Reading Recovery Evaluation

Key Findings

1. The profile of Reading Recovery from 2004-05 to 2013-14 shows declining participation, overrepresentation of certain student subgroups, & lower discontinuation rates than national or state averages.
2. Students who completed Reading Recovery from 2005-06 to 2011-12 demonstrate low MAP reading proficiency in later grades, indicating they are still among the students most in need of support.
3. When compared to similar peers, Reading Recovery students in 2012-13 and 2013-14 had higher literacy rates on the Grade 1 Reading Recovery assessments, but generally similar results on other literacy assessments in Grades 1 and 2. Attendance rates were similar in Grade 1 and similar or higher in Grade 2, depending on the match used.
4. Reading Recovery has cost approximately $5 million over five years (average of $1 million/year) with a large majority from Title I.

Background

In collaboration with the Department of Multi-Tiered System of Supports (MTSS), the Research & Program Evaluation Office conducted an evaluation of Reading Recovery, an intervention that provides short-term literacy support for low-performing first-grade students in MMSD. Reading Recovery students receive 30 minutes of intensive literacy instruction daily in a one-to-one setting with a specially-trained teacher for up to 20 weeks. The goal is for students to develop effective reading and writing strategies allowing them to function within the average range of a typical classroom. Possible outcomes for students who complete the full intervention include Discontinuation (successfully meeting the rigorous criteria to be discontinued from the intervention) and Recommendation (assessment/consideration of other instructional support including monitoring in core instruction).

MMSD has used Reading Recovery in its elementary schools since 1990. Previous MMSD evaluations of Reading Recovery include:

1. Annual site reports for Reading Recovery and Descubriendo la Lectura;
2. A report by Planning/Research & Evaluation in August 2004;
3. A report with a synthesis of research, data analysis, and recommendations to the Board of Education in December 2009; and
4. A mini-evaluation report to the Board of Education on May 10, 2012.

Although MMSD previously has examined Reading Recovery, the district's increased focus on literacy outcomes, combined with the addition of new reading interventions, makes this a key point in time to examine the effectiveness of Reading Recovery. This report contains the results of our evaluation work.

Methods

Questions of Interest

To assess the impact of Reading Recovery, our work is driven by three research questions:

1. What is the program profile of Reading Recovery from 2004-05 tod 2013-14, including student composition, discontinuation rates, and district funding?
2. Do students who completed Reading Recovery from 2005-06 to 2011-12 demonstrate reading proficiency later in their academic careers, as measured by MAP?
3. Do students who participated in Reading Recovery in 2012-13 and 2013-14 have higher literacy rates and attendance in first and second grade than similar, non-participating students in MMSD?

Data

The data for this evaluation has been compiled to answer each of the three questions above. For all questions, the available data is a combination of variables obtained by the International Data Evaluation Center, which processes evaluation research data for all Reading Recovery Programs in the US (e.g. program participation and end status, scores

for Reading Recovery-specific assessments) and outcomes drawn from MMSD data systems (e.g. attendance, other assessment results). Finally, we included available financial data about Reading Recovery implementation in MMSD and national data on Reading Recovery for comparison, when appropriate.

The time covered by each evaluation question varies intentionally. Question 1 is designed to give the longest view of the program, and therefore includes relevant data for the past ten years. Question 2 is designed to focus in on outcomes for students over time, using the universally administered Measures of Academic Progress (MAP) assessment as the measure of literacy. Because MAP is only available beginning in 2011, we can look back to six possible cohorts who had taken this assessment. Finally, the narrow time period of Question 3 reflects the context around Reading Recovery in recent years. The Reading Recovery program in MMSD had a change in leadership followed by a new focus on core instruction. Therefore, Question 3 only includes data from 2012-13 and 2013-14 Reading Recovery students so our evaluation is reflective of Reading Recovery in its current structure and state.

For each question, we combine Reading Recovery and Descubriendo la Lectura participants in the same analysis. As such, future references to "Reading Recovery" in this plan should be understood to refer to both Reading Recovery and Descubriendo La Lectura.

Analysis

Question 1: To answer this question, we present the demographic characteristics of MMSD Reading Recovery students for the past 10 years, including race/ethnicity, gender, special education status, English Language Learner (ELL) status, and free/reduced lunch status. We also present Reading Recovery end statuses for MMSD and for Reading Recovery nationwide (for comparative purposes), including program discontinuation rates for all participants and for participants who completed a full 20 weeks in Reading Recovery only. Finally, we include information on MMSD costs as available for the past four years; prior to that point, MMSD did not have an accounting code for Reading Recovery.

Question 2: For this question, we use reading data from the Grades 3-8 spring administrations of the MAP assessment from 2012-13 and 2013-14 (excluding 2011-12 because it was the first year of MAP administration in MMSD and proficiency cutoffs were different). We will combine the data from these two years and identify all tested students who once completed Reading Recovery (Discontinued or Recommended). Then, we present proficiency rates for these students, disaggregated by the grade they were in when taking the test, to illustrate the reading proficiency in later grades of students completing the Reading Recovery intervention.

Question 3: This question involves the greatest analytical effort and, as such, requires a longer explanation of methods. To examine the effectiveness of Reading Recovery, it is important to focus on students who actually completed a full 20 weeks in the program. Therefore, we exclude students who left the program or district before completion from our analysis for this question. We consider the population of Reading Recovery students to be those who completed the program (Discontinued or Recommended).

We compare students completing the Reading Recovery intervention (referred to as "Reading Recovery Completers") against groups of non-completers and compare their growth over time. In short, we conduct two separate comparisons for each cohort, described in detail in Appendix A. In Match 1, we compare Tested Not Instructed (TNI) students (students who showed slightly higher initial performance than those in Reading Recovery and are tested on the Reading Recovery OSELA assessments but do not participate in Reading Recovery) against the most similar Reading Recovery Completers (a subset of Reading Recovery Completers overall), a group we call Reading Recovery Subset. This comparison method gets closest to estimating a causal impact of Reading Recovery across the assessments we include and was the preferred comparison group identified by Reading Recovery teacher leaders in MMSD, but limits the comparison to a small number of students. In Match 2, we compare all Reading Recovery Completers against a demographically and academically matched group of their peers, who we refer to as the Non-Completers group. This method allows us to make a comparison using the full group of Reading Recovery Completers and most closely mirrors work done previously by our office, but is less robust because of the inability to include the OSELA assessments given by Reading Recovery.

The table below shows a summary of the four groups (two participant and two comparison) we will use and associated outcome metrics for Question 3:

	Match 1		Match 2	
	Reading Recovery Subset (Participant)	**TNI (Comparison)**	**Reading Recovery Completers (Participant)**	**Non-Completers (Comparison)**
How Created?	Created by RPEO to match TNI	Provided by Reading Recovery staff	Provided by Reading Recovery staff	Created by RPEO to match Reading Recovery Completers
OSELA (Reading Recovery) Assessments	Yes	Yes	Yes	No
AIMSweb	Yes (Grade 1 for 2013-14 cohort, Grade 2 for 2012-13 cohort)	Yes (Grade 1 for 2013-14 cohort, Grade 2 for 2012-13 cohort)	Yes (Grade 1 for 2013-14 cohort, Grade 2 for 2012-13 cohort)	Yes
PALS	Yes (2013-14 cohort only)	Yes (2013-14 cohort only)	Yes (2013-14 cohort only)	Yes (2013-14 cohort only)
Attendance	Yes	Yes	Yes	Yes

Findings

Question 1: What is the program profile of Reading Recovery from 2004-05 to 2013-14, including student composition, discontinuation rates, and district funding?

The table below shows the demographic characteristics of all Reading Recovery participants, regardless of program completion or end status, for the past 10 school years.

Participant Demographics

	Students	Asian	African American	Hispanic	Two or more races	White	Female	Special Ed	ELL	Free/ Reduced Lunch
2004-05	301	11%	42%	17%	7%	22%	43%	10%	28%	79%
2005-06	285	8%	37%	18%	8%	27%	49%	9%	21%	72%
2006-07	259	8%	40%	20%	8%	23%	38%	15%	30%	78%
2007-08	259	8%	40%	22%	8%	20%	40%	14%	32%	80%
2008-09	263	6%	44%	25%	8%	16%	39%	21%	23%	83%
2009-10	229	5%	41%	26%	7%	20%	36%	19%	30%	83%
2010-11	184	5%	38%	27%	11%	18%	40%	17%	27%	85%
2011-12	199	6%	49%	21%	10%	14%	44%	20%	25%	88%
2012-13	229	9%	34%	31%	9%	17%	37%	18%	37%	86%
2013-14	192	6%	35%	38%	9%	12%	42%	19%	44%	92%

Over the past decade, the total number of students participating in Reading Recovery in MMSD has declined, from a high of 301 students in 2004-05 to 192 students in 2013-14. During this time, an overwhelming majority of Reading Recovery participants have been students of color and recipients of free/reduced lunch. Reading Recovery participants also have been consistently disproportionately male, special education students, and English Language Learners relative to the first-grade population overall.

2013-14 End Statuses

	Discontinued	Recommended	Incomplete	Moved	Other	Discontinuation Rate (completers only)
National	55%	22%	17%	4%	2%	72%
Wisconsin	45%	31%	18%	4%	2%	59%
MMSD	38%	38%	17%	6%	2%	50%

During 2013-14, MMSD Reading Recovery showed a lower discontinuation rate (successfully meeting the rigorous criteria to be discontinued from the intervention) than Wisconsin and national averages. MMSD Reading Recovery also had a lower discontinuation rate for program completers only. MMSD's lower discontinuation rate is driven by a lower share of completing students who are successfully discontinued (leading to a larger Recommended group), not by higher mobility or incomplete interventions.

10-year History of Discontinuation Rates

	National			MMSD		
	Students Served	Discontinuation Rate	Discontinuation Rate (completers only)	Students Served	Discontinuation Rate	Discontinuation Rate (completers only)
2004-05	115,579	59%	76%	301	56%	73%
2005-06	107,744	59%	76%	285	61%	76%
2006-07	98,060	57%	73%	259	41%	61%
2007-08	89,765	59%	75%	259	50%	68%
2008-09	82,125	60%	75%	263	42%	59%
2009-10	73,161	60%	75%	229	51%	67%
2010-11	62,111	59%	74%	184	43%	69%
2011-12	53,125	58%	74%	199	27%	44%
2012-13	49,248	58%	74%	229	34%	49%
2013-14	47,263	55%	72%	192	38%	50%

Over the past decade, national discontinuation rates overall and for completers only have been relatively constant, while discontinuation rates in MMSD have declined 18% for participants overall and 23% for completers only. A 10-year history for Wisconsin is not available.

Cost

The table below shows Reading Recovery expenditures by type for the past four fiscal years, as well as the budgeted amount for 2014-15. For additional detail, including a narrative explanation of Reading Recovery expenditures and breakouts by source and location, see Appendix B.

Expenditures/Budget Amount

Year	Salaries	Fringe	Student Tsp	Local Travel	Conference Travel	Payment to State	Non-Capital Objects	Dues/Fees	Total Expenditures
FY11	557,615.92	301,857.83	75.00	1,482.84	10,456.97	14,166.32	4,521.32	40.00	890,216.20
FY12	784,498.25	418,920.81	-	1,716.29	1,734.87	-	3,679.54	280.00	1,210,829.76
FY13	723,114.10	369,639.84	-	4,965.96	23,312.88	-	17,116.62	10,860.00	1,149,009.40
FY14	609,626.35	352,413.66	-	1,140.26	17,505.74	2,000.00	5,969.20	5,720.00	994,375.21
FY15 Budget	600,322.76	371,259.58	-	-	6,244.57	-	2,500.00	3,691.90	984,018.81
5-Year Total	3,275,177.38	1,814,091.72	75.00	9,305.35	59,255.03	16,166.32	33,786.68	20,591.90	5,228,449.38

Including 2014-15, the five-year total costs for Reading Recovery in MMSD are about $5.2 million, or an average of about $1 million per year. The bulk of that cost comes from salary and fringe for Reading Recovery teachers.

Meanwhile, the next table shows Reading Recovery expenditures by source over the same timeframe:

Year	MMSD Operating Funds	Title I	Title IIA	i3 Grant	Other Districts	Donations	Total Expenditures
FY11	328,836.50	454,326.06	73,690.07	-	14,611.00	18,752.57	890,216.20
FY12	480,551.42	718,370.64	-	4,702.70	7,205.00	-	1,210,829.76
FY13	349,901.64	729,675.45	-	27,814.81	41,460.00	157.50	1,149,009.40
FY14	12,782.97	944,938.93	-	14,678.32	21,975.00	-	994,375.22
FY15 Budget	-	943,582.34	-	14,936.17	33,000.00	-	991,518.51
5-year Total	1,172,072.53	3,790,893.42	73,690.07	62,132.00	118,251.00	18,910.07	5,235,949.09

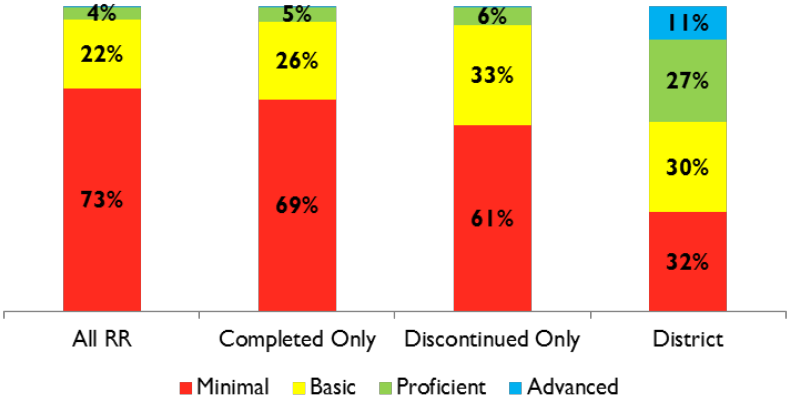
Funding has shifted over the past five years from a mix of local and Title I funding to almost exclusively Title I.

Question 2: Do students who completed Reading Recovery from 2005-06 to 2011-12 demonstrate reading proficiency later in their academic careers, as measured by MAP?

The table below shows spring MAP Reading proficiency rates for former Reading Recovery participants taking MAP in 2012-13 and 2013-14 in MMSD. We present this data for both years combined for all former Reading Recovery students, Completed only (Discontinued plus Recommended), and Discontinued only, as well as for the district overall:

Grade	All RR	Completed Only	Discontinued Only	District
3	2%	3%	2%	37%
4	4%	4%	5%	41%
5	6%	7%	8%	37%
6	5%	7%	10%	39%
7	4%	4%	7%	37%
8	5%	4%	5%	36%
All Grades	5%	5%	6%	38%

Former Reading Recovery students demonstrate low MAP reading proficiency later in their academic careers, with rates between 2% and 10%. Even Discontinued students, those defined as reaching grade-level performance at the end of their time in Reading Recovery, show very low reading proficiency rates. This finding is particularly concerning because they also lag far behind their peers; district averages are considerably higher, ranging from 36% to 41%. Meanwhile, the graph below shows MAP Reading result bands for former Reading Recovery students over the same timeframe compared to the district overall:



This graph shows that former Reading Recovery students are far off proficiency, with more than 70% scoring Minimal, the lowest result band. Students who were once discontinued from Reading Recovery did perform better, but still had very low proficiency rates and very high minimal results relative to the district overall.

Altogether, these results suggest that former Reading Recovery students who were identified as among the students needing the most support in literacy in Grade 1 remained among those needing the most support in later grades, even if they were discontinued from Reading Recovery.

Question 3: Do students who participated in Reading Recovery in 2012-13 and 2013-14 have higher literacy rates and attendance in 1st and 2nd grade than similar, non-participating students in MMSD?

In this section, we present data for Reading Recovery students during 2012-13 and 2013-14 compared against the comparison groups we discussed earlier in the Methods section.

The first table shows the results for Match 1, comparing the Reading Recovery Subset against the TNI students. This match gets closest to estimating a causal impact and was the preferred comparison group identified by Reading Recovery teacher leaders in MMSD, but limits the comparison to a smaller number of students. Results are in the table below:

	Match 1 - Outcome Variables		
		Reading Recovery Subset (Participant)	**TNI (Comparison)**
Combined Cohorts	Students	65	65
	Grade 1 Year-end Hearing and Recording Sounds	**34.5***	33.2
	Grade 1 Year-end Text Reading Level	**15.5*****	12.0
	Grade 1 attendance	94.3%	92.9%
2013-14 cohort only	Grade 1 AIMSweb winter reading RCBM	13.7	14.0
	Grade 1 AIMSweb spring reading RCBM	32.8	34.6
	Grade 1 Spring PALS summed score	33	29.3
	Grade 1 Spring PALS met benchmark	**56%***	29%
2012-13 cohort only	Grade 2 AIMSweb fall reading RCBM	**23.5***	33.0
	Grade 2 AIMSweb winter reading RCBM	43.3	54.2
	Grade 2 AIMSweb spring reading RCBM	59.8	68.3
	Grade 2 attendance	**95.2%****	92.8%

Note: Statistically significant differences appear in **bold**, *=p<0.10, **=p<0.05, ***=p<0.01. Tests for significant differences were performed using chi-square tests for proportions and t-tests for other variables. Statistically significant differences are unlikely to be random.

Next, we conducted similar analysis using Match 2 instead, which has the advantage of including the full population of Reading Recovery completers to see if these findings are consistent when using a larger group. However, this match does not allow us to compare students on the OSELA assessments because the Non-Completers were not tested. Results are in the table below:

	Match 2 - Outcome Variables		
		Reading Recovery Completers (Participant)	**Non-Completers (Comparison)**
Combined Cohorts	Students	301	301
	Grade 1 Year-end Hearing and Recording Sounds	33.6	N/A
	Grade 1 Year-end TRL	14.0	N/A
	Grade 1 attendance	93.6%	92.9%
13-14 cohort only	Grade 1 AIMSweb winter reading RCBM	**10.3*****	13.4
	Grade 1 AIMSweb spring reading RCBM	24.7	28.5
	Grade 1 Spring PALS summed score	24.9	24.5
	Grade 1 Spring PALS met benchmark	24%	26%
12-13 cohort only	Grade 2 AIMSweb fall reading RCBM	**19.3***	23.6
	Grade 2 AIMSweb winter reading RCBM	**36.3***	42.2
	Grade 2 AIMSweb spring reading RCBM	**52.7***	59.0
	Grade 2 attendance	94.2%	93.9%

Note: Statistically significant differences appear in **bold**, *=p<0.10, **=p<0.05, ***=p<0.01. Tests for significant differences were performed using chi-square tests for proportions and t-tests for other variables. Statistically significant differences are unlikely to be random.

At the end of Grade 1, students completing Reading Recovery demonstrate higher literacy rates on Reading Recovery specific assessments, including Hearing and Recording Sounds and TRL, than similar peers. However, they do not have higher literacy rates on other assessments administered to all students in the district, including AIMSweb and PALS. In Grade 2, former Reading Recovery completers do not demonstrate higher literacy rates on AIMSweb. Students completing Reading Recovery had similar attendance rates in Grade 1 and similar or higher attendance rates in Grade 2, depending on the match used.

Conclusion

In conclusion, this report provides answers to each of the three research questions. For Question #1, we found that from 2004-05 to 2013-14, we see declining participation in Reading Recovery and a student composition that is overrepresentative of certain student subgroups (e.g., African-American, low-income, ELL, and special education students) compared to the overall first-grade population. We found that MMSD Reading Recovery exhibited lower discontinuation rates than the nation or the state, even when we only looked at students who completed the full program. For funding, MMSD has contributed approximately $5 million over last five years, or an average of about $1 million per year, with the bulk of that funding going towards staffing costs and the vast majority now from Title I.

For Question #2, we found that students who completed Reading Recovery from 2005-06 to 2011-12 demonstrate low MAP reading proficiency later in their academic careers. Students who had participated in Reading Recovery showed an overall reading proficiency of 5%, and even Discontinued students, those defined as reaching grade-level performance at the end of their time in Reading Recovery, show only 6% proficiency in total. In addition, former Reading Recovery students were far off proficiency, with more than 70% scoring Minimal, the lowest result band. Students who were once discontinued from Reading Recovery did perform better than students who were not discontinued, but still had very low proficiency rates and very high minimal results relative to district averages.

For Question #3, we found when compared to similar peers, Reading Recovery students in 2012-13 and 2013-14 had higher literacy rates on the Reading Recovery assessments in Grade 1, but generally similar results on districtwide literacy assessments. In Grade 2, former Reading Recovery completers do not demonstrate higher literacy rates. For attendance, we found that students completing Reading Recovery had similar rates in Grade 1 and similar or higher rates in Grade 2, depending on the match used.

An important caveat for Question #3 is that the students in our comparison groups for the Reading Recovery students (TNI and Non-Completers) likely received some kind of additional literacy support, as these students demonstrated similarly low performance on literacy assessments. Many MMSD literacy interventions are not tracked currently in our systems, making it impossible to know which students participated, and supports like private tutoring also would not appear. Therefore, the correct interpretation of Question #3's findings is not that Reading Recovery students did not demonstrate consistently higher results than students receiving no support; rather, it is that Reading Recovery students did not demonstrate higher results than students receiving whatever other combinations of supports exist in MMSD, during and outside of the school day.

Appendix A: Comparison Group Methods

For Question #3, we needed to create a viable comparison group to help isolate the potential impact of Reading Recovery. We explored several options as part of the methods process. First, we met with Reading Recovery leadership to discuss which outcomes and students would be most of interest to them. Currently, the "An Observation Survey of Early Literacy Achievement" (OSELA) assessment is given to all Reading Recovery students as well as two other groups of students chosen by Reading Recovery: "tested not instructed," students who showed slightly higher initial performance than those in Reading Recovery (referred to as "TNI"), and a random sample of first graders chosen by the International Data Evaluation Center. Reading Recovery staff chose to test these two student groups in alignment with national comparison practices, and suggested we explore using those groups.

We investigated the possibility of combining TNI and Random Sample students to use as a comparison group against the Reading Recovery completers. As seen in the table below, the demographic characteristics of students completing Reading Recovery and this comparison group are statistically similar, with the exception that Reading Recovery completers include a higher proportion of students receiving free/reduced lunch. In addition, 23 of 24 included schools are represented in both the group of students completing Reading Recovery and this comparison group. However, for the 2013-14 Reading Recovery cohort, these groups of students are not academically similar prior to Reading Recovery, showing significantly different scores on the Fall 2013 administration of the Phonological Awareness Literacy Screening (PALS) assessment. We cannot perform a similar test for the 2012-13 Reading Recovery cohort because of the lack of available PALS data.

Demographics of Reading Recovery Completers and Reading Recovery-Provided Comparison Groups

	Reading Recovery Completers	TNI plus Random Sample
Students	301	122
Students of Color	85%	82%
Special Ed	17%	14%
ELL	43%	40%
Female	39%	45%
Free/reduced lunch	**87%*** **	**76%*** **
Grade 1 Fall PALS Summed Score (2013-14 cohort only)	**29.8*** **	**39.2*** **
Grade 1 Fall PALS % Meeting Benchmark (2013-14 cohort only)	**23%*** **	**47%*** **

Note: Statistically significant differences appear in **bold**, *=p<0.10, **=p<0.05, ***=p<0.01. Tests for significant differences were performed using chi-square tests for proportions and t-tests for other variables. Statistically significant differences are unlikely to be random.

These meaningful differences are driven largely by the Random Sample students, who are substantially different from both the Reading Recovery and TNI students in income and assessment results. Therefore, we chose to exclude the random sample students and focus only on the TNI students.

Based on this finding, we began with the TNI students and created a matched sample from the Reading Recovery Completers pool for our first comparison group. For both cohorts, the group of TNI students was substantially smaller than the group of Reading Recovery Completers and there were still some significant academic differences between Reading Recovery Completers overall and TNI students. Therefore, for each cohort, we used a procedure called Propensity Score Matching (PSM) to create one-to-one matches between TNI students and Reading Recovery Completers, allowing us to compare the TNI students against the subset of Reading Recovery Completers that are most similar to them (referred to as the "Reading Recovery Subset"). For both cohorts, we will compare these groups' outcomes on fall and year-end Text Reading Level (TRL) and Hearing and Recording Sounds tasks from the OSELA assessments. This will allow us to compare both their relative literacy and improvement during the year. We also will use AIMSweb Reading Curriculum Based Measurement and PALS scores for these students to see if our findings are consistent across metrics. The major advantage of this group is that we can compare students that are as similar as possible to one another using both the OSELA assessments from Reading Recovery and other assessments.

However, because the group described above includes only a subset of Reading Recovery students, we also wanted to include a second comparison option that used all Reading Recovery students, each matched to a peer. To do this, we

again used PSM, creating a group of students that is substantially similar to the Reading Recovery students across a vector of demographic and academic variables (PALS for the 2013-14 cohort and PLAA TRL for the 2012-13 cohort). We will refer to this group as the "Non-Completers" group. Because the Non-Completers group will consist of students who did not necessarily take the Reading Recovery assessments, we will instead compare these students against Reading Recovery students on the AIMSweb Reading Curriculum Based Measurement and the PALS.

The pre-program demographic and achievement characteristics of the groups we use for comparative purposes appear below, described separately for the 2013-14 and 2012-13 cohorts:

2013-14 Reading Recovery Cohort and Comparison Groups - Matching Variables

	Match 1		Match 2	
	Reading Recovery Subset (Participant)	TNI (Comparison)	Reading Recovery Completers (Participant)	Non-Completers (Comparison)
Students	21	21	142	142
Female	48%	57%	41%	**89%*** **
Students of Color	71%	76%	89%	**44%*** **
ELL	38%	43%	46%	42%
Special Ed	10%	10%	19%	12%
Free/Reduced	71%	71%	90%	**82%***
Kindergarten Attendance	94.1%	92.2%	92.6%	90.5%
Fall PALS summed score	35.1	36.0	29.6	29.7
Fall PALS met benchmark	38%	43%	22%	22%
Fall Hearing and Recording Sounds	20.2	18.7	13.9	N/A
Fall TRL	1.3	1.7	0.7	N/A

Note: Statistically significant differences appear in **bold**, *=p<0.10, **=p<0.05, ***=p<0.01. Tests for significant differences were performed using chi-square tests for proportions and t-tests for other variables. Statistically significant differences are unlikely to be random.

2012-13 Reading Recovery Cohort and Comparison Groups - Matching Variables

	Match 1		Match 2	
	Reading Recovery Subset (Participant)	TNI (Comparison)	Reading Recovery Completers (Participant)	Non-Completers (Comparison)
Students	44	44	159	159
Female	50%	45%	36%	35%
Students of Color	84%	82%	82%	75%
ELL	32%	25%	40%	**31%***
Special Ed	18%	16%	15%	**25%** **
Free/Reduced	84%	77%	85%	83%
Kindergarten Attendance	93.2%	91.0%	92.2%	91.4%
Kindergarten PLAA TRL	1.9	2.4	1.8	1.6
Fall Hearing and Recording Sounds	18.9	19.9	13.0	N/A
Fall TRL	1.2	1.5	0.6	N/A

Note: Statistically significant differences appear in **bold**, *=p<0.10, **=p<0.05, ***=p<0.01. Tests for significant differences were performed using chi-square tests for proportions and t-tests for other variables. Statistically significant differences are unlikely to be random.

Overall, the matching procedure was highly successful, creating groups that are substantially similar across the variables used. Although the PSM group had significantly more female students and students of color than the Reading Recovery group for 2013-14, these groups were otherwise similar and despite the differences on these two variables, calculated to have similar probability of Reading Recovery participation.

Appendix B: Reading Recovery Cost Data

The following narrative around Reading Recovery costs was provided by MMSD's division of Budget, Planning, & Accounting:

Madison Metropolitan School District's (MMSD) funding for Reading Recovery is supported with funding from multiple sources since FY11. Reading Recovery was supported with District funds, Title IA and Title IIA in FY11. In FY12, MMSD decided to focus Reading Recovery at Title I Elementary schools with a .5 FTE teacher paid out of the Title I instructional budget for each school. Non-Title schools could utilize District supplemental funds to continue the program at their schools. In FY14 only .1 FTE for the district-wide Reading Recovery IRT was supported with District funds ($12,782.97). Reading Recovery was solely funded at Title I Elementary schools in FY14 for staff with Title I funds.

The District did receive an i3Grant from National Louis University for Reading Recovery teacher professional development and implementation at a non-MMSD school. Three districts (Edgerton, Milton and Sun Prairie) continue to support part of the district-wide IRT's salary/fringes and mileage with inter-district payments between $21,975 and $36,809 since FY13. Please see Page 11 for expenditures by funding source.

Also included in the table on Page 5 is the breakdown of expenditures by type. Over 97% of the budget and expenditures are spent on salaries and fringes for Reading Recovery staff. The salaries/fringes include the district-wide IRTs as well as a .5 FTE Reading Recovery teacher at each of the Title I schools. Other expenditures include local travel for the district-wide IRTs, which is also paid by the other three districts. Materials, dues/fees, and conference travel are part of the i3 Grant from National Louis University.

In conclusion, MMSD has spent between $890,000 and $1,210,000 per year on Reading Recovery staff, professional development, and materials. In FY11, Title I funded 51% of the program compared to 99% in FY14. Salaries/fringes are consistently between 95-99% of the expenditures for the Reading Recovery program.

Revenue from Other Districts was aligned to expenditures in FY13. Prior years were invoiced as a stipend from other districts. The stipend from other districts reduced RR teacher leader salary/fringe expenditures for MMSD.

Reading Recovery Expenditures by Location/Department

Location/Dept	FY11	FY12	FY13	FY14	FY15 Budget	Total
Ed Services			157.50			**157.50**
Reading Recovery Dept.	195,058.21	43,722.81	80,062.07	143,447.54	132,822.83	**595,113.46**
Title I Office		4,702.70	29,829.33	14,678.32	7,436.47	**56,646.82**
Totals for Depts.	**195,058.21**	**48,425.51**	**110,048.90**	**158,125.86**	**140,259.30**	**651,917.78**
Schools						
Allis	79,281.82	48,016.78	46,130.83	48,433.41	49,415.23	**271,278.07**
Crestwood	17,868.32	47,488.50	49,538.34	-	-	**114,895.16**
Elvehjem	13,759.62	42,675.09	43,223.83	-	-	**99,658.54**
Emerson	21,494.74	49,875.45	39,687.40	38,717.38	39,909.05	**189,684.02**
Franklin	19,333.31	38,179.70	45,682.63	-	-	**103,195.64**
Glendale	15,199.01	36,028.45	39,032.15	44,721.56	45,570.80	**180,551.97**
Gompers	15,027.31	39,582.05	36,003.36	37,608.62	46,785.09	**175,006.43**
Falk	9,939.22	36,950.14	50,383.76	52,181.78	53,361.75	**202,816.65**
Hawthorne	16,386.81	42,891.39	45,430.30	46,278.43	47,152.96	**198,139.89**
Lake View	34,440.25	39,623.64	43,446.10	43,811.87	46,648.84	**207,970.70**
Lapham	18,584.49	44,349.32	31,427.71	-	-	**94,361.52**
Muir	17,232.14	39,711.15	10,091.12	-	-	**67,034.41**
Lowell	25,367.61	70,878.29	35,554.51	39,251.67	39,870.78	**210,922.86**
Marquette	-	-	-	-	-	**-**
Mendota	15,410.21	43,638.71	28,047.25	-	-	**87,096.17**
Midvale	94,132.41	86,324.77	43,701.44	95,859.05	76,265.31	**396,282.98**
Thoreau	46,799.63	45,971.58	45,936.00	43,509.17	44,571.78	**226,788.16**
Orchard Ridge	24,081.21	24,617.87	25,730.64	27,229.54	27,542.53	**129,201.79**
Randall	-	33,023.53	-	-	-	**33,023.53**
Schenk	15,386.15	38,387.89	95,129.69	94,956.09	99,278.41	**343,138.23**
Shorewood	26,938.82	-	-	-	-	**26,938.82**
Stephens	5,629.72	23,428.40	-	-	-	**29,058.12**
Van Hise	-	-	-	-	-	**-**
Kennedy	11,570.60	-	-	-	-	**11,570.60**
Lincoln	-	-	-	-	-	**-**
Huegel	18,618.26	62,034.66		41,655.81	42,451.80	**164,760.53**
Chavez	14,759.26	37,392.73	39,977.69			**92,129.68**
Sandburg	18,269.54	43,780.62	68,484.96	42,673.23	43,562.19	**216,770.54**
Nuestro Mundo	-	-	-	-	-	**-**
Lindbergh	18,352.61	46,889.97	48,686.07	50,318.01	51,438.59	**215,685.25**
Leopold	81,294.92	100,663.57	127,634.72	89,043.73	89,934.40	**488,571.34**
Totals for Schools	**695,157.99**	**1,162,404.25**	**1,038,960.50**	**836,249.35**	**843,759.51**	**4,576,531.60**
Grand Totals	**890,216.20**	**1,210,829.76**	**1,149,009.40**	**994,375.21**	**984,018.81**	**5,228,449.38**
Percent from Title I	**51%**	**59%**	**64%**	**95%**	**95%**	**72%**