



At the National Inventors Hall of Fame®, one of the key reasons our education programs have inspired millions of students nationwide for more than 30 years is our commitment to continuous improvement and iteration.

By partnering with independent research organizations, our education team acquires unbiased data to inform the development of all our programs and ensure participating children continue to benefit from our innovative and engaging curricula.

Our ongoing partnership with the Summit Education Initiative (SEI), a nonprofit research organization with the mission to “increase personal and regional prosperity through educational attainment,” demonstrates our commitment to independent research.¹ To help as many students as possible progress successfully from kindergarten to postsecondary attainment, SEI has identified important transitional milestones that are predictive of future success.

This idea, that investments made in a child’s education can have dramatic and compounding effects on their success over time, is well established.

One of the pillars of this scholarship comes from the work of James Heckman, Nobel Memorial Prize winner in Economic Sciences and the Henry Schultz Distinguished Service Professor of Economics at the University of Chicago. Throughout his career, Heckman has argued that the earlier we can invest in educational and developmental resources, the faster the positive impact will compound. Additionally, the life skills that are often developed in these programs “ultimately create better education, health and economic achievement.”²

Similarly, in an interview with the National Inventors Hall of Fame, Diana Kingsbury, director of research and analytics at SEI, explained how her organization believes in the importance of early educational milestones.

“We believe that each transition point is predictive of the next one,” said Kingsbury. “So a student’s kindergarten readiness can impact their third grade reading proficiency, and their ability to read can impact their ability to do math.”

Key Findings From Innovation 365: Wraparound, Summer 2022

Because our goals at the National Inventors Hall of Fame align with those of SEI, for the past five years, we have partnered to conduct research on the effectiveness of our summer programming. The most recent study, published in early 2023, analyzed the impact of Akron Public Schools (APS) Innovation 365: Wraparound, a four-week enhanced English Language Arts (ELA) version of Camp Invention®, the flagship K-6 summer STEM program from the National Inventors Hall of Fame.

As SEI studied Innovation 365: Wraparound in the summer of 2022, they found improvements across the board in participating students’ GPA, i-Ready standardized test scores in mathematics and reading, and school attendance the following academic year.³

Increased GPA

According to the SEI report, the mean GPA for APS students who attended our program increased during Marking Period 1 of the 2022-23 school year.

GPA Before and After Summer 2022

	GPA in Marking Period 4 of the 2021-22 School Year		GPA in Marking Period 1 of the 2022-23 School Year	
	Mean	Median	Mean	Median
All Students in Akron Public Schools	2.2	2.6	2.3	2.6
Students in APS I365: Wraparound Summer 2022	2.2	3.0	2.4	3.0

1. Summit Education Initiative. (n.d.). *Equity and achievement for all students*. Summit Education Initiative. <https://seisummit.org/>
 2. Heckman, J. (2017, February 8). *Early childhood education: Making sense of all the research*. The Heckman Equation. <https://heckmanequation.org/resource/early-childhood-education-making-sense-of-all-the-research/>

3. Summit Education Initiative. (2022). (rep.). *National Inventors Hall of Fame Akron Public Schools Innovation 365 (I365): Wraparound Summer 2022*. Akron, Ohio: Summit Education Initiative.

Increased i-Ready Mathematics and Reading Scores

First administered during the summer of 2011, the i-Ready Diagnostic assessments “align to college and career ready standards so that results can inform student placement decisions, offer explicit instructional advice and prescribe resources for targeted instruction and intervention.”⁴ Following multiple studies supporting the validity and accuracy of this assessment, as well as its consistency with educational standards across the United States, 21 states have approved the i-Ready Diagnostic as an assessment, instructional resource or intervention.⁵

For students who attended our program, during the 2022-23 school year, both average (44) and median (40) percentile scores in math were higher than the district average for all students, including students who attended other summer programs during the same time period. Additionally, most of the participating students for whom i-Ready scores were available maintained their performance level on this assessment from spring to fall.⁶

i-Ready Math Test Outcomes Before and After Summer 2022	i-Ready Math Percentile Scores			
	Spring Average	Spring Median	Fall Average	Fall Median
All APS Students	31	24	30	23
All Summer Participants	39	34	41	35
Students in APS I365: Camp Invention	42	38	44	40

For i-Ready reading scores, both average (47) and median (43) percentile scores for students who participated in the program were higher than the district average for all students, including all summer program participants as a whole. Most of the participating students for whom i-Ready scores were available maintained their performance level on this assessment from spring to fall.⁷

i-Ready Reading Test Outcomes Before and After Summer 2022	i-Ready Reading Percentile Scores			
	Spring Average	Spring Median	Fall Average	Fall Median
All APS Students	35	29	35	29
All Summer Participants	44	40	44	38
Students in APS I365: Camp Invention	47	45	47	43

4. Swain, M., Randel, B., & Dvorak, R. N. (2019). *Impact Evaluation of Reading i-Ready Instruction for Elementary Grades using 2018-19 Data Final Report*. HumRRO - Human Resources Research Organization. <https://files.eric.ed.gov/fulltext/ED604746.pdf>

5. Ibid.,

6. Summit Education Initiative. (2022). (rep.). *National Inventors Hall of Fame Akron Public Schools Innovation 365 (I365): Wraparound Summer 2022*. Akron, Ohio: Summit Education Initiative.

7. Ibid.,

Increased Attendance

Students who participated in our program during the summer of 2022 had fewer absences (1.9) during Marking Period 1 of the 2022-23 school year than the overall school average (3.3). These results are significant and speak to our program’s power to enhance student engagement long after its duration.⁸

Kingsbury highlighted these results in particular when speaking with the National Inventors Hall of Fame.

“There’s really no doubt that students who participated in National Inventors Hall of Fame programs – likely just by virtue of participating in that program – were staying on track for academic success,” Kingsbury said. “We believe as an organization and in our work with the Out of School Time Network, that engagement for students outside the classroom is critical for student success.”

Absences Before and After Summer 2022	Absences in Marking Period 4 of 2021-22 School Year		Absences in Marking Period 1 of 2022-23 School Year	
	Mean	Median	Mean	Median
All Students in Akron Public Schools	5.3	3.0	3.3	2.0
Students in All Summer Programs	3.0	2.0	1.7	1.0
Students in APS I365: Wraparound Summer 2022	3.2	2.0	1.9	1.0

Conclusions and Implications

This SEI study, conducted during the summer of 2022, sought to examine the effectiveness of 12 summer programs, including the National Inventors Hall of Fame’s Innovation 365: Wraparound. The success of this program builds on established scholarship that speaks to the value⁹ and effectiveness¹⁰ of high-quality out-of-school-time (OST) programming.

The SEI researchers allude to this in the conclusion of their research and state that these findings support the idea that high-quality programs focusing on both academic and social-emotional development “have the power to reduce or eliminate gaps that occur from summer learning loss.”¹¹

8. Ibid.,

9. McCombs, J., Whitaker, A., & Yoo, P. (2017). *The value of out-of-school time programs* - Rand Corporation. RAND Corporation. https://www.rand.org/content/dam/rand/pubs/perspectives/PE200/PE267/RAND_PE267.pdf

10. Centers for Disease Control and Prevention. (2022, August 16). *Out of school time*. Centers for Disease Control and Prevention. <https://www.cdc.gov/healthyschools/ost.htm>

11. Summit Education Initiative. (2022). (rep.). *National Inventors Hall of Fame Akron Public Schools Innovation 365 (I365): Wraparound Summer 2022*. Akron, Ohio: Summit Education Initiative.