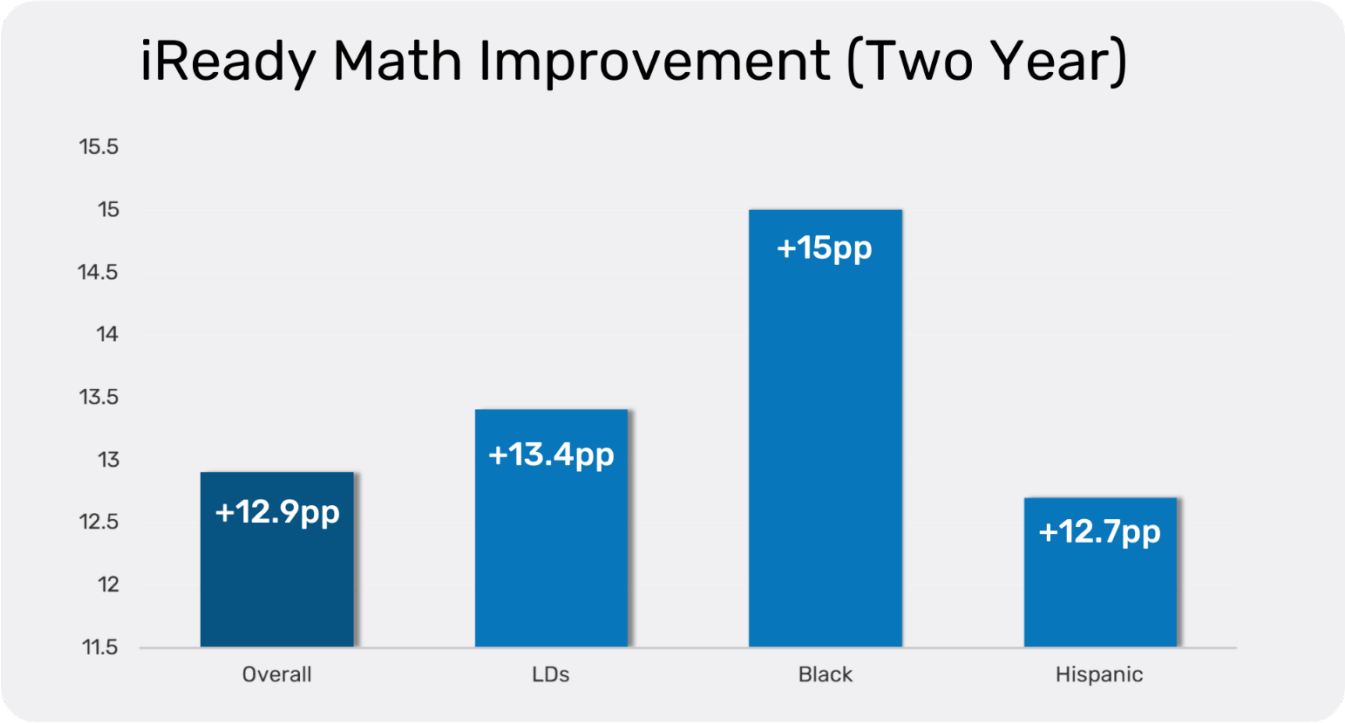
PowerMyLearning

# Advancing Achievement for Struggling K-2 Math Learners

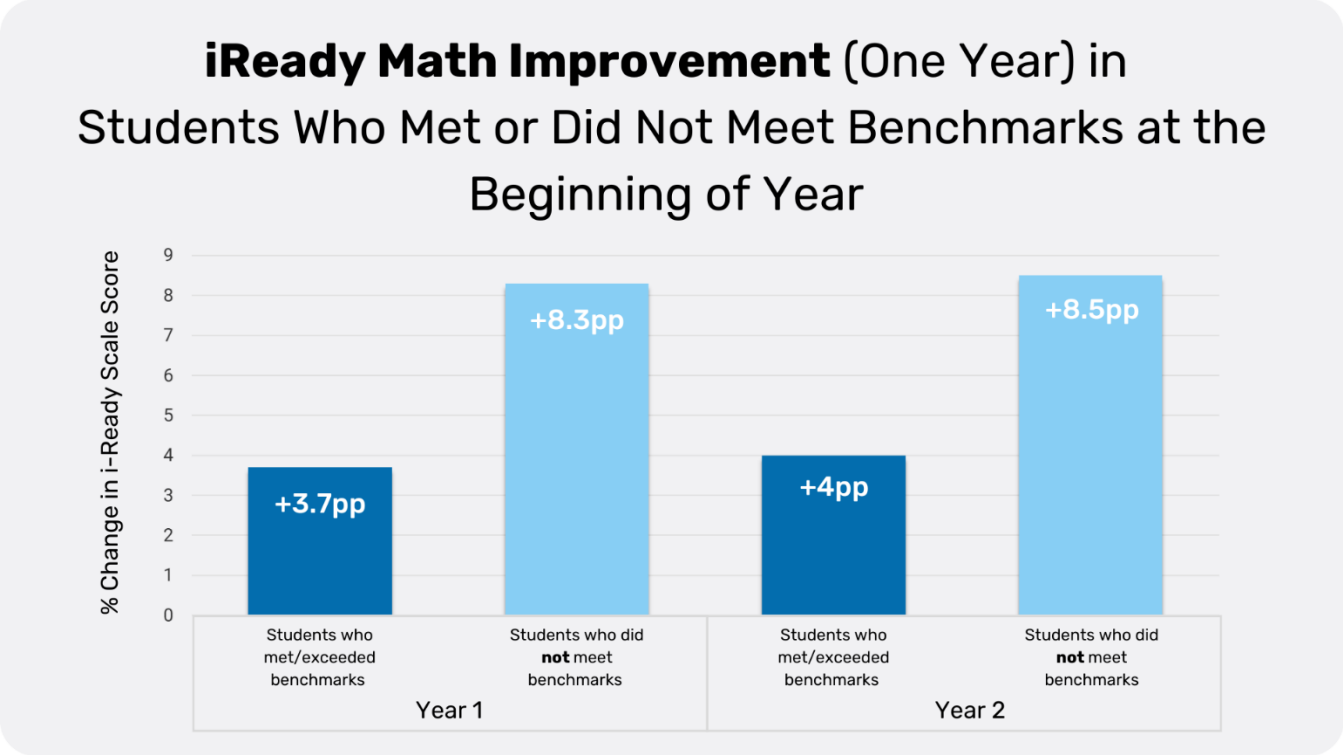
## Summary

This study examined the impact of PowerMyLearning's professional learning program focused on a whole-child approach to academic and social emotional learning on student math achievement across the 2022-23 and 2023-24 school years. This program included a math practice tool called Family Playlists, educator professional learning, and leadership programming.

**The results indicate that PowerMyLearning's program was related to significantly better math achievement for K-2 students, including Black and Hispanic students and students with learning differences.** Achievement gains were measured using i-Ready math assessments which demonstrated improvement each school year as well as across the two-year partnership, indicating that PowerMyLearning can have a sustained impact on math achievement among high needs students.




The findings also indicate that **PowerMyLearning's program had a more pronounced impact on students who did not meet grade level benchmarks at the beginning of each school year.** This suggests that students who were struggling in math benefited the most from PowerMyLearning's program.




### *Two-Year Math Achievement Outcomes*

Our two-year partnership was associated with significantly better student math achievement (+12.9pp, p<.001, d= 1.7) for all K-2 students on the i-Ready math assessment. Black students (+15pp, p<.001, d= 2.9), Hispanic students (+12.8pp, p=.01, d= 1.6), and students with learning differences (+13.5pp, p=.03 d= 1.4), all displayed significantly better math achievement after the two-year program.

### *One-Year Math Achievement Outcomes*

Year 1 (2022-23) of the two-year partnership was associated with significantly better student math achievement for all students (+8.1pp, p<.001, d=0.84) as well as students who did not meet grade level standards at the beginning of the school year (+8.3pp, p<.001, d=2.79) on the i-Ready math assessment. Year 2 (2023-2024) of the partnership was also associated with significantly better student math achievement for all students (+8.6pp, p<.001, d=0.99) as well as students who did not meet grade level standards at the beginning of each school year (+8.6pp, p<.001, d=3.05).

> *"Families were given opportunities to work with their child on math learning through a hands-on approach."*
>
> –Educator at Partner School

## Research Context

This study examined the impact of PowerMyLearning's program on student math achievement at one elementary school in New York during the 2022-23 and 2023-24 school years. With respect to demographics, 70% of students identified as Black and 22% identified as Hispanic. At the school, 18% of students were identified as having learning differences and 77% of students qualified for free or reduced-price lunch. Six K-2 educators, including three K-2 teachers and three school administrators, participated in the program. The study focuses on data collected from a total of 248 K-2 students. Details of the study design and results are provided in the research methods section of this report.

## PowerMyLearning Program

The two-year program included teacher professional learning, focused on support for both academic and social emotional learning, as well leadership programming to support vertical alignment among school leaders, teachers, and families around common learning goals.

- ✓ Educator Workshops designed to support academic instruction, social emotional learning, and family engagement. Teachers participated in five educator workshops. Year 1 workshop topics included: Mindfulness and More for Kids and Adults, Build a Classroom Community Where All Student Feel They Belong, and Transform Discipline into a Learning Opportunity. Year 2 workshop topics included: Teaming Up with Families and Learning by Teaching at Home.
- ✓ Educator Coaching to extend learning from the Educator Workshops into daily practice. Teachers participated in three cycles of three coaching sessions (nine total) during Year 1.
- ✓ Core Four Leadership Workshops designed for school leaders to support schools where students thrive academically and in their well-being. Four workshops were provided to the instructional leadership team, which included three K-2 educators and three administrators, during year 2. Workshop topics included: Growing Instructional Leaders, Using Data to Drive Change, Creating a Joyful Climate and Culture, and Creating and Sustaining a Talent Pipeline.
- ✓ Instructional Leadership Coaching to build the skills that lead to improved teacher practice and joyful learning environments. Each sprint included 6 coaching sessions. In year 2, the instructional leadership team and the principal intern participated in coaching sprints.
- ✓ Family Workshops designed to provide strategies for families to support their children's well-being, as well as their own, were delivered during Year 1. Workshop topics included: Navigate Cyberbullying and Social Media, Self-care for Family Wellness and Strategies to foster your child's motivation.
- ✓ Family Engagement Action Planning designed to set goals and develop an implementation plan around engaging families as partners in their child's learning. The Community Schools Director participated in 5 sessions of 1:1 consulting and three professional learning sessions with family-facing staff from other NYC schools in year 1.

### *Family Playlists*

The program also included Family Playlists, which are standards-aligned math practice activities. Teachers schedule weekly Family Playlists assignments based on what they are teaching in the classroom. PowerMyLearning provides custom Family Playlists alignment to each district's curriculum to support the assignment process. Family Playlists are sent to the mobile device or email of each student's learning partner, a trusted adult in the child's life, who completes the assignments with them. The assignments consist of two parts: a learning game and an "explain what you learned" activity. The learning game is an off-line game that students complete with their learning partner using easy- to-find home materials. After playing the learning game, the learning partner records and uploads a video of the student explaining what they learned and provides feedback to the student's teacher. The teacher can then use the student video and feedback data to tailor their instruction.

At the partner school, K-2 teachers assigned Family Playlists throughout the 2022-23 and 2023-24 school year. At the beginning of the 2022-23 school year, K-2 teachers and school leaders attended Family Playlists launch sessions designed to support effective implementation.

## Research Methods

### *Design*

We used a pre-post design to examine PowerMyLearning's impact on student math achievement during each school year as well as across the two-year program.

### *Math Assessment*

The i-Ready math diagnostic assessment is an online, adaptive assessment for students in Grades K-8. Student performance is represented by a *scale score* from 100-800, with a set range of scores corresponding to each grade level. Students who score within (or above) the score range for their grade are considered to have met/exceeded grade-level standards.

The i-Ready math assessment was administered by the school in Fall of 2022 (beginning of year 1), Spring of 2023 (end of year 1), Fall of 2023 (beginning of year 2), and Spring of 2024 (end of year 2).

### *Data Collection and Analysis*

i-Ready scores were collected from the school for all K-2 students. Two-year math outcomes were analyzed using pre- (beginning of year 1) and post-program scores (end of year 2) from the 95 students who were assigned Family Playlists during both school years, including 55 Black students, 23 Hispanic students, and 19 students with learning differences. One-year math outcomes were analyzed from beginning of year (BOY) to end of year (EOY) in the 2022 (N=160) and 2023 (N=152) school years.

We conducted paired-samples t-tests on the pre/post data for all students who participated in the two-year program, as well as for the subsets of Black and Hispanic students and students with learning differences. We also examined the impact of PowerMyLearning's program within each year. To assess whether students improved to different degrees depending on whether they started each year meeting or not meeting grade-level expectations, we conducted repeated measures ANOVAs analyzing scale scores at BOY and EOY for students whose BOY scores did or did not meet grade level standards.

*Results*

The two-year program was associated with significantly higher i-Ready scale scores at post-test compared to pre-test (+12.9pp, p<.001, d=1.7). This overall pattern was the same for Black students (+15pp, p<.001, d=2.9), Hispanic students (+12.8pp, p=.01, d=1.7), and students with learning differences (+13.5pp, p=.03, d=1.398). Students also significantly improved their scale scores in each year of the program (Year 1: +8.1pp, p<.001, d=0.84; Year 2: +8.6pp, d=0.99). Moreover, annual gains were marginally dependent on whether or not students began the year meeting grade-level expectations (Year 1: p=.063, d=0.3; Year 2: p=.054, d=0.32). In Year 1, students who did not meet grade-level expectations at BOY (+8.3pp, p<.001, d=2.76) made larger gains than students who did (+3.8pp, p=.076, d=0.28). Likewise, in Year 2, students who did not meet grade-level expectations at BOY (+8.6pp, p<.001, d=3.06) made larger gains than students who did (+4 pp, p=.035, d=0.35).

## Discussion

PowerMyLearning is committed to building evidence around the impact of our work. This study found statistically significant effects on math achievement related to PowerMyLearning's professional learning program, which included Family Playlists, for all K-2 students as well as Black and Hispanic students and students with learning differences. This study demonstrates that PowerMyLearning partner schools can see math achievement gains that continue to grow year over year across sustained partnership. This work also highlights PowerMyLearning's impact on students with the highest needs, including students who are struggling in math, students from historically marginalized communities, and students with learning differences.

One limitation of this work is that these findings reflect the impact of all learning experiences and cannot be directly attributed to our intervention. We are currently conducting a randomized control trial to examine the impact of PowerMyLearning's programming and Family Playlists, which will enable us to more precisely determine the extent to which our programs are having causal effects.

## About PowerMyLearning

PowerMyLearning is a national nonprofit that works hand-in-hand with educators and leaders to foster equitable learning environments that empower each student to thrive academically, socially, and emotionally.

As a professional learning organization, PowerMyLearning equips K-12 teachers and leaders with the expertise they need to ensure students master grade-level math content while developing critical skills for lifelong success. Programs include professional development, instructional coaching, and innovative tools like Family Playlists®, which foster meaningful math discourse, support multilingual learners, and actively engage families in the learning process.

With over 25 years of experience serving historically marginalized communities, PowerMyLearning's work is backed by strong evidence. PowerMyLearning's research has shown statistically significant improvements in math achievement, including a +13% increase in i-Ready scores over two years, along with statistically significant gains in Social Emotional Learning (SEL), such as self-efficacy and growth mindset. Findings also indicate statistically significant improvements in teacher practice, including enhancing instructional design, data-driven instruction, and SEL-aligned teaching strategies. To learn more, visit PowerMyLearning.org/Impact.