



Case Study

PS 125 Harlem

Early identification moves struggling kids into the mainstream.

Difficult Circumstances

Harlem's Ralph Bunche Elementary School, PS 125, is a neighborhood school serving a student body that is high-poverty (80% participate in the Free/Reduced Price Lunch Program) and diverse (45% African American, 40% Hispanic, 5% Asian, 4% White). In 2011, just 26% of grade 3 students scored proficient in Language Arts, and just 44% in math. The school as a whole received a grade of "D" for student performance levels and "C" for the degree of improvement over the year compared to other children in New York City starting at the same performance levels.

PS 125 began implementing the computer portion of the C8Kids program in March 2012, with all students in grades K-2. As a demonstration of the school's commitment to going the extra mile for their student's cognitive development, every K-2 teacher agreed to assist the program's flexible implementation with different classes going to the computer lab or bringing laptops to their classrooms at different periods throughout the week. The recommended minimum duration of C8Kids is 36 computer and 36 physical exercise sessions. Due to starting in March, and the challenges of incorporating a new program in established schedules, most of the 100 children were able to participate in only 14 to 18 computer sessions. Even with these limitations, the school could see the value of C8Kids in their effort to turn their school around, and as a result they have built C8 into their regular schedule for the entire 2012-2013 school year.

Consternation and Concern - at First

Nowhere were the benefits more clear than in the Kindergarten special education (KS) class. At first, the program was perceived as too challenging for these kindergarteners. The computer teacher found herself unable to keep the students engaged, even with help from the classroom teacher. The C8Kids team worked onsite with the staff at PS 125 to devise a plan to "ramp up" the students' cognitive preparedness for the program.

The students were having most of their trouble with the NIH cognitive toolbox assessments that appear at the beginning and end of the course, and were unable to sit still long enough to learn the other games. Under the direction of C8's Chief Scientist, Yale Professor Bruce Wexler, the schedule was revised to allow the students to immediately succeed. The NIH testing was stopped, and the computer training schedule reduced down to small "bite-sized" chunks of 3 minutes. In a memo, Dr. Wexler wrote: "I want them to experience success. Take away the stress for the children and the teachers, then set the program to increase the duration of the C8 exercises by one minute per day."

We Want More!

Four weeks later the C8 Field Director got a call from 125. "The KS kids and their teachers want more." The children were coming in and logging on, completing two C8 exercises and saying they wanted the exercises to last longer. The Field Director moved the KS to the same schedule as the rest of the school. Soon they were doing each exercise for 17 minutes continuously! Before the school year

ended they were given the opportunity to do the NIH tests again. This time, 8 of the 10 children present were able to complete the Flanker test, and 4 of the 10 scored 89% to 100% correct on the congruent trials index of sustained attention.

Does this boy need special education?

The table below ranks the 11 KS children according to total “progress points” earned on the three C8 Kids brain exercises. The C8 exercises move children through hundreds of difficulty levels. Children move up a level either when they reach a demanding “graduation” performance criterion or if their personal performance reaches a plateau while still below graduation (the program will take them back to this level later to see if they can reach the graduation criterion). The table also shows how often each child reached graduation on the *What Comes Next?* exercise.

The top KS performer participated in 14 sessions and scored nearly 3 times as many progress points as any of his classmates. He reached graduation criterion 8 times while most of his classmates did not do so even once. Compared to all children in the other K-2 classes who also completed 14 sessions, this boy ranked in the 60th percentile for progress points and 50th for the ratio of graduations to plateaus. When taking the NIH tests at the end of the program, his scores on simple sustained attention on the Flanker and DCCS placed him in the 30th percentile school-wide. When the Principal and Assistant Principal saw this information they immediately said they had been trying for months to convince the family and teacher that this child did not belong in special education. The principal added: “The information from C8 is critical. I don’t want this boy to go all the way through school as a special education student.”

Rank	# of Sessions	Progress	CTB Grads	CTB Plats	WCN Grads	WCN Plats	Fly Grads	Fly Plats
1	14	649	0	17	8	17	19	1
2	18	235	0	17	1	9	9	0
3	16	220	0	18	0	8	0	0
4	18	190	0	17	0	15	11	0
5	16	186	0	18	0	10	2	1
6	14	146	0	14	0	10	0	0
7	13	145	0	10	0	15	0	0
8	14	124	0	13	2	6	2	0
9	14	107	0	10	0	5	11	0
10	7	26	0	5	0	5	0	0



\$2,000 Evaluations for Everyone!

Parents in affluent suburbs have confirmed that the cognitive profiles from C8 are the same as the ones they pay \$2,000 to have done in private clinics. C8 provides these assessments for every child who uses the program, integrating the data from the C8 exercises and the results of the NIH tests, at no extra charge. Special Education

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Education teachers, of course, know that no two children are alike. But it is not always easy in the context of daily teaching demands to analyze each child’s areas of strengths and weaknesses.

Child #4 scored 100% and 91% correct on the easier Flanker and DCCS test trials –both measures of sustained attention. These scores placed him in the 75th percentile school wide. Even more impressive was his 80th percentile working memory score. His teacher reported that when she taught vocabulary he consistently recalled words after only a single presentation. However, when it came to the more difficult Flanker Incongruent and DCCS Non-Dominant trials his scores dropped way below the norm – a valuable clue as to where he needs help.

“Leaps and Bounds”

Assistant Principal Grace Ogilvie, who helped lead the implementation of the program at M125, described the improvements for five students who moved out of special education, “Truly unheard of! Some of the things I noticed about these five students was that they were more focused... more

persistent... and improved academically! I'm sure the data will show that these students have grown leaps and bounds. In addition, I feel the repetitive conditioning your programs provided was integral to this growth spurt.”