



Socially Responsible Evaluation in Education (SREed)

Research Report

Evaluation of the Milwaukee Community Literacy Project/ SPARK Program: Findings from the First Cohort



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Findings from the First Cohort

The Milwaukee Public Schools (MPS), a district serving over 80,000 students, faces a significant challenge to teach its students how to read and write.

According to the Wisconsin Knowledge and Concepts Examination (WKCE) only 15% of MPS students were proficient in reading (2011). This is in comparison to 35% statewide.

The results of the WKCE are consistent with results of the National Assessment of Educational Progress (NAEP) and the ACT, which show that MPS students struggle with literacy throughout their education.

15% of 4th grade MPS students are proficient in reading (NAEP, 2011).

14% of MPS 11th graders scored at least 21 on the ACT Reading Test, the benchmark identified for college readiness (Independent Analysis).

The results of the NAEP further show that there are significant achievement gaps for minority and low-income students.

39% of 4th grade, White MPS students are proficient in reading, compared to 7% of Black and 15% of Hispanic students.

7% of 4th grade low-income (free/reduced lunch participants) MPS students are

proficient in reading, compared to 48% of non-low-income students.

These data demonstrate that the need for increased literacy opportunities in the Milwaukee area is urgent, and that this need is even more pronounced for low-income and minority students. With this in mind, Boys & Girls Clubs of Greater Milwaukee (BGCGM) partnered with MPS to apply for an Investing in Innovations (i3) grant from the Department of Education to implement the Milwaukee Community Literacy Project (MCLP), where students would participate in the SPARK (Spheres of Proud Achievement in Reading for Kids) Program. The grant was awarded in 2010 and provides financial support for two cohorts of students, each participating for two years. This report summarizes the results of the evaluation for the first cohort, which completed their participation in June of 2013.

The MCLP/SPARK

SPARK provides one-on-one tutoring, after-school, and family engagement to kindergarten through 3rd grade students in six predominantly low-income and minority elementary schools.

Tutoring

Students are tutored during the school year for 30 minutes, up to three times per week, for two years. At each site, a program manager, who is also a certified teacher, oversees the tutors. There is a set lesson plan template for tutors and



students to follow during each tutoring session. A different lesson plan template is used with emergent readers than other readers. Emergent readers are beginning to acquire book handling skills, concepts of print, and knowledge of letter names. They largely use pictures to create meaning from texts and are beginning to understand sounds of the language (rhyming, beginning sounds in words, syllables). We define the rest of the students as *early* readers to reflect the reality that they are still early in their reading development.

Each lesson plan begins with a familiar activity to briefly review a skill the student has already mastered. After this activity, the tutor administers a running record assessment (this occurs every third lesson). This is followed by phonics activities. Next, the student reads a book that is at his/her instructional level and then does a writing activity. Finally, the tutor reads a portion of a book aloud.

All students are assessed with the PALS (Phonological Awareness Literacy Screening) at the beginning of the school year. This assessment is used to determine each student's needs and help create individual lesson plans.

Tutors complete all-program trainings at the beginning of the year, as well as follow-up training several times throughout the year. In addition, they receive training at their sites given by program managers. Tutors are observed at

least monthly by program managers and receive feedback following these observations.

After-school

The SPARK after-school program is based on the KidzLit program, developed by the Developmental Studies Center. It is a reading enrichment program designed to increase students' motivation to read and build their literacy skills. The KidzLit program is built around using multicultural books and follows a five part process. The KidzLit curriculum contains books and guides that go along with each book. Each book has a series of listed vocabulary words called cool words. The KidzLit curriculum also contains ideas for using the five part process with other books that are not part of the official KidzLit kit (www.devstu.org/afterschool-kidzlit).

Family Engagement

Each site has a parent partner who works with each participating student's family. Their work is designed to bridge the divide between school and home by translating literacy concepts, educating families about a variety of literacy activities, and validating the literacy practices already happening in the home. Parent partners help families see how they already are incorporating literacy into their children's lives and show parents how to promote literacy more effectively.

Parent partners stay connected with families through a monthly newsletter, monthly family



events at each site, and phone calls or emails. These communications are designed to keep families aware of student progress in SPARK, help families promote literacy at home, and address any attendance issues that arise during the program.

Parent partners also conduct home visits for all students twice during the summer between their first and second year of participation. These visits are viewed as opportunities to connect with the family in their own space and learn about the literacy activities already taking place in the home.

Evaluation & Analysis Design

The University of Wisconsin, Milwaukee is conducting an independent evaluation of SPARK. Through a randomized control design, the evaluation is able to isolate the impact of SPARK on reading achievement. A random selection of kindergarten, 1st, and 2nd grade students in six MPS schools were selected to participate.

The primary outcome used to evaluate SPARK is the Measures of Academic Progress (MAP) reading assessment published by the Northwest Evaluation Association (NWEA). The MAP is an on-line, adaptive assessment that has been shown to be both valid and reliable. MPS administers the MAP to all students three times each year, in the fall, winter, and spring. As such, the evaluation was able to use the fall of 2011 MAP results as the

pre-test and the spring of 2013 results as the post-test.

MPS uses the MAP for Primary Grades (MPG) for kindergarten, 1st grade, and some 2nd grade students. Students identified as below grade level at the end of 1st grade continue to take the MPG. The rest of the 2nd grade students take the traditional MAP and all 3rd grade students do as well. The MPG is vertically aligned to the MAP, so that the same score on both assessments suggests the same reading achievement level. The main difference between the two, is that the MPG includes auditory technology to help students complete the assessment.

The statistical analysis of SPARK follows an Intent to Treat Model, where students selected to participate in SPARK are included in the analysis regardless of how much tutoring they received. This is done to maximize the internal validity of the study. However, due to missing data, both participant and control students who moved away or were identified as having a disability that prevented them from receiving literacy tutoring were excluded from the analysis.

The evaluation used separate generalized linear statistical models with robust standard error estimators to compare the reading achievement growth of participants and controls for kindergarten, first, and second grade students. The results of the three models were then pooled to estimate the overall impact of SPARK for the



first cohort. All three models controlled for the separate interactions of school effects with both baseline fall 2011 MAP/MPG reading and MAP/MPG math results. Gender, race, disability status, and free/reduced lunch eligibility were also tested in the model. Ultimately, only the main effect of race was found to uniquely predict MAP/MPG reading results and was included in the model. The rest were excluded because they were not found to uniquely predict post-test reading achievement. Spring 2013 reading achievement scores were standardized to improve interpretability.

Participants & Attrition

Participants

Parents of 496 students signed consent forms to be including in the project. Of these, 245 were selected to participate in SPARK and 251 were selected as control students. Table 1 present the demographic characteristics of both participant and control students. The vast majority of students were Black and eligible for free or reduced lunch.

Table 1: Demographic Characteristics of Consented Students

	<i>Control Group</i>	<i>SPARK Participants</i>	<i>Total</i>
<i>Black</i>	200	204	404
<i>Hispanic</i>	30	27	57
<i>White/Asian</i>	21	14	35
<i>Female</i>	127	128	255
<i>Male</i>	124	117	241
<i>Not eligible</i>	10	6	16
<i>F/R lunch</i>	241	239	480
<i>K5</i>	85	80	165
<i>1</i>	85	92	177
<i>2</i>	81	73	154
<i>Total</i>	251	245	496

Attrition

Attrition was a problem during the two years that students participated in SPARK. Too much attrition can seriously affect the internal validity of a study. In this study, 223 students were excluded from the final analysis, which represents a 45.0% overall attrition rate. However, it is important to note that students were excluded for exogenous reasons, like not taking the pre-test (5 students), moving away (186), being identified for a reading disability (30), and not taking the post-test (2). When the reasons are not related to the program, attrition does not have as much of an impact on the internal validity of the evaluation.



Differential attrition can also affect the validity of a study. This occurs when more of either the participant or control group drops. For the SPARK evaluation, 107 (43.7) of participants and 116 (46.2%) of control students dropped out. The 2.5% differential attrition rate, along with the 45.0% overall attrition, and the exogenous nature of why students were dropped, suggests that the internal validity of the evaluation remains intact.

Table 2: Demographic Characteristics of Analyzed Sample

	<i>Control Group</i>	<i>SPARK Participants</i>	<i>Total</i>
<i>Black</i>	102	112	214
<i>Hispanic</i>	25	18	43
<i>White/Asian</i>	8	8	16
<i>Female</i>	74	72	146
<i>Male</i>	61	66	127
<i>Not eligible</i>	10	5	15
<i>F/R lunch</i>	125	133	258
<i>K5</i>	60	47	107
<i>1</i>	41	49	90
<i>2</i>	34	42	76
<i>Total</i>	135	138	273

Results

Overall Reading Achievement

Table 1 presents the results of the grade-specific statistical models and the pooled results testing

the overall impact of SPARK. Our only planned comparison was for the overall impact of SPARK. Individual grade level results are presented for reference. Overall, SPARK was found to have a significant impact on the reading achievement of the first cohort (0.12 standard deviations). This finding is significant at the 5% probability level.

Table 3: SPARK 1st Cohort Standardized Results

	Standardized Effect	Robust Standard Errors	p-value
SPARK Kindergarten	0.012	0.123	
SPARK First	0.118	0.143	
SPARK Second	0.288	0.138	
Overall Impact (Weighted Pooled Results)	0.122	0.061	<.05

Conclusions

- The results from the 1st SPARK cohort are promising. Tested with the most rigorous evaluation methods, a randomized-control framework, SPARK was found to have a statistically significant impact on the reading development of participants.
- Although attrition was a problem, there is no evidence that it affected the internal validity of these findings.
- These results suggest that SPARK is a promising program for helping to address the serious challenge facing the Milwaukee Public Schools of teaching students to read.