



The Abacus Project was awarded funding from the Partners in Prevention fund through Neighborhood and Community Services to help develop academic skills in program participants. Direct training was provided to staff to implement a 12-week pilot program at Mott and Gum Spring Centers to help improve math fluency, confidence and problem-solving skills in program participants.

Results from direct observations and interviews suggest that students who participated in The Abacus Project received direct benefits from the program. Student and parent testimonials alike echoed similar responses - improved math grades in school, greater confidence in math ability and the abacus being a resource tool for homework. The program experience had a positive impact on attitudes towards math and developed personal metacognition.

The program administered the Slossen Math Fluency and Calculation Test (MFACT), a standardized assessment to measure the impact on math fluency as a result of program participation. Pre and post program assessments were administered at both centers and result were analyzed to measure program outcomes.

Mott Center results showed that 8 out of 9 participants increased their math fluency over the course of the program, while 1 participant showed no variation in performance. These results indicate that the program had at least a positive effect on the achievement outcome of students and may have even contributed to the increase in scores. Further research and a more extensive study would be warranted to take a closer look at attendance, program implementation standards, consistency with curriculum implementation and the appropriate use of tools and resources on practice exercises.

Conversely, Gum Spring Center results showed a decrease in math fluency for 6 out of 10 participants, based on the Slossen test scores. There were only 2 participants with score increases, and no real variance for the other 2 participants. It is not possible that the program could impact scores negatively, since students can't unlearn what was demonstrated on the pre-assessment. Results could however be impacted by the testing environment, attitude/behavior of participants while taking the assessment, or other external factors.

Overall, the program had favorable outcomes which suggests a need for additional pilots. Implementing best practices from this current case study to better substantiate the results and improve the program and participant experience, affords the opportunity to increase achievement and performance for targeted participants.



Fairfax County – Office of Partnerships
Partners in Prevention Fund Grant

The Abacus Project Math Fluency Results by Center
Slossen Mathematics Fluency Test

Mott Center					
		<u>Pre-Assessment</u>	<u>(Jan/Feb 2018)</u>	<u>Post Assessment</u>	<u>(May 2018)</u>
Student	Grade	Standard Score	Percentile Rank	Standard Score	Percentile Rank
Student 1	5	87	19	118	89
Student 2	3	84	14	117	87
Student 3	3	71	3	106	65
Student 4	4	90	25	130	98
Student 5	5	68	1	114	82
Student 6	5	101	53	126	96
Student 7	4	122	93	135	99
Student 8	4	130	98	138	>99
Student 9	4	134	99	132	99
Student 10	4	91	27	no data	no data

Gum Springs Center					
		<u>Pre-Assessment</u>	<u>(Jan/Feb 2018)</u>	<u>Post Assessment</u>	<u>(Apr/May 2018)</u>
Student	Grade	Standard Score	Percentile Rank	Standard Score	Percentile Rank
Student 11	5	121	92	116	86
Student 12	5	124	95	125	95
Student 13	5	94	35	73	3
Student 14	5	109	73	93	32
Student 15	3	88	21	99	47
Student 16	5	125	95	104	61
Student 17	4	126	96	119	90
Student 18	2	85	16	79	8
Student 19	2	105	63	121	92
Student 20	1	154	>99	135	99