown that it is necessary to complete at least 50% of the program in order to expect significantly higher performance compared to non-users.

2 Data Collection

Since this analysis uses grades as the unit of analysis, and states publish grade-mean state standardized test scores, the data for student math outcomes is collected from each state education agency's research files (retrieved from state websites). The treatment students use ST Math student accounts served by MIND. Student ST Math usage data is aggregated to grade-level means by MIND.

2.1 Proficiency Levels Definition

The following (Table 1) are Minnesota's proficiency level descriptions:

Proficiency Level	State Proficiency Level Name
L1	Level 1
L2	Level 2
L3	Level 3
L4	Level 4

Table 1: Proficiency Level Naming

2.2 Treatment Grades Pool and Selection

The Treatment grades pool originated with all schools and grades using ST Math in Minnesota. From these schools, every grade that had used the ST Math program for the years 2012/13 and 2013/14 was identified. They comprise the Treatment grades pool for this evaluation of 2 year usage.

Because the analysis uses grade-mean data, such as grade-mean scale scores or grade-mean proficiency level percentages, it is necessary that the program also be a grade-wide treatment, with the great majority of students in treatment. Otherwise, the grade-means reported by the state of 100% of *tested* students would not be valid measures of a smaller fraction of *treatment* students. MIND's site implementation requirement is that an entire grade, including all teachers and all classes within that grade, use the ST Math program. We validate how closely this is the case for each individual treatment grade by comparing the number of ST Math student accounts at a grade level to the Minnesota's reported enrollment at that grade level. We discard from the Treatment pool any grade with a ratio of ST Math student accounts to reported grade enrollment lower than 85%.

Furthermore, the outcomes measure is a summative year-end test, i.e. Minnesota's standardized math assessment (MCA). The math assessment thus covers all the math standards for that entire grade level. Meanwhile, the ST Math program curriculum (arranged into Learning Objectives) is also aligned to Minnesota math standards. To infer that the ST Math content is having a valid

effect on student outcomes on the summative assessment, we discard any grade with grade-mean of ST Math Progress for its students lower than 50% by year-end.

Progress is a percentage, and is defined as Levels completed by the student, divided by the total number of Levels in the grade-level curriculum. Note that student achievement of at least 50% progress in ST Math is accomplished primarily by teacher assignment of computer session time to students. With sufficient time on task, students make progress. The program helps them self-pace through providing real-time informative feedback for each puzzle.

2.3   Control Grades Pool and Selection

The control grades are randomly selected from a control pool of schools in Minnesota. Though they are randomly selected, they are also matched to be similar to the Treatment grades' math attributes during the baseline 2011/12 year. The matched math attributes include scale score and student percentages at each math proficiency level.

In order to mitigate the risk of randomly picking an outlier set of Control grades, a Monte Carlo approach is used to perform many random picks. The control pool's size is large enough that there are many possible "picks" of closely matched control grades.

Dozens, or up to hundreds, of randomly matched picks are made and sets of matched control grades are generated. For each set, the math growth of the potential control set is evaluated. Some picked sets have high average math growth, some have low average math growth. From the set of all picks, a median pick is chosen. This avoids either an unlikely overestimate, or underestimate, of the Control grades' growth.

3   Data Analysis

The set of all schools and grades using ST Math in Minnesota is evaluated for Enrollment percentage and Progress percentage parameters. A filtered Treatment set (TRT) of all ST Math grades with $\geq 85\%$ Enrollment and $\geq 50\%$ Progress is identified. State math assessment data is tabulated. A matching set of Control grades based on baseline year state math assessment is selected.

Changes in math performance, i.e. the difference in math performance of a grade from a baseline year to the final year, are evaluated and tabulated. Statistical tests of the significance of the difference in math performance changes between Treatment grades and Control grades are performed. Finally, after all this analysis has been performed on a grade-aggregated basis, a grade-by-grade disaggregation is performed.

3.1 Final Treatment and Control

3.1.1 ST Math Grade-Aggregated Implementation ($\geq 85\%$ Enrollment Grades Only)

ST Math Percent Grade Mean Progress Distribution – 2013/14
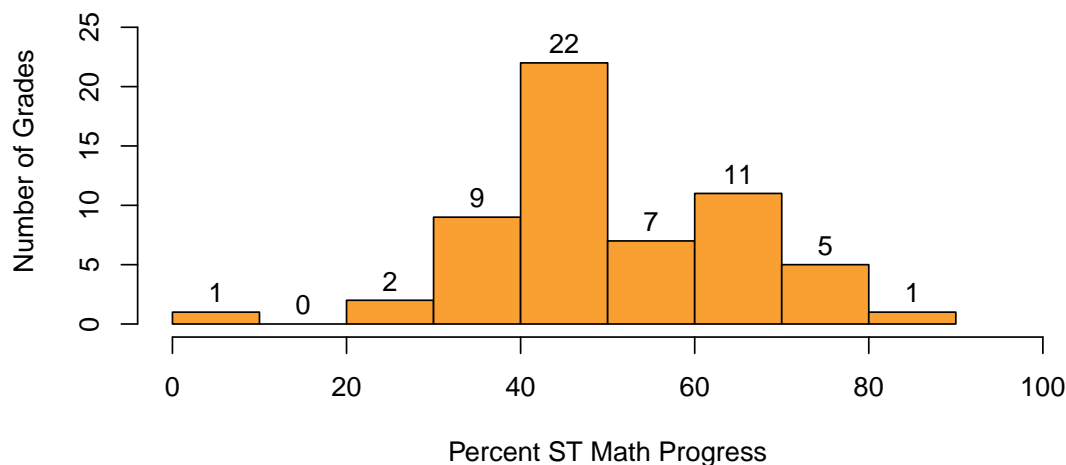
Figure 1: Histogram of ST Math Percent Progress for $\geq 85\%$ Enrollment Grades 2013/14

For all ST Math grades with Enrollment $\geq 85\%$, Figure 1 shows the frequency distribution of grade-average Progress percentage through the program. Note that we will only be using grades with $\geq 50\%$ Progress as the Treatment Group.

Table 2 provides some descriptive statistics of the Progress distribution. Table 3 shows the number of remaining treatment grades after applying enrollment and progress filters.

	Min.	Max.	Average	S.D.
ST Math % Progress	8.2	84.8	50.5	14.9

Table 2: Descriptive Statistics of ST Math Percent Progress for $>= 85$ percent Enrollment Grades

Grades with $>= 85\%$ Enrollment:	56
Grades with in addition $>= 50\%$ Progress:	24

Table 3: Number of ST Math Grades with $>= 85$ percent Enrollment and with $>= 50$ percent progress

3.1.2 Filtering Treatment and Controls

Table 4 shows the total number of grades in the Treatment pool, the number of grades that exceeded the 85% Enrollment figure, and also the 50% Progress filter. Other rows in the table indicate counts of numbers of students (2013/14 from state testing count) and counts of number of schools represented. The number of matched Control (CTRL) grades, students, and schools is also shown.

	Grade 3	Grade 4	Grade 5	Total
ST Math Using Grades	21	22	15	58
ST Math Using Schools	21	22	15	24
ST Math Students	1588	1543	874	4005
ST Math Grades (Enroll >= 85%)	20	21	15	56
TRT Grades (Enroll >= 85% & Prog >= 50%)	5	9	10	24
TRT Schools (Enroll >= 85% & Prog >= 50%)	5	9	10	15
TRT Students (Enroll >= 85% & Prog >= 50%)	401	608	582	1591
CTRL Grades	15	27	30	72
CTRL Schools	15	27	30	68
CTRL Students	1335	1969	1895	5199

Table 4: Treatment Pool Filtering and Controls: Counts of Grades, Schools, and Students

3.1.3   Match of Controls to Treatment

Figure 2 shows the density plot of the baseline MCA Math scale scores (left plot) and baseline percent students at MCA Level 3 or Level 4 (right plot) for treatment grades overlayed on control grades , showing the closeness of the match obtained between Treatment and Control sets of grades in the baseline year, 2011/12.
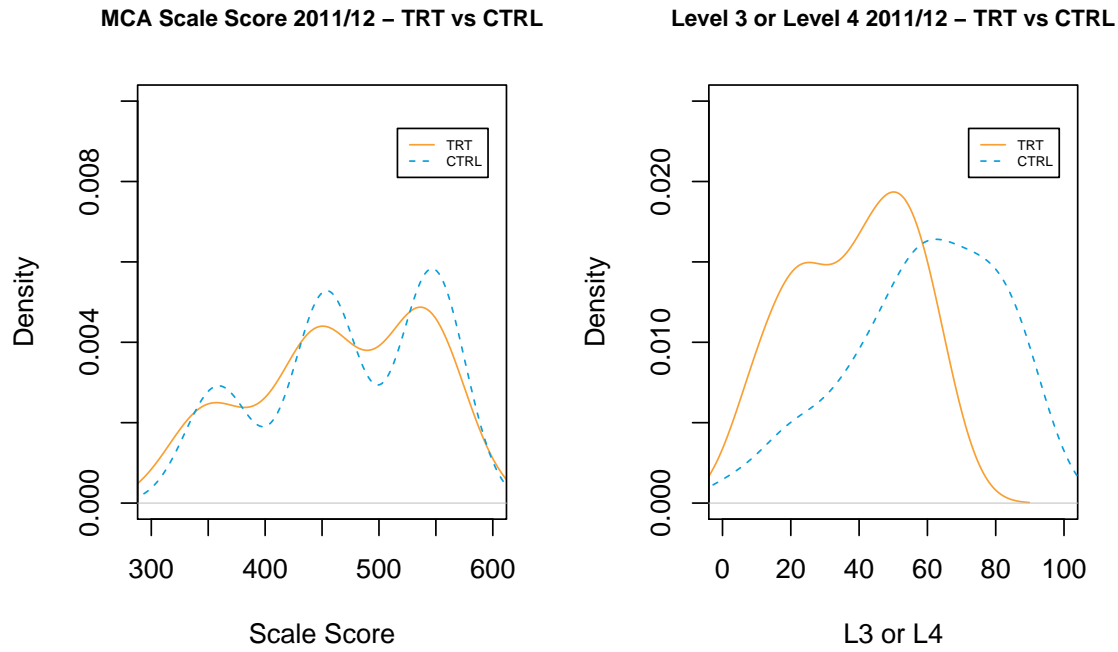
Figure 2: Baseline Year Density Plot Showing Match between TRT and CTRL - 2011/12

3.2 Grade-Aggregated Analysis

Table 5 below shows for both the Treatment (TRT) and Control (CTRL) sets of grades the aggregation across grades of proficiency level distributions. The far right column also shows the average ST Math Progress for the TRT set.

	# Grades	# Schools	# Students	Scale Score	L1	L2	L3	L4	L3_or_L4	ST Math Per Prog.
TRT.11.12	24	15	1495	465.7	39.83	21.93	24.11	14.13	38.24	–
TRT.12.13	–	–	1537	468.1	34.10	20.94	27.05	17.93	44.98	56.23
TRT.13.14	–	–	1591	469.1	32.00	19.03	29.93	19.04	48.97	64.71
TRT.Delta	–	–	–	3.4	-7.83	-2.90	5.82	4.91	10.73	–
CTRL.11.12	72	68	4892	472.6	20.92	20.18	39.82	19.09	58.91	–
CTRL.12.13	–	–	4905	472.6	21.52	20.39	36.61	21.47	58.08	–
CTRL.13.14	–	–	5199	472.9	20.89	21.26	35.99	21.85	57.84	–
CTRL.Delta	–	–	–	0.3	-0.03	1.08	-3.83	2.76	-1.07	–

Table 5: Yearly Math Proficiency and Counts for TRT and CTRL Grade-Aggregated Datasets

The following chart (Figure 3) shows the changes in percentage of students at each math proficiency level for the grade-aggregated Treatment and Control sets (TRT.delta and CTRL.delta).
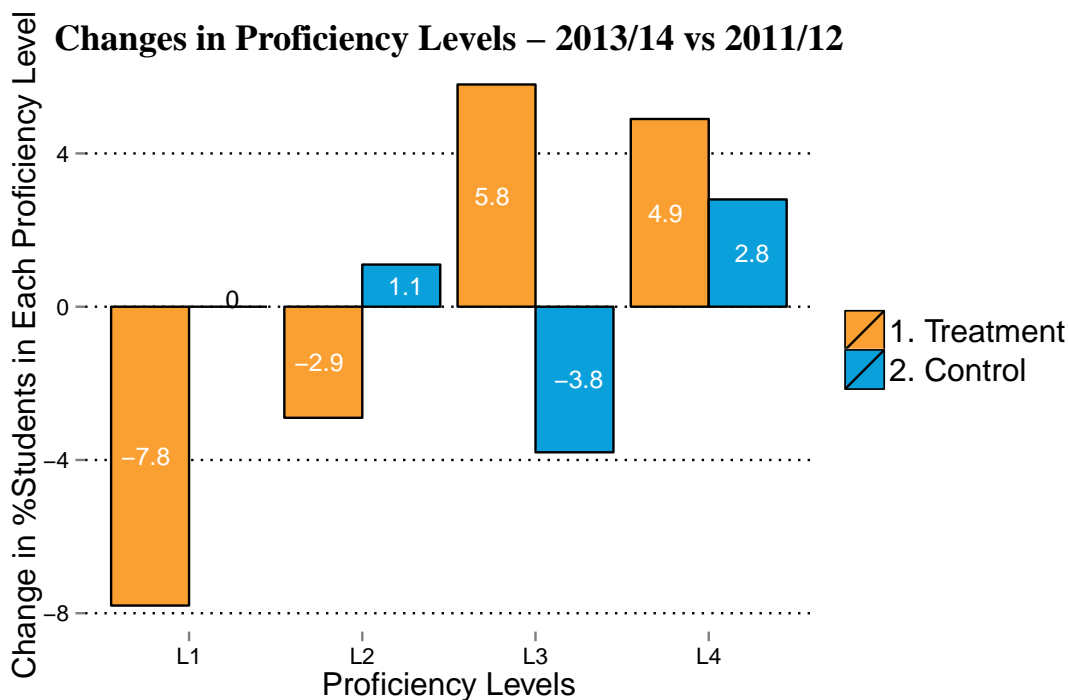
Figure 3: Change between 2011/12 and 2013/14 at each Proficiency Level for Grade-Aggregated TRT and CTRL Datasets

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The following chart (Figure 4) shows the chronological changes in average scale scores and average % students at Level 3 or Level 4 from the 2011/12 baseline year to the current year (2013/14).

Changes in MCA Scale Scores – 2011/12 to 2013/14

Changes in L3 or L4 – 2011/12 to 2013/14

Figure 4: Yearly changes in MCA Math Scale scores and Percent Students at Level 3 or Level 4 for grade aggregated TRT and CTRL datasets between 2011/12 and 2013/14

Finally, Figure 5 shows the two-year changes in MCA Math Scale Scores and two-year changes in percent of students at MCA Level 3 or Level 4 for the grade-aggregated Treatment and Control sets.

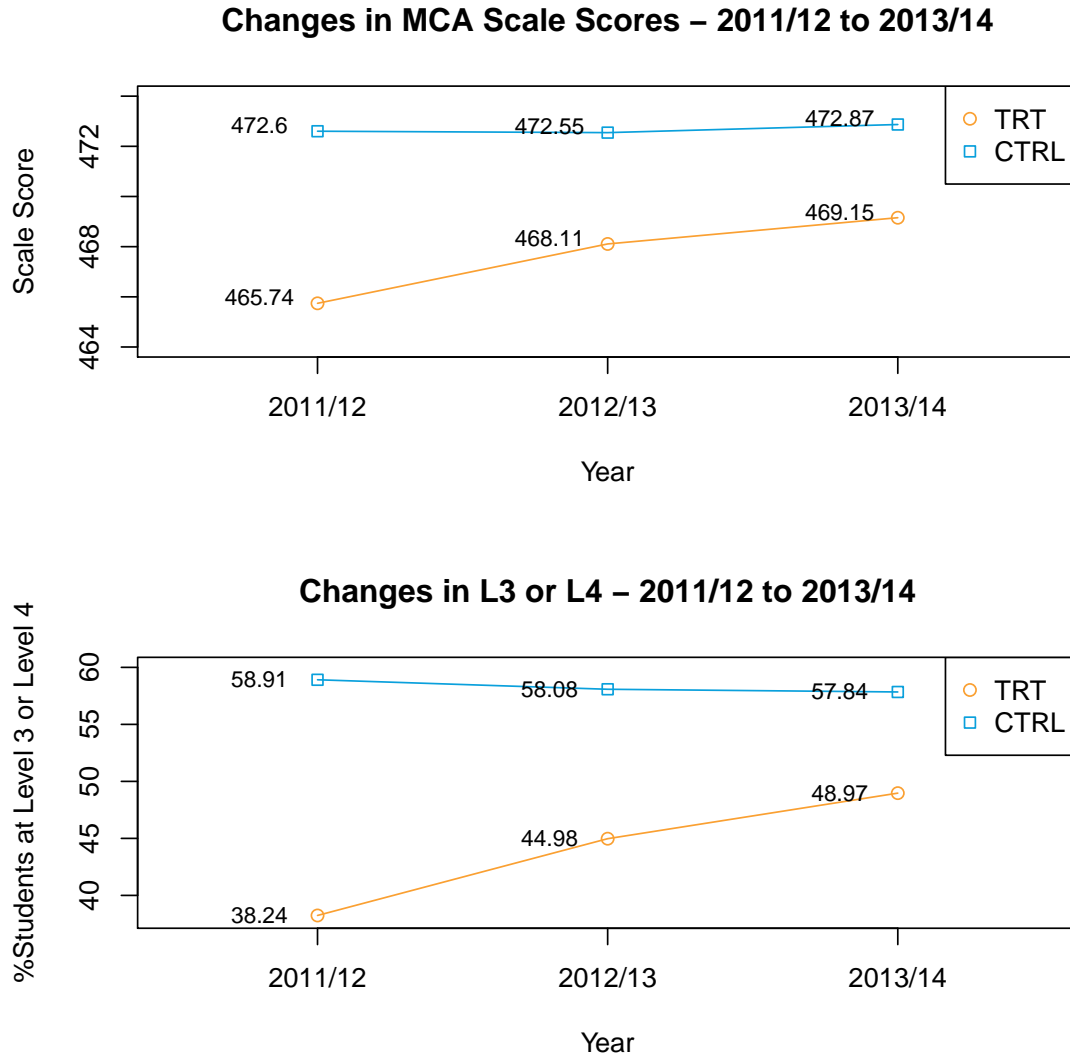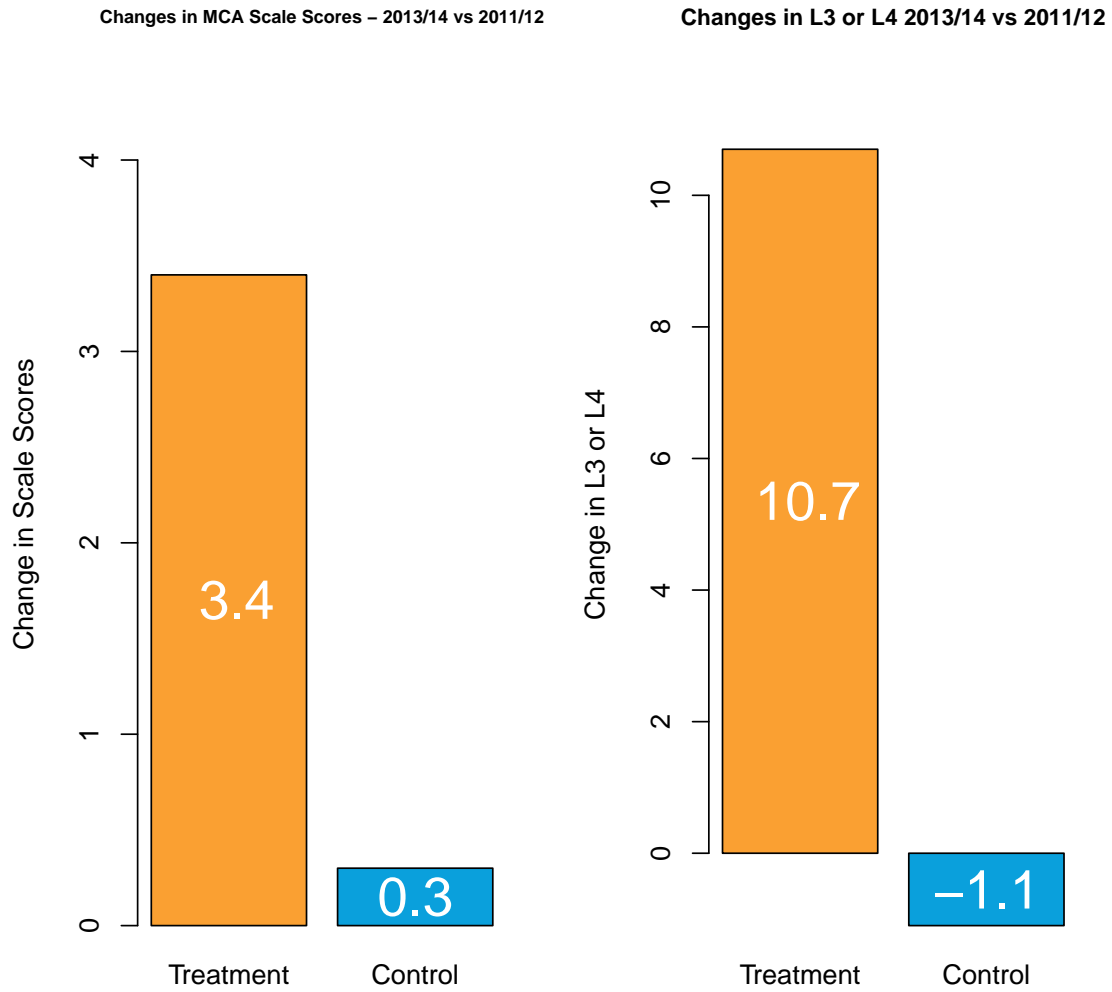Figure 5: Changes in MCA Math Scale Scores and Level 3 or Level 4 for Grade-Aggregated TRT and CTRL datasets between 2011/12 and 2013/14

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Finally, Table 6 shows the statistics for the *differences* in changes between TRT and CTRL (Treatment - Control) for these same MCA math proficiency and scale score changes as in the above figures.

	Estimate	P-Value	Int.Low	Int.High
L3_or_L4	11.80	0.00	5.30	18.29
Scale Score	3.14	0.01	0.81	5.48
L1	-7.80	0.02	-14.44	-1.15
L2	-3.97	0.06	-8.13	0.18
L3	9.64	0.00	4.76	14.53
L4	2.15	0.37	-2.61	6.92

Table 6: Statistics for the Differential Changes in Math Scores Growth (TRT - CTRL)

3.3 Grade-Level Analysis

3.3.1 Grade Level Result Tables

The following tables (Table 7, 8, and 9) present a disaggregation of results by grade level. The far right column in each table also shows the average ST Math Progress for the TRT set.

	# Grades	# Schools	# Students	Scale Score	L1	L2	L3	L4	L3_or_L4	ST Math Per Prog.
TRT.11.12	5	5	347	350.6	27.42	17.50	32.44	22.64	55.08	–
TRT.12.13	–	–	412	351.7	24.50	18.48	33.06	23.98	57.04	45.67
TRT.13.14	–	–	401	352.4	21.28	17.60	37.06	24.06	61.12	54.06
TRT.Delta	–	–	–	1.8	-6.14	0.10	4.62	1.42	6.04	–
CTRL.11.12	15	15	1254	358.2	11.17	12.31	45.32	31.22	76.54	–
CTRL.12.13	–	–	1305	358.6	11.48	12.18	43.25	33.09	76.34	–
CTRL.13.14	–	–	1335	358.0	11.73	15.21	39.94	33.10	73.04	–
CTRL.Delta	–	–	–	-0.3	0.55	2.89	-5.38	1.88	-3.50	–

Table 7: Grade 3 - Yearly Math Performance and Counts for TRT and CTRL Datasets

	# Grades	# Schools	# Students	Scale Score	L1	L2	L3	L4	L3_or_L4	ST Math Per Prog.
TRT.11.12	9	9	535	447.3	35.76	19.44	25.93	18.87	44.80	–
TRT.12.13	–	–	535	450.6	29.54	17.14	28.03	25.28	53.31	48.46
TRT.13.14	–	–	608	452.5	25.27	17.66	30.16	26.91	57.07	65.62
TRT.Delta	–	–	–	5.2	-10.49	-1.79	4.22	8.04	12.27	–
CTRL.11.12	27	27	1907	453.7	19.55	17.32	40.37	22.77	63.14	–
CTRL.12.13	–	–	1882	453.3	20.81	17.57	35.92	25.70	61.62	–
CTRL.13.14	–	–	1969	453.8	19.60	19.73	34.78	25.89	60.67	–
CTRL.Delta	–	–	–	0.1	0.06	2.41	-5.59	3.11	-2.47	–

Table 8: Grade 4 - Yearly Math Performance and Counts for TRT and CTRL Datasets

	# Grades	# Schools	# Students	Scale Score	L1	L2	L3	L4	L3_or_L4	ST Math Per Prog.
TRT.11.12	10	10	613	539.9	49.69	26.38	18.31	5.61	23.92	–
TRT.12.13	–	–	590	542.0	42.99	25.58	23.15	8.29	31.44	68.51
TRT.13.14	–	–	582	542.5	43.41	20.99	26.16	9.45	35.61	69.22
TRT.Delta	–	–	–	2.6	-6.28	-5.39	7.85	3.84	11.69	–
CTRL.11.12	30	30	1731	546.8	27.04	26.69	36.58	9.71	46.29	–
CTRL.12.13	–	–	1718	546.8	27.18	27.04	33.91	11.85	45.76	–
CTRL.13.14	–	–	1895	547.5	26.63	25.67	35.11	12.58	47.70	–
CTRL.Delta	–	–	–	0.7	-0.41	-1.02	-1.47	2.88	1.41	–

Table 9: Grade 5 - Yearly Math Performance and Counts for TRT and CTRL Datasets

3.3.2 Grade-Level Analysis of Changes in MCA Math Level 3 or Level 4

Figure 6 shows the difference in the growth of percentages of students at MCA math Level 3 or Level 4, for the TRT and CTRL datasets, disaggregated by grade:

Changes in Percent L3 or L4 – 2013/14 vs 2011/12
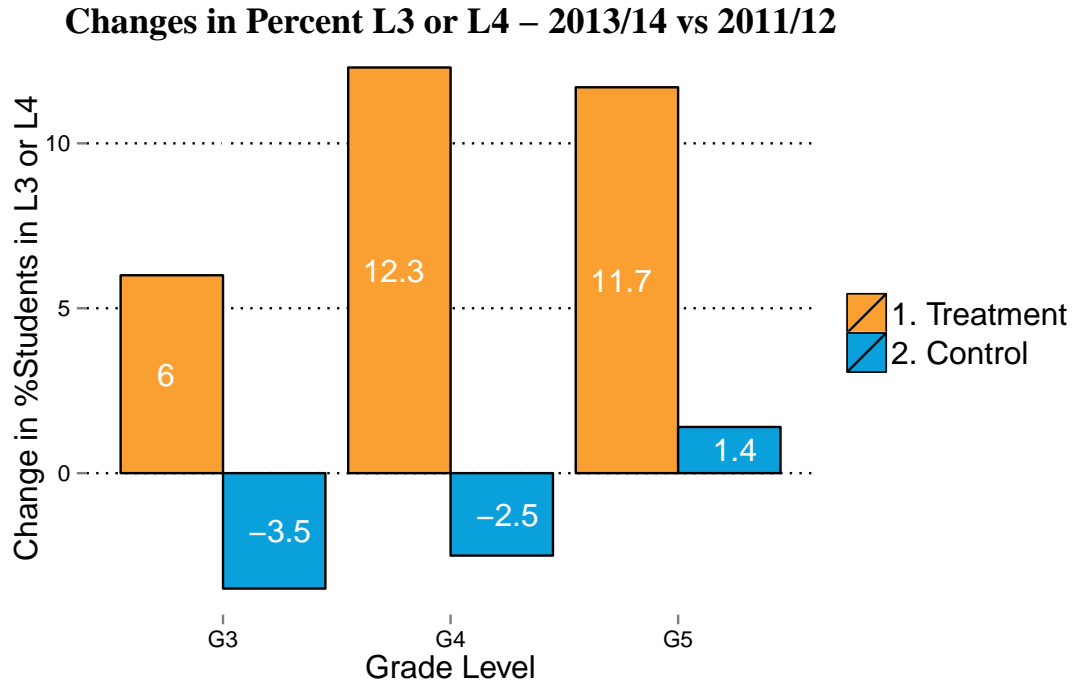
Figure 6: Changes in Percent of Students at MCA L3 or L4 for TRT and CTRL Datasets between 2011/12 and 2013/14

Table 10 shows the statistics for the *differences* in changes between TRT and CTRL (Treatment - Control) for these same MCA Level 3 or Level 4 math proficiency changes as shown in Figure 6.

	Estimate	P-Value	Int.Low	Int.High
Grade 3	9.54	0.02	2.31	16.77
Grade 4	14.74	0.02	3.20	26.28
Grade 5	10.28	0.11	-2.58	23.14

Table 10: Statistics for the Differential Changes in MCA L3 or L4 , TRT - CTRL

3.3.3 Grade-Level Analysis of Changes in MCA Math Scale Scores

Figure 7 shows the changes in the grade-mean math scale scores of students for the TRT and CTRL datasets, disaggregated by grade:


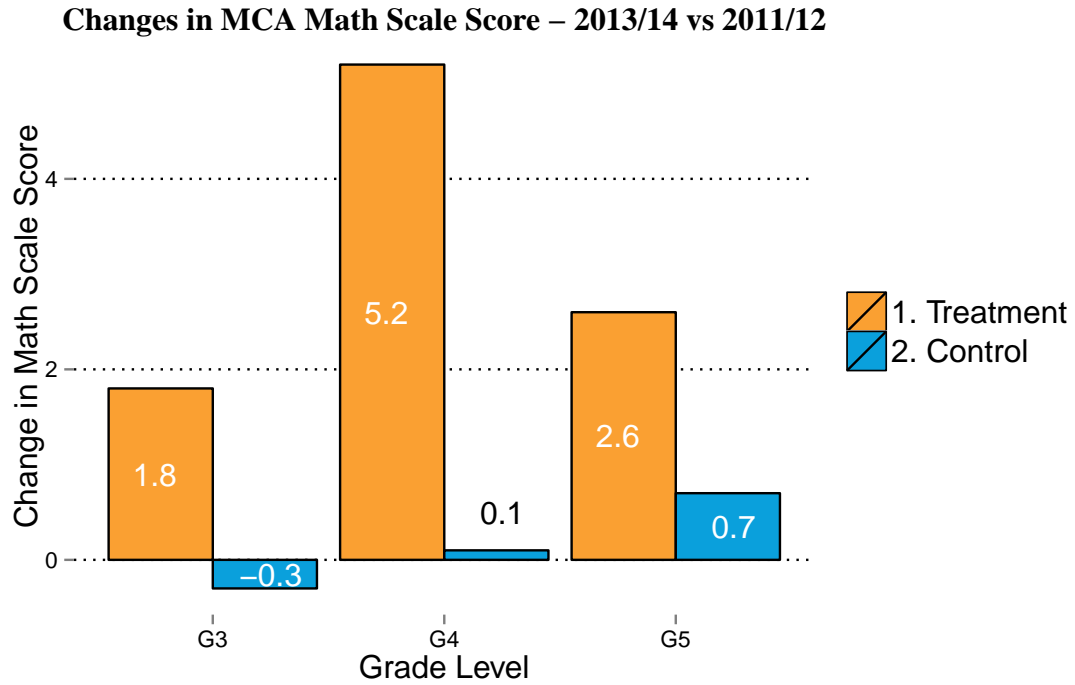**Changes in MCA Math Scale Score – 2013/14 vs 2011/12**

Figure 7: Changes in Grade-Mean MCA Math Scale Score for TRT and CTRL Datasets between 2011/12 and 2013/14

Table 11 shows the statistics for the *differences* between TRT and CTRL (Treatment - Control) for these same MCA math scale score changes as shown in Figure 7.

	Estimate	P-Value	Int.Low	Int.High
Grade 3	2.02	0.02	0.40	3.64
Grade 4	5.09	0.02	1.07	9.12
Grade 5	1.95	0.38	-2.68	6.58

Table 11: Statistics for the Differential Changes in MCA Math Scale Scores Growth, TRT - CTRL

4   Findings Summary

Minnesota grades 3, 4, and 5 using ST Math for the years 2012/13 and 2013/14 averaged 50.5% ST Math Progress in 2013/14. 24/58 grades (41.3%) averaged covering more than 50% of ST Math content in 2013/14 (see Table 4).

A search for similarly performing grades for comparison in the baseline year, 2011/12, was performed throughout the state of Minnesota. The resulting match for the eventual comparison set of grades on scale score was very close, see Figure 2, left chart. It was not possible to obtain as close a match on Level 3 or above, see right chart, due to the ST Math grades being among the very worst in the entire state in the baseline year. These ST Math grades (aggregated) increased their math scale scores by over 3.1 points more than did the comparison grades, and the ST Math grades increased their percentages of students at MCA Level 3 or above by 11.8 points more than did the comparison grades (see Figure 5 and Tables 5 and 6).

Note that for Level 1, the ST Math grades also significantly outperformed the comparison grades, showing 7.8 points fewer students at this lower proficiency level.

Evaluation of disaggregated, individual grade-levels, with "n" ranging from 5 to 10 (see Tables 7, 8 and 9) showed significantly better math proficiency growth of ST Math grade-levels at Grades 3 and 4 on both scale scores and Level 3 or above proficiency percentages (see Figures 6 & 7 and Tables 10 & 11).

5   Reference Tables Grouped By School Year

The following tables show grade-level details, grouped by school year and for treatment (Table 12) and controls (Table 13) separately.

	# Grades	# Schools	# Students	Scale Score	L1	L2	L3	L4	L3_or_L4	ST Math Per Prog.
Grade 3 (11.12)	5	5	347	350.6	27.42	17.50	32.44	22.64	55.08	–
Grade 4 (11.12)	9	9	535	447.3	35.76	19.44	25.93	18.87	44.80	–
Grade 5 (11.12)	10	10	613	539.9	49.69	26.38	18.31	5.61	23.92	–
All Grades (11.12)	24	15	1495	465.7	39.83	21.93	24.11	14.13	38.24	–
Grade 3 (12.13)	5	5	412	351.7	24.50	18.48	33.06	23.98	57.04	45.67
Grade 4 (12.13)	9	9	535	450.6	29.54	17.14	28.03	25.28	53.31	48.46
Grade 5 (12.13)	10	10	590	542.0	42.99	25.58	23.15	8.29	31.44	68.51
All Grades (12.13)	24	15	1537	468.1	34.10	20.94	27.05	17.93	44.98	56.23
Grade 3 (13.14)	5	5	401	352.4	21.28	17.60	37.06	24.06	61.12	54.06
Grade 4 (13.14)	9	9	608	452.5	25.27	17.66	30.16	26.91	57.07	65.62
Grade 5 (13.14)	10	10	582	542.5	43.41	20.99	26.16	9.45	35.61	69.22
All Grades (13.14)	24	15	1591	469.1	32.00	19.03	29.93	19.04	48.97	64.71

Table 12: TRT Grades Detail Sorted by Year

	# Grades	# Schools	# Students	Scale Score	L1	L2	L3	L4	L3_or_L4	ST Math Per Prog.
Grade 3 (11.12)	15	15	1254	358.2	11.17	12.31	45.32	31.22	76.54	–
Grade 4 (11.12)	27	27	1907	453.7	19.55	17.32	40.37	22.77	63.14	–
Grade 5 (11.12)	30	30	1731	546.8	27.04	26.69	36.58	9.71	46.29	–
All Grades (11.12)	72	68	4892	472.6	20.92	20.18	39.82	19.09	58.91	–
Grade 3 (12.13)	15	15	1305	358.6	11.48	12.18	43.25	33.09	76.34	–
Grade 4 (12.13)	27	27	1882	453.3	20.81	17.57	35.92	25.70	61.62	–
Grade 5 (12.13)	30	30	1718	546.8	27.18	27.04	33.91	11.85	45.76	–
All Grades (12.13)	72	68	4905	472.6	21.52	20.39	36.61	21.47	58.08	–
Grade 3 (13.14)	15	15	1335	358.0	11.73	15.21	39.94	33.10	73.04	–
Grade 4 (13.14)	27	27	1969	453.8	19.60	19.73	34.78	25.89	60.67	–
Grade 5 (13.14)	30	30	1895	547.5	26.63	25.67	35.11	12.58	47.70	–
All Grades (13.14)	72	68	5199	472.9	20.89	21.26	35.99	21.85	57.84	–

Table 13: CTRL Grades Detail Sorted by Year

6 Lists of Schools

6.1 Treatment Schools

Table 14 shows the list of treatment schools and grades (after 85% enrollment and 50% progress filtering) used in the analysis.

	District	School Name	GRADE
1	MINNEAPOLIS PUBLIC SCHOOL DIST.	Bancroft Elementary	4, 5
2	MINNEAPOLIS PUBLIC SCHOOL DIST.	Bethune Elementary	5
3	MINNEAPOLIS PUBLIC SCHOOL DIST.	Bryn Mawr Elementary	5
4	MINNEAPOLIS PUBLIC SCHOOL DIST.	Emerson Spanish Immersion Learning Center	4, 5
5	Non-NCES Schools 3028	Hmong International Academy	4, 5
6	MINNEAPOLIS PUBLIC SCHOOL DIST.	Kenny Elementary	4
7	MINNEAPOLIS PUBLIC SCHOOL DIST.	Lk Nokomis Comm-Keewaydin Campus	4
8	MINNEAPOLIS PUBLIC SCHOOL DIST.	Loring Elementary	3, 4, 5
9	MINNEAPOLIS PUBLIC SCHOOL DIST.	Lyndale Elementary	5
10	MINNEAPOLIS PUBLIC SCHOOL DIST.	Marcy Open Elementary	3, 4
11	MINNEAPOLIS PUBLIC SCHOOL DIST.	Nellie Stone Johnson Community School	5
12	MINNEAPOLIS PUBLIC SCHOOL DIST.	Northrop Elementary	4, 5
13	MINNEAPOLIS PUBLIC SCHOOL DIST.	Pillsbury School	3
14	MINNEAPOLIS PUBLIC SCHOOL DIST.	Sullivan Elementary	3, 5
15	MINNEAPOLIS PUBLIC SCHOOL DIST.	Waite Park Elementary	3, 4

Table 14: Treatment Schools (TRT Dataset)

6.2 Control Schools

Table 6.2 shows the control schools and grades (matched control grades to treatment grades) used in the analysis.

	District	School Name	GRADE
1	MINNESOTA TRANSITIONS CHARTER SCH	MTCS CONNECTIONS ACADEMY	4
2	MORA PUBLIC SCHOOL DISTRICT	TRAILVIEW ELEMENTARY	4
3	BURNSVILLE PUBLIC SCHOOL DISTRICT	VISTA VIEW ELEMENTARY	4
4	BEMIDJI PUBLIC SCHOOL DISTRICT	LINCOLN ELEMENTARY	5, 4
5	ST. JAMES PUBLIC SCHOOL DISTRICT	ST. JAMES NORTHSIDE ELEMENTARY	5
6	INVER GROVE HEIGHTS SCHOOLS	SALEM HILLS ELEMENTARY	5
7	MADELIA PUBLIC SCHOOL DISTRICT	MADELIA ELEMENTARY	5
8	DULUTH PUBLIC SCHOOL DISTRICT	PIEDMONT ELEMENTARY	5
9	LESTER PRAIRIE PUBLIC SCHOOL DIST.	LESTER PRAIRIE ELEMENTARY	5
10	MINNEAPOLIS PUBLIC SCHOOL DIST.	KENWOOD ELEMENTARY	5
11	BENSON PUBLIC SCHOOL DISTRICT	NORTHSIDE ELEMENTARY	5
12	MINNEAPOLIS PUBLIC SCHOOL DIST.	SPAN	5
13	FOREST LAKE PUBLIC SCHOOL DISTRICT	CENTRAL MONTESSORI ELEMENTARY	4
14	CENTENNIAL PUBLIC SCHOOL DISTRICT	RICE LAKE ELEMENTARY	4
15	WEST ST. PAUL-MENDOTA HTS.-EAGAN	GARLOUGH ENVIRONMENTAL MAGNET	4
16	KENYON-WANAMINGO SCHOOL DISTRICT	KENYON-WANAMINGO MIDDLE	5
17	BEMIDJI PUBLIC SCHOOL DISTRICT	J.W. SMITH ELEMENTARY	5
18	NEW DISCOVERIES MONTESSORI ACADEMY	NEW DISCOVERIES MONTESSORI ACADEMY	5
19	ROBBINSDALE PUBLIC SCHOOL DISTRICT	FOREST ELEMENTARY	4
20	MINNEAPOLIS PUBLIC SCHOOL DIST.	WINDOM SCHOOL	4
21	ST. PAUL PUBLIC SCHOOL DISTRICT	SAINT PAUL MUSIC ACADEMY	4, 3
22	SOUTH WASHINGTON COUNTY SCHOOL DIST	CRESTVIEW ELEMENTARY	5
23	URBAN ACADEMY CHARTER SCHOOL	URBAN ACADEMY CHARTER SCHOOL	5
24	ST. PAUL PUBLIC SCHOOL DISTRICT	JACKSON MAGNET ELEMENTARY	5
25	ROSEMOUNT-APPLE VALLEY-EAGAN	CEDAR PARK ELEMENTARY	4
26	ANOKA-HENNEPIN PUBLIC SCHOOL DIST.	EISENHOWER ELEMENTARY	4
27	ANOKA-HENNEPIN PUBLIC SCHOOL DIST.	LINCOLN ELEMENTARY	5, 4
28	ST. ANTHONY-NEW BRIGHTON SCHOOLS	WILSHIRE PARK ELEMENTARY	4
29	NAYTAHWAUSH COMMUNITY SCHOOL	NAYTAHWAUSH COMMUNITY SCHOOL	4
30	CROSBY-IRONTON PUBLIC SCHOOL DIST.	CUYUNA RANGE ELEMENTARY	4
31	ST. PAUL CITY SCHOOL	ST. PAUL CITY PRIMARY SCHOOL	3
32	ROSEMOUNT-APPLE VALLEY-EAGAN	SHANNON PARK ELEMENTARY	3
33	ANOKA-HENNEPIN PUBLIC SCHOOL DIST.	MISSISSIPPI ELEMENTARY	3
34	ST. CLOUD PUBLIC SCHOOL DISTRICT	MADISON ELEMENTARY	4
35	KELLIHER PUBLIC SCHOOL DISTRICT	KELLIHER ELEMENTARY	4
36	A.C.G.C.	A.C.G.C. NORTH ELEMENTARY	4
37	KINGSLAND PUBLIC SCHOOL DISTRICT	KINGSLAND MIDDLE	5
38	WAYZATA PUBLIC SCHOOL DISTRICT	GLEASON LAKE ELEMENTARY	5
39	GOODRIDGE PUBLIC SCHOOL DISTRICT	GOODRIDGE ELEMENTARY	5
40	DULUTH PUBLIC SCHOOL DISTRICT	LAKEWOOD ELEMENTARY	5

	District	School Name	GRADE
41	MAHNOMEN PUBLIC SCHOOL DISTRICT	MAHNOMEN ELEMENTARY	5, 3
42	ST. PAUL PUBLIC SCHOOL DISTRICT	CHELSEA HEIGHTS ELEMENTARY	5
43	CENTENNIAL PUBLIC SCHOOL DISTRICT	BLUE HERON ELEMENTARY	3
44	OSSEO PUBLIC SCHOOL DISTRICT	RUSH CREEK ELEMENTARY	3
45	ORTONVILLE PUBLIC SCHOOLS	KNOLL ELEMENTARY	4
46	FAIRMONT AREA SCHOOL DISTRICT	FAIRMONT ELEMENTARY SCHOOL	4
47	COLLEGE PREPARATORY ELEMENTARY	COLLEGE PREPARATORY ELEMENTARY	4
48	COMMUNITY SCHOOL OF EXCELLENCE	COMMUNITY SCHOOL OF EXCELLENCE	5
49	LOVEWORKS ACADEMY FOR ARTS	LOVEWORKS ACADEMY FOR ARTS	5
50	MINNESOTA TRANSITIONS CHARTER SCH	LEADERSHIP ACADEMY	5
51	HILL CITY PUBLIC SCHOOL DISTRICT	HILL CITY ELEMENTARY	4
52	BURNSVILLE PUBLIC SCHOOL DISTRICT	SIOUX TRAIL ELEMENTARY	4
53	CLINTON-GRACEVILLE-BEARDSLEY	CLINTON-GRACEVILLE-BEARDSLEY EL.	4, 3
54	SHAKOPEE PUBLIC SCHOOL DISTRICT	JACKSON ELEMENTARY	5
55	ANOKA-HENNEPIN PUBLIC SCHOOL DIST.	RAMSEY ELEMENTARY	5
56	ADA-BORUP PUBLIC SCHOOL DISTRICT	ADA ELEMENTARY	5
57	OSSEO PUBLIC SCHOOL DISTRICT	WEAVER LAKE SCIENCE MATH & TECH SCH	3
58	SOUTH WASHINGTON COUNTY SCHOOL DIST	HILLSIDE ELEMENTARY	3
59	ST. PAUL PUBLIC SCHOOL DISTRICT	EXPO/HARRIET BISHOP CENTER	3
60	SOUTH WASHINGTON COUNTY SCHOOL DIST	NUEVAS FRONTERAS	3
61	DILWORTH-GLYNDON-FELTON	GLYNDON-FELTON ELEMENTARY	5
62	SOUTH WASHINGTON COUNTY SCHOOL DIST	ARMSTRONG ELEMENTARY	5
63	ODYSSEY ACADEMY	ODYSSEY ACADEMY	5
64	ANOKA-HENNEPIN PUBLIC SCHOOL DIST.	JOHNSVILLE ELEMENTARY	3
65	FOREST LAKE PUBLIC SCHOOL DISTRICT	WYOMING EL.	3
66	ASPEN ACADEMY	ASPEN ACADEMY	3
67	DEER RIVER PUBLIC SCHOOL DISTRICT	KING ELEMENTARY	4
68	HOPKINS PUBLIC SCHOOL DISTRICT	ALICE SMITH ELEMENTARY	4
69	CENTENNIAL PUBLIC SCHOOL DISTRICT	CENTERVILLE ELEMENTARY	4