

RESEARCH AND EVALUATION IN URBAN ADVANTAGE

**What are the Impacts of a Partnership Program
to Enrich Science Teaching and Learning in NYC Schools?**

FY2026



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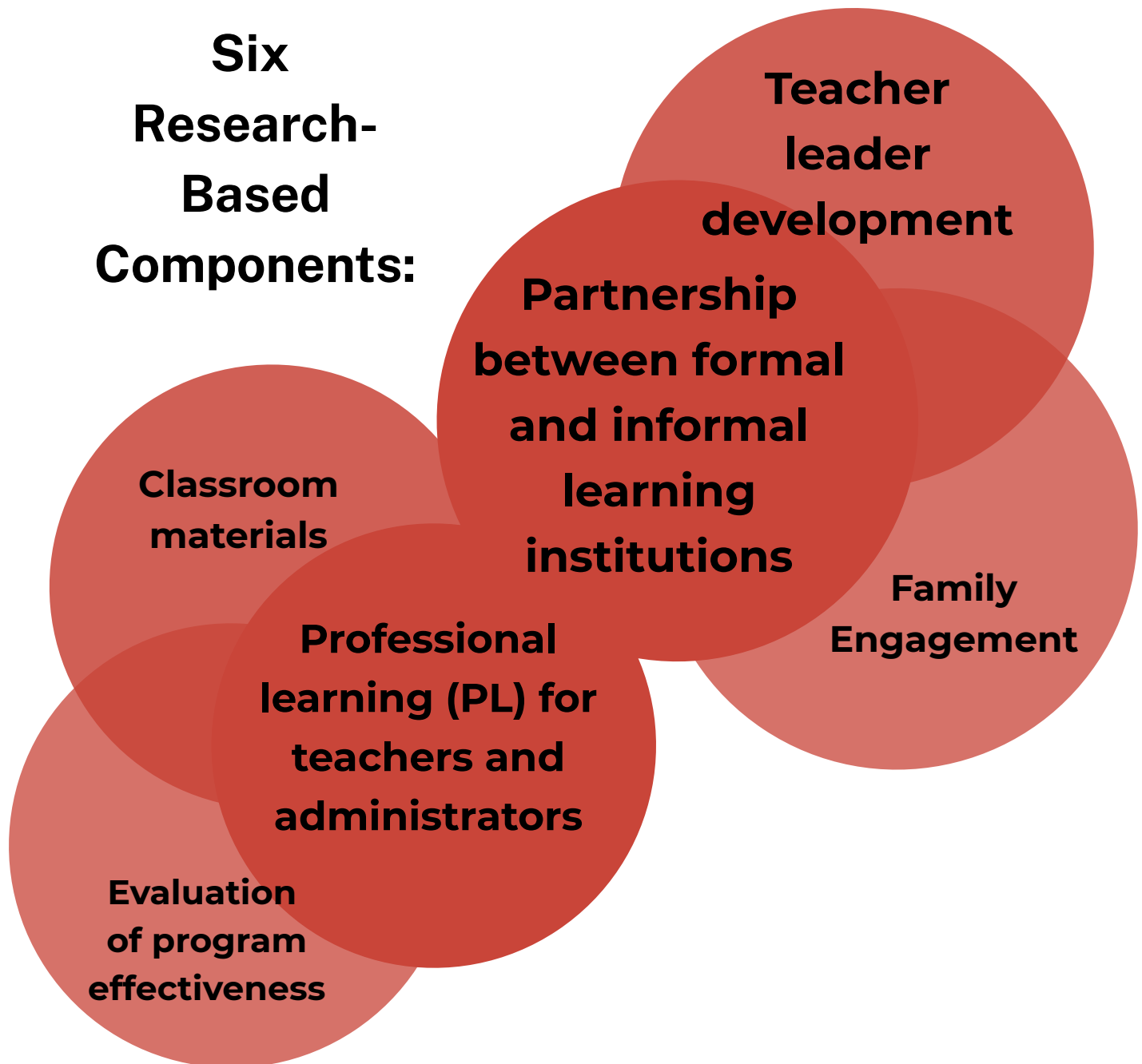


PROGRAM DESCRIPTION

Mission: To spark student curiosity, belonging, and agency by partnering NYC public school communities with scientific institutions and local resources in a way that supports explaining the natural world.

Vision: UA aspires to nurture phenomenon-based science teaching that reflects students' lived experiences, amplifies their voices, and inspires collective action toward equity and community well-being.

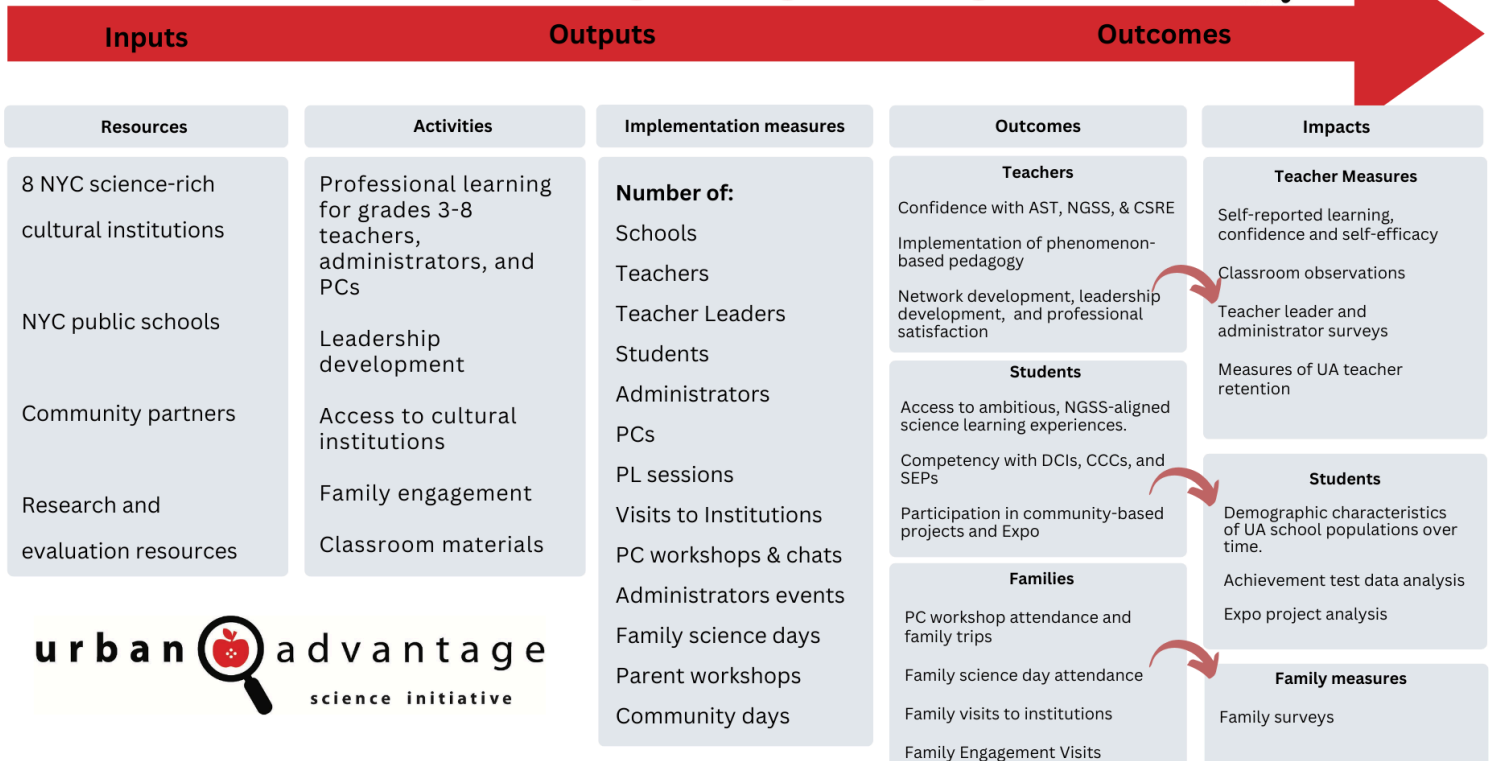
Six Research- Based Components:



PROGRAM LOGIC MODEL

The Urban Advantage logic model articulates the connection between the program's resources, activities, and outcomes and shows how data are used to learn about how the components of the program are working to achieve impact for teachers, students and families in NYC.

Urban Advantage Program Logic Model



UA MIDDLE SCHOOL GRADES BY THE NUMBERS

66,800

NYC students in grades 6, 7 and 8 have an Urban Advantage Teacher.

668

Middle school teachers participated in Urban Advantage in FY26

259

Middle Schools are enrolled in Urban Advantage.


**UA middle
school
students
reflect the
diversity
of the NYC
Public
Schools**

Student demographics (%)	Urban Advantage	Citywide
Female	48.1	48.1
Black	16.5	19.3
Hispanic	44.7	42.3
Asian	21.6	18.7
White	14.2	16.1
Multiracial or other	2.9	2.0
Economic Need Index	79.3	74.4
English language learner	19.2	16.8
Students with disabilities	22.4	22.4

Percentages are based on 2024-2025 UA and NYCPS enrollment numbers. Percentages do not add up to 100% due to missing demographic information.

UA ELEMENTARY SCHOOL GRADES BY THE NUMBERS

14,980

NYC students in grades 3, 4 and 5 have an Urban Advantage Teacher.

214

Elementary school teachers participated in Urban Advantage in FY26.

90

Elementary schools are enrolled in Urban Advantage.



**UA
elementary
students
reflect the
diversity of
the NYC
Public
Schools**

Student demographics (%)	Urban Advantage	Citywide
Female	47.2	48.1
Black	19.5	19.3
Hispanic	42.6	42.3
Asian	18.6	18.7
White	15.4	16.1
Multiracial or other	3.8	2.0
Economic Need Index	77.5	74.4
English language learner	24.4	16.8
Students with disabilities	29.6	22.4

Percentages are based on 2024-2025 UA and NYCPS enrollment numbers. Percentages do not add up to 100% due to missing demographic information.

WHAT HAPPENS IN UA PROFESSIONAL LEARNING?



Urban Advantage's professional learning focuses on **scientific practices, science content, and effective teaching strategies.**



Each of Urban Advantage's eight institutions offer **unique courses** that connect classroom science and curricula to **real-world, community-based learning.**



Teachers receive access to field trips at all eight institutions and funding to support **student learning, engagement and investigations.**



Courses focus on the use of **phenomena** to support learning, discourse strategies and evidence-based explanations.



HOW DOES UA IMPACT TEACHERS' CONFIDENCE WITH PHENOMENON-BASED TEACHING?

To measure the impact of the professional learning, teachers in their first year of Urban Advantage complete surveys before beginning the program and at the end of Year 1, which asks them to rate their **confidence to enact phenomena-based teaching practices**. The survey scale, adapted from Lowell & McNeil (2023), asks about practices such as **eliciting students' ideas about scientific phenomena, pressing for evidence-based explanations, and connecting to students' personal and cultural backgrounds**. Teachers rate their confidence between 1 (not at all confident) and 6 (extremely confident) for six items (maximum score=30).

In 2025-2026, **new UA teachers' average confidence score increased significantly from 21.1 to 24.9** ($t(99)=3.8$, $P<.001$) which is similar to Year 1 teachers in 2024-2025. This is the second year collecting these survey data; teachers also also surveyed in Years 3 and 5 of the program.

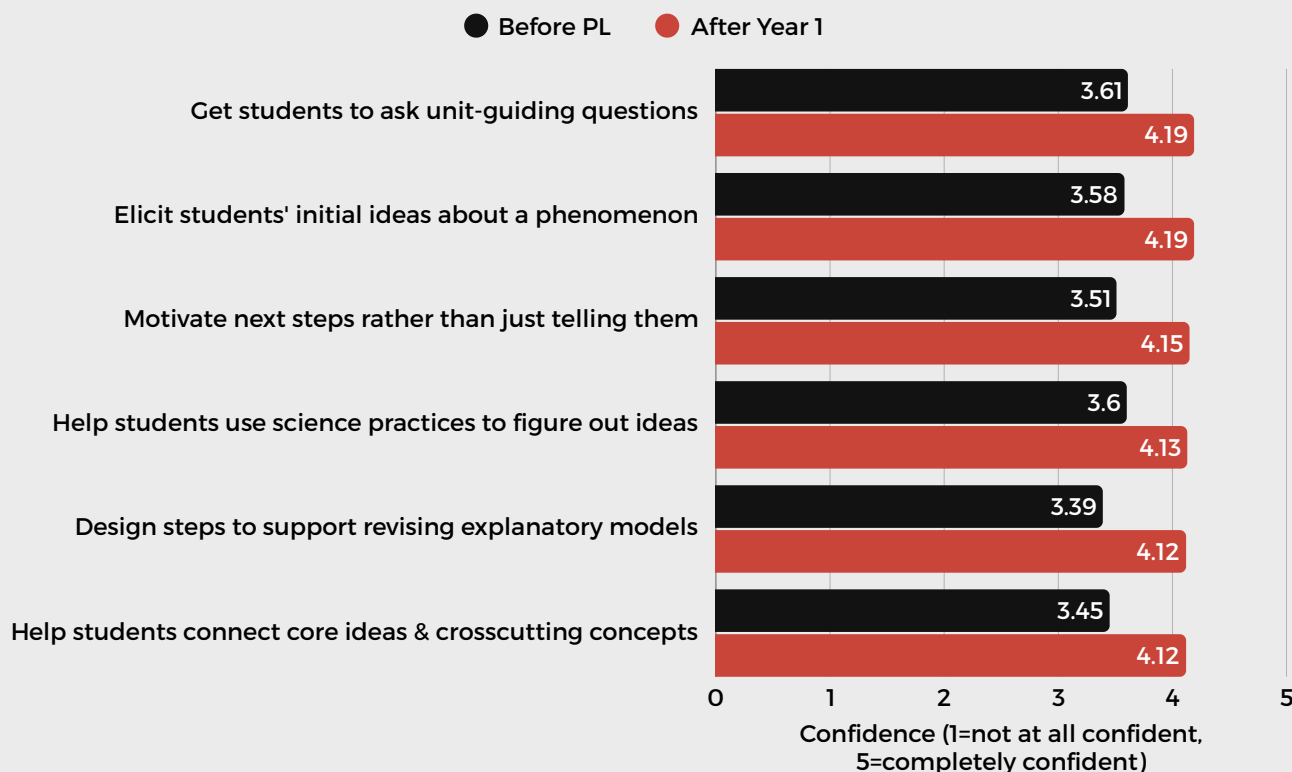
“

My biggest takeaway from Urban Advantage this year was strengthening my ability to guide students through the scientific thinking process. I deepened my understanding of how to support students not only in reading and writing about science, but also in developing meaningful questions that encourage them to independently investigate and explore scientific phenomena. I gained valuable strategies for making scientific, evidence-based writing more accessible to students with diverse learning needs.

Middle school teacher, Bronx

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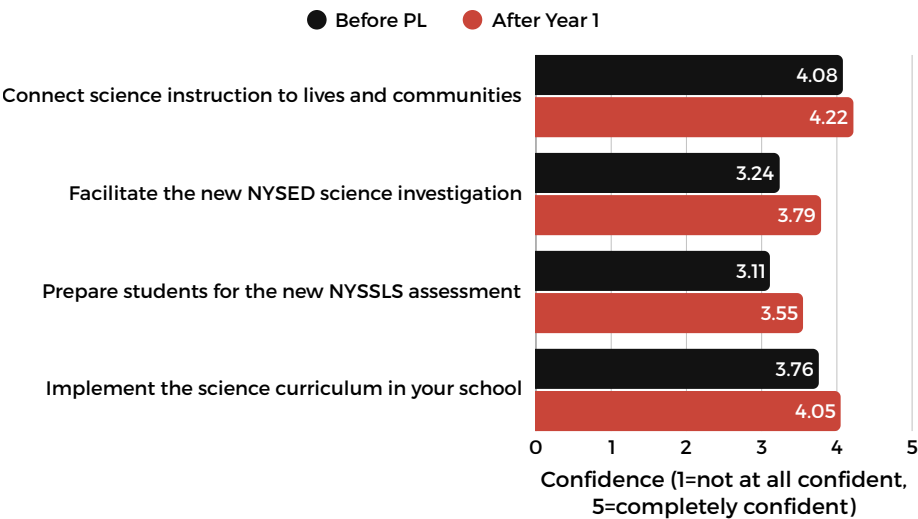
New teachers' confidence with phenomena-based teaching



HOW DOES UA IMPACT TEACHERS' CONFIDENCE WITH NYC-SPECIFIC CURRICULUM AND ASSESSMENTS?

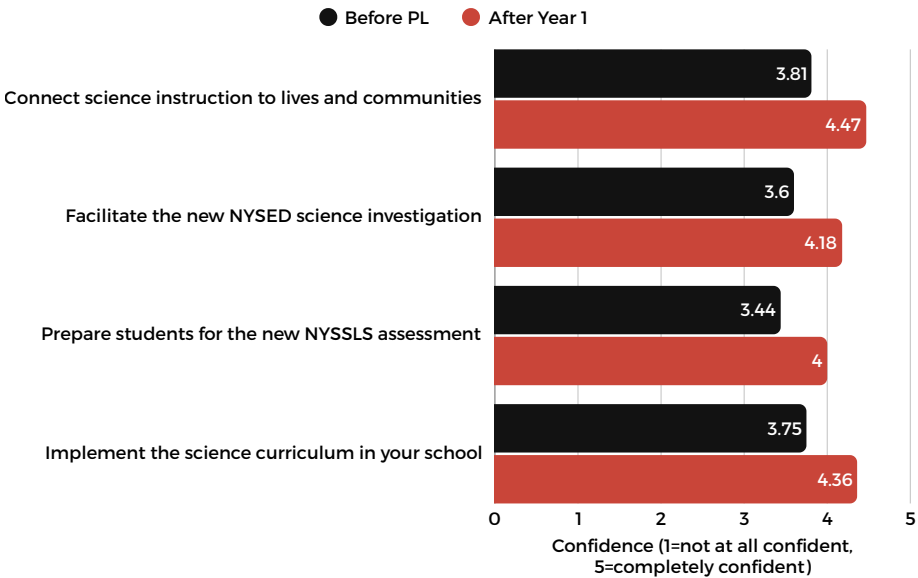
The survey of teachers also included four items created specifically for the NYCPS context, including connecting science instruction to lives and communities, facilitating NYSED investigations and NYSSLS-aligned curriculum and assessments. **There was a statistically significant gain for all NYC-specific practices in 2025-2026, except for “connect to lives and communities” for elementary teachers.** Elementary teachers reported the most growth with the investigations and middle school teachers biggest gain was in connecting science instruction to lives and communities.

Elementary teachers' confidence with NYC-specific practices



“
[My biggest takeaway was] the CER strategy and constantly connecting key concepts from Amplify Science to the anchor phenomenon.
”
Elementary teacher, Queens

Middle school teachers' confidence with NYC-specific practices



“
One of my biggest takeaways from Urban Advantage this year was seeing how much deeper I can engage students with science when they have opportunities to investigate real-world questions and connect classroom learning to authentic experiences.
”
Middle school teacher, Bronx

HOW DO WE SEE UA REFLECTED IN TEACHERS' PRACTICE IN THE CLASSROOM?

Measuring the impact of professional learning on teachers' classroom practice is methodologically challenging (Hill & Papay, 2022; Sannert et al., 2026). Though classroom-based research in UA is not designed to measure impact, the program has valued evidence from the classroom since the beginning and several formal studies offer evidence of Urban Advantage-supported practices being successfully enacted in middle and elementary school classrooms in NYC. For example, a qualitative study of UA middle school teachers' classroom practice found that teachers **used tools from the UA professional development to support students in carrying out science and engineering practices**, such as writing and investigation scaffolds (MacPherson et al., 2019).



Findings from observations of UA elementary school teachers' classrooms have provided examples of the way that UA-aligned lessons can look. This work provides evidence that practices such as **eliciting students' ideas, connecting to students' lives, and supporting students to construct scientific explanations and arguments can be supported by UA tools and strategies** (Lorenzetti, 2025; 2026). Furthermore, UA approaches complement NYSSLS curricula recommended for elementary and middle school.

In FY26, teachers at six UA elementary schools participated in a study of classroom practice. Researchers observed third- and fourth-grade lessons using a tool which included key practices described in the NYCPS Science Shifts and addressed in UA Professional learning. **All classrooms showed evidence of teachers positioning students as scientists and eliciting ideas. Most classrooms (>67%) showed evidence of teachers engaging students in scientific modeling, constructing explanations and arguing from evidence.** Though less common, there were examples of teachers' supporting students to **revise models and explanations** (Lorenzetti, 2026).



HOW DOES UA SUPPORT TEACHER LEADERSHIP AND IMPROVE RETENTION?

The **UA Fellows** and **Lead Teacher** programs offer teachers pathways toward leadership and additional opportunities to network with other professionals. **The UA Fellows program** helps teachers in UA learn from one another, build community, and strengthen their instruction through inter-visitation. **UA Lead Teachers** partner with UA institutions to co-lead professional learning and share examples of strategies learned that can be connected to classroom practice.

In 2025-2026, UA supported:

32 Lead teachers
13 Fellows

Research consistently finds that developing teacher leadership is associated with higher retention (e.g., Lin et al., 2025). The long-term nature of the program, and leadership opportunities for UA teachers, may explain the finding that **UA participation increases teacher retention. UA science teachers are, on average, 3.8 percentage points more likely than non-UA science teachers to remain teaching at their school the following year.** This impact is substantially higher for teachers with 3-5 years of teaching experience (Shiferaw et al., 2025). This positive impact on retention is a consistent finding of the long-term evaluation of Urban Advantage.

“

Being part of UA Fellows pushes me to be better. The conversations that we have make me be more reflective of my practice and doing this with other educators that are committed is really motivating.

2025 UA Teaching Fellow

”



How much does it cost to replace science teachers?

**35 teachers in UA
per year are more
likely to stay**



\$875,000
**(cost of replacing
the teachers)**



In terms of science teacher retention, it costs approximately \$25,000 to replace a teacher if they choose to leave the system (LPI, 2024). Participating in UA increases a teacher's likelihood to stay by about 4%. The program served 882 teachers in FY26, so that's about 35 teachers per year that are more likely to stay, saving \$875,000 it would cost to replace them.

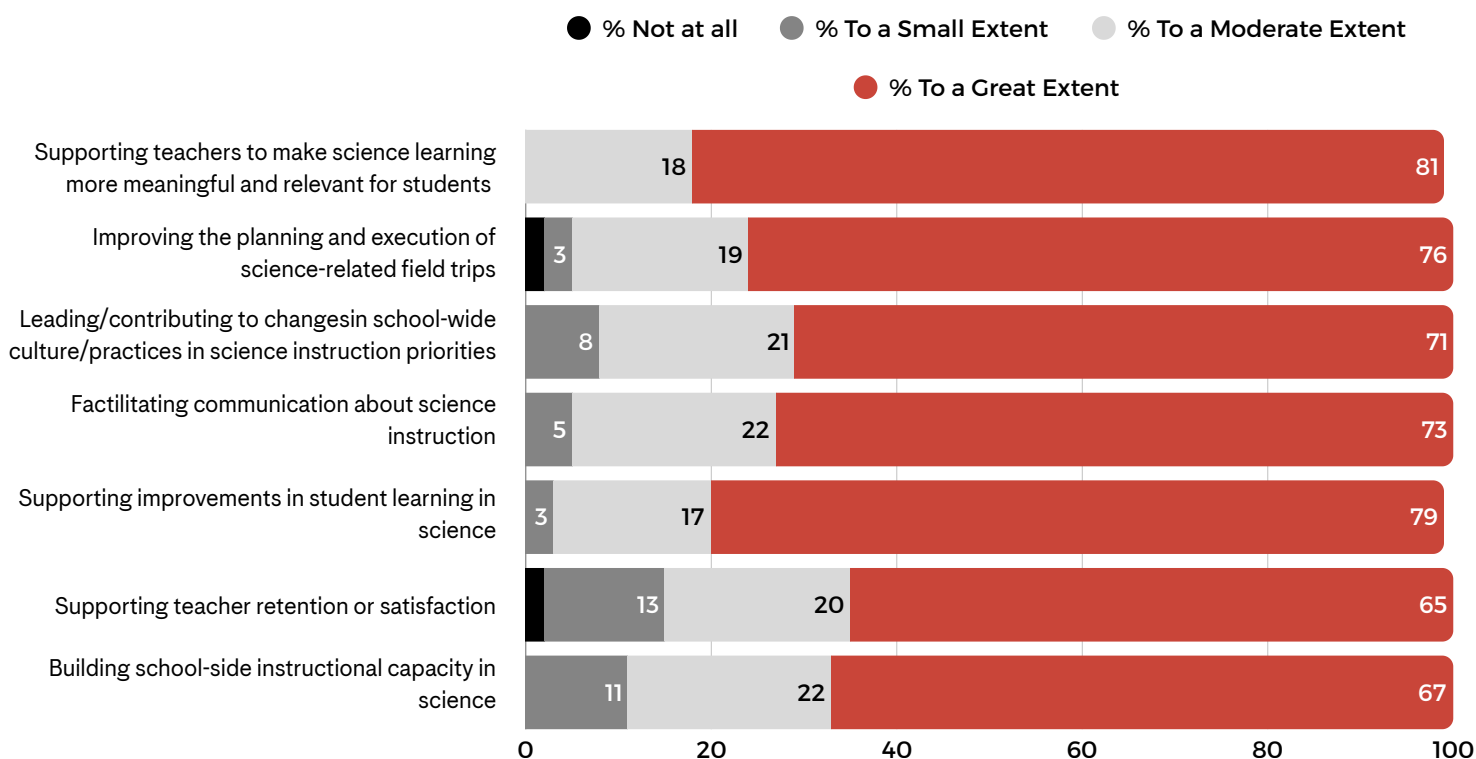
HOW DO UA TEACHER LEADERS IMPACT NYC SCHOOLS?

UA Fellows and Lead Teachers not only grow personally and professionally; they also strengthen the science work happening in their buildings and in their districts.

89% report taking on leadership roles beyond UA

Administrators reported on the impact of UA Fellow or UA Lead Teachers in their schools on the end-of-year survey. They were asked “to what extent has the UA teacher Leader in your school contributed to the following in your school?” The statements are drawn from the Teacher Career Pathways 2025-2026 *Guide to Effective Teacher Leadership* (NYCPSTCP, 2025). Their responses indicate that Urban Advantage teacher leaders are positively impacting science instruction and student learning in science at their schools.

UA Teacher Leaders' Impact in Schools



“Our UA teacher leader is exemplary. Her impact extends beyond her science classroom/lab. She regularly supports colleagues through lesson modeling, coaching, and collaborative planning. Her leadership, reflective practice, and dedication to improving science instruction make her a valuable contributor to both the Urban Advantage community and the broader profession.”

UA Administrator

HOW DOES UA SUPPORT ADMINISTRATORS?

Administrators play a critical role in empowering teachers to implement strategies learned in PL (Balyer et al., 2017). Urban Advantage provides events for all UA administrators, with the understanding that teachers are more likely to be successful in shifting their practice when their administrators are knowledgeable and supportive.

In 2025-2026, 647 Middle and Elementary School Administrators engaged with Urban Advantage.

- **Four** administrator events (presented as Professional Learning “Breakfasts”) are held per year, which all Urban Advantage Administrators are invited to attend.
- A **monthly newsletter** is sent to all UA Administrators to keep them informed of UA events and happenings. Monthly prompts are also included that they are encouraged to discuss with their science team.

“

*Attending the Administrator Breakfast supported me in my role by **providing practical strategies and resources** that I was able to implement immediately in my school. It **helped me better organize and support my teachers...** the professional development shared during the session **strengthened my approach to academic strategies and instructional planning...** I was also **able to build partnerships with external organizations**... Overall, the experience enhanced both my organizational leadership and my ability to provide meaningful academic support to staff and students.*

UA administrator

”



HOW DO ADMINISTRATORS REPORT THAT UA IMPACTS THEIR SCHOOLS?

Urban Advantage Administrators are surveyed annually to gather feedback about what they need from the program and to gauge how their school community benefits from the program. **In 2025-2026, administrators from 260 schools completed an end-of-year survey.**

An open-ended item asked, “How does Urban Advantage PL influence your science teachers’ practice?” **165 administrators shared a specific example that mapped to an Urban Advantage priority** (administrators were not required to answer open-ended items). The table below shows examples of ways in which administrators reported that UA benefited their teachers and their school communities.

UA Priority	Example	% of responses
Strengthen practice-based professional learning in NYC Public Schools	“I saw evidence of teachers incorporating their learning about models into practice, as well as shared information about ambitious science teaching, specifically discussions.”	49%
Promote community-connected and engaging science experiences in and out of the classroom	“[Teachers] successfully shifted their pedagogy to make science tangible, engaging, and deeply relevant to our students. Teachers transformed traditional classrooms into dynamic “living labs” by introducing a hydroponic machine and developing our school garden. The hands-on care of the garden and hydroponic system allowed teachers to integrate real-world lessons on environmental science, food sources, and sustainable agricultural practices.”	23%
Deepen partnerships between NYC institutions, families and local organizations	“[UA] connected teachers with science institutions and peers that elevated their instruction and provided our teachers with a network of other teachers in the city with whom they collaborate with.”	21%
Strengthen engagement with UA in the school community	“One participating teacher was inspired to have the students participate in the expo, which was impactful for our students. They also got the opportunity to display their work at the school after the expo.”	7%

“Urban Advantage is one of the reasons my school's science department is so well run. Not to brag but our Science Exam Scores were at or above the city. That's a direct reflection of the work done through UA.

UA administrator

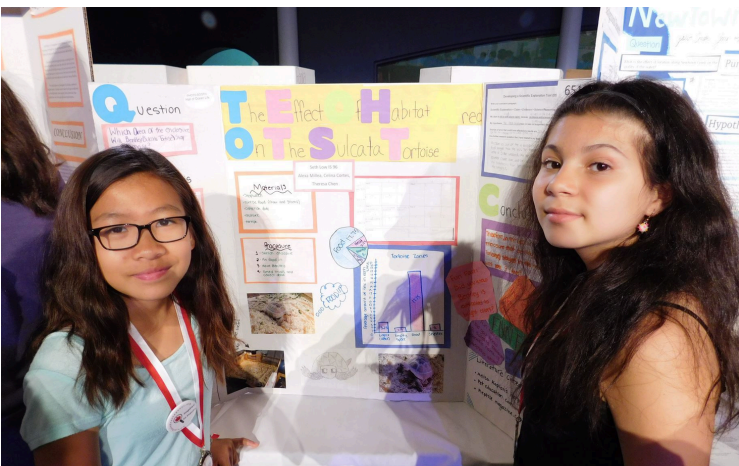
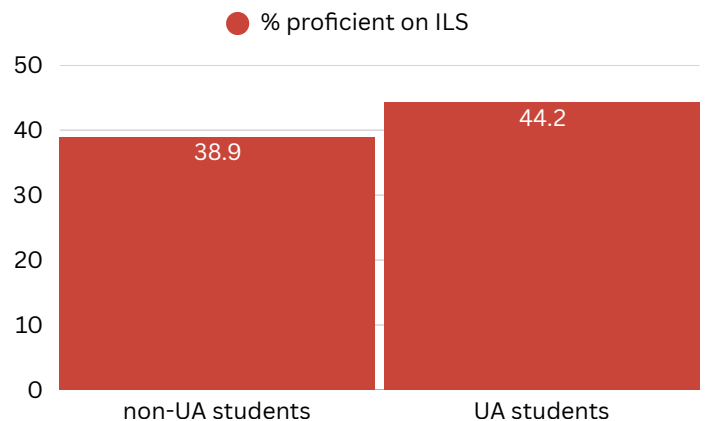
HOW DOES UA IMPACT STUDENTS' PERFORMANCE ON STANDARDIZED TESTS?



Studies from 2010 to the present have documented a **positive effect of program participation on performance on state science test scores** (e.g., Weinstein et al., 2010, 2014, 2025, 2026). NYC students in grades 5 and 8 take science assessments aligned with the New York State Science Learning Standards (NYSSLS). All 5th-graders take the same assessment, while 8th-graders take either the Intermediate Level Science (ILS) exam, the Biology Regents Exam or the Earth Science Regents exam. The research team uses quasi-experimental methods to directly compare the performance of students of UA and non-UA teachers.

In 2024-2025, 8th grade students of UA teachers performed better and were more likely to pass the ILS exam (44.2% compared with 38.9%) compared to the students of non-UA teachers. This positive finding was confirmed by regression analysis that employed matching (on student, teacher and school characteristics) to control for selection bias (Weinstein, 2026). Findings for the Biology and Earth and Space Science Regents were mixed and based on only one year of data for the updated tests. **UA elementary students' were slightly more likely to be proficient compared with non-UA peers, though this effect was not statistically significant** (Weinstein, 2025, 2026).

2024-2025 Performance on 8th grade ILS exam



Compared to similar large-scale, science-focused PD programs, Urban Advantage has a similar or larger effect on student learning gains. Research has uncovered effect sizes of PD programs for science teachers that vary depending on factors such as duration and content focus - ranging from negative or null effects to a maximum of 0.52 standard deviations (SD, Lynch et al., 2025). For example, a 2015 study of a science teacher PD program (Taylor et al., 2015) found an effect size of approximately 0.09 SD, compared to UA's most recent published effect size of .08 SD.

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WHERE CAN I FIND THIS RESEARCH?

[This page](#) has links to the papers and a summary of their findings. Also,
check out the research and publications page on the [UA website](#).

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