



FY2022

FREQUENTLY ASKED QUESTIONS ABOUT RESEARCH ON THE URBAN ADVANTAGE PROGRAM

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TABLE OF CONTENTS

03 Program description and UA by the numbers

05 What features of UA are supported by research?

06 How does UA impact teachers?

07 How does UA impact students?

08 How does the impact of the program compare to similar, large-scale PD programs?

09 How does UA's impact on student learning compare to similar programs?

10 How has the program been affected by the COVID-19 pandemic?

11 Acknowledgement, where to find research, contact information



PROGRAM DESCRIPTION

High quality
professional
development for
teachers,
administrators, and
parent coordinators

Classroom
teaching
resources,
materials, and
equipment

Assessment
of program
goals and
student
learning

Six research-based components

Capacity
building and
sustainability
structures

Access to UA
partner
institutions

Outreach
through
family events,
and annual
Science Expo

UA Middle Grades by the Numbers

85,000

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

892

Middle school teachers participated in Urban Advantage in FY22

265

Middle schools across all 51 City Council Districts and across 5 boroughs are enrolled, which represents

46%

of all NYC middle schools

UA middle school students reflect the diversity of the NYCDOE

Student demographics (%)	UA	Citywide
Female	48.2	48.6
Male	51.8	51.4
Black	22.9	24.7
Hispanic	42.7	40.8
Asian	18.5	16.5
White	14.5	14.8
Multiple Race	1.4	3.2
Economic Need Index	75.3	73.0
ELL	14.1	13.3
Students with Disabilities	17.7	20.8

UA Elementary Grades by the Numbers

8,000

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

116

Elementary school teachers participate in Urban Advantage

51

Elementary schools are enrolled

4

UA Elementary Lead Teachers

UA elementary students reflect the diversity of the NYCDOE

Student demographics (%)	UA	Citywide
Female	48.2	48.6
Male	51.8	51.4
Black	23.5	24.7
Hispanic	41.0	40.8
Asian	16.8	16.5
White	15.5	14.8
Multiple Race	3.2	3.2
Economic Need Index	75.3	73.0
ELL	12.4	13.3
Students with Disabilities	21.4	20.8

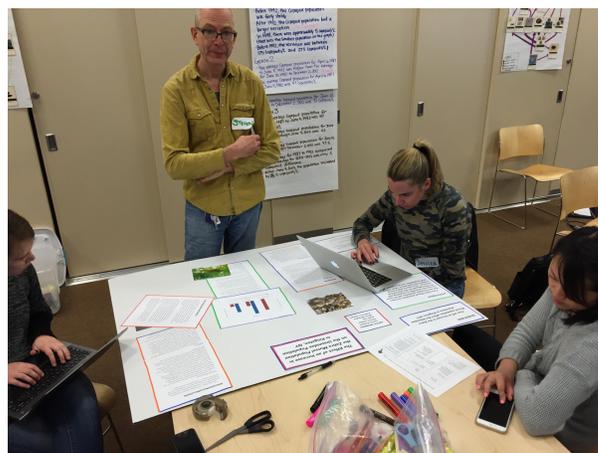
What features of Urban Advantage are supported by research on high quality teacher professional development?

Urban Advantage is a **long-term** professional learning experience; even veteran teachers can learn and grow in Urban Advantage. Teachers can participate in Urban Advantage for five years and then they have the option to join the Alumni or Fellows programs. Programs that take into account the changing needs and interests of teachers over time are reflective of the important understanding that teachers can and should continue to learn even as they grow in mastery and expertise. This reflects an appreciation for the value of lifelong learning for teachers and for what scholars call “teaching as a learning profession” (Darling-Hammond & Sykes, 1999).

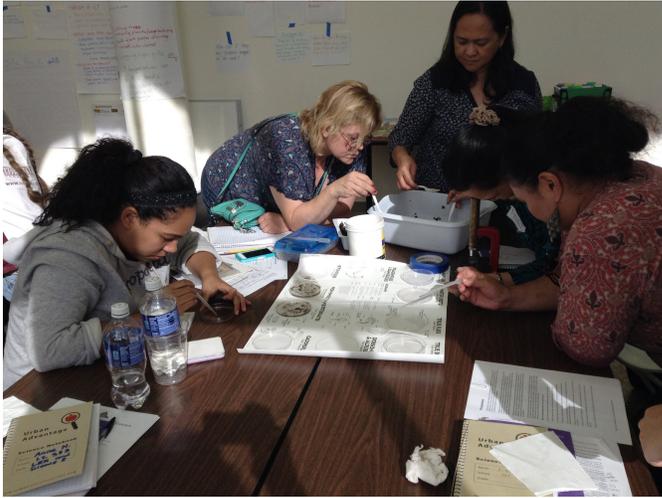
To do so, Urban Advantage provides teachers with **many hours of professional learning** across several years; it is not a one-day workshop model. Research has underscored that

one-shot workshops for teachers are rarely an effective means of helping teachers learn, especially to change or strengthen their practice, even though many teachers continue to be asked to participate in them and schools continue to offer them.

Urban Advantage is focused on **specific scientific content and science teaching practices**. This is especially important because the most powerful professional development programs that have the most impact are those that are focused squarely upon content and practice of teaching and that identify specific instructional practices that teachers can bring back to the classroom (NAS, 2015). Furthermore, UA courses often focus teachers on **examining student thinking**—a feature that some studies have shown has an impact not only on teacher knowledge but also student learning (Wilson, 2013).



How does Urban Advantage impact teachers?



UA has been shown to support important **shifts in teaching around facilitating students' science investigations**. A qualitative study of UA teachers' classroom practice found that they **used tools from the UA professional development to support students in carrying out science and engineering practices**, such as writing and investigation scaffolds (MacPherson, Hammerness & Chavez-Reilly, 2019).

Furthermore, **UA participation increases teacher retention**. UA science teachers are, on average, **four 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 (16 percentage points) (O'Hagan & Weinstein, 2022).

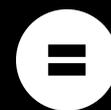


A shift toward NGSS-aligned practice, and a stronger likelihood that science teachers will stay in the profession, means that **UA is improving and strengthening the science teaching force in NYC**.

Can we put a dollar amount on that?

In terms of science teacher retention, it costs approximately \$21,000 to replace a teacher if they choose to leave the system (Garcia & Weiss, 2019). Participating in UA increases a teacher's likelihood to stay by about 4%. The program serves about 900 teachers per year, so that's about 35 teachers per year that are more likely to stay, saving the city \$735,000 it would cost to replace them.

35 teachers in UA per year are more likely to stay



\$735,000 (cost of replacing the teachers)



But does Urban Advantage actually help students learn science?

Yes. Impact evaluations of the program, conducted by researchers at NYU, show that **students that had teachers that participated in Urban Advantage scored higher on the NYS Intermediate Level Science test** (given in 8th grade) than students who did not participate in the program.

In fact, studies *from 2010 to the present* have documented a **positive effect of participation in the program on performance on state science test scores**. Summaries of the papers documenting these studies can be found [here](#).

How can we think about the impact on student learning in practical terms?

Because of UA, about 127 more UA students per year achieve “proficient” on the ILS exam.

How does the impact of the program compare to similar, large-scale PD programs?

This is a tough question to answer since so few similar programs conduct rigorous research on student learning. Districts and schools routinely engage professional development programs to provide opportunities for teachers to learn. However, **very few can offer evidence of the effectiveness of their programs, or their impact on teacher and student learning.** Reviews of studies of science professional development programs find most of the research on professional development in general is based upon correlational studies or teachers' self-reports (Wilson et al., 2017). These types of studies do not allow researchers to find *causal estimate*.

The Urban Advantage program stands out as a professional development program that has an enduring **record of research that has demonstrated positive impacts from 2010 through to the present. Impacts include**

- **Teacher retention at the school and district levels** (Weinstein & Shiferaw, 2017; Shiferaw & Weinstein, 2019)
- **Improvements in teachers' inquiry-based science teaching practices** (MacPherson et al., 2019)
- **Student gains on a standardized test of science achievement** (Weinstein et al., 2010, 2014, 2018).

Furthermore, these impacts have been documented in the largest school district in the country.

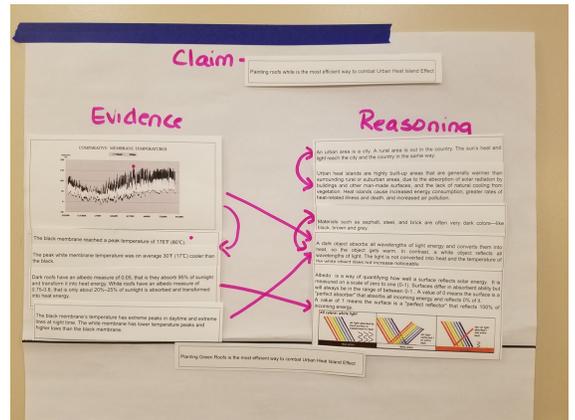
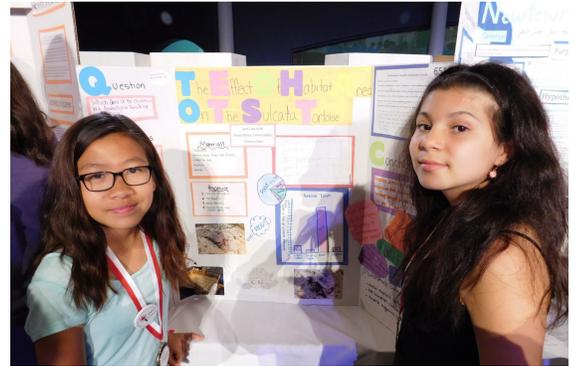


How does Urban Advantage's impact on student learning compare to similar programs?

Compared to similar large-scale, science-focused PD programs, Urban Advantage has a similar effect on student learning gains.

For example, a 2015 study of a science teacher PD program (Taylor et al., 2015) found an effect size of approximately 0.09 standard deviations, compared to UA's most recent published effect size of 0.08 standard deviations.

This PD program was slightly different in that it was curriculum-based (so teachers all used a standard curriculum in the classroom), which is not the case with Urban Advantage. We would expect a curriculum-based program to have a larger effect size (it is a more dramatic intervention); however, **UA's effect size was comparable, revealing that the tools, strategies and practices teachers learn in the program have a strong impact on student learning outcomes.**

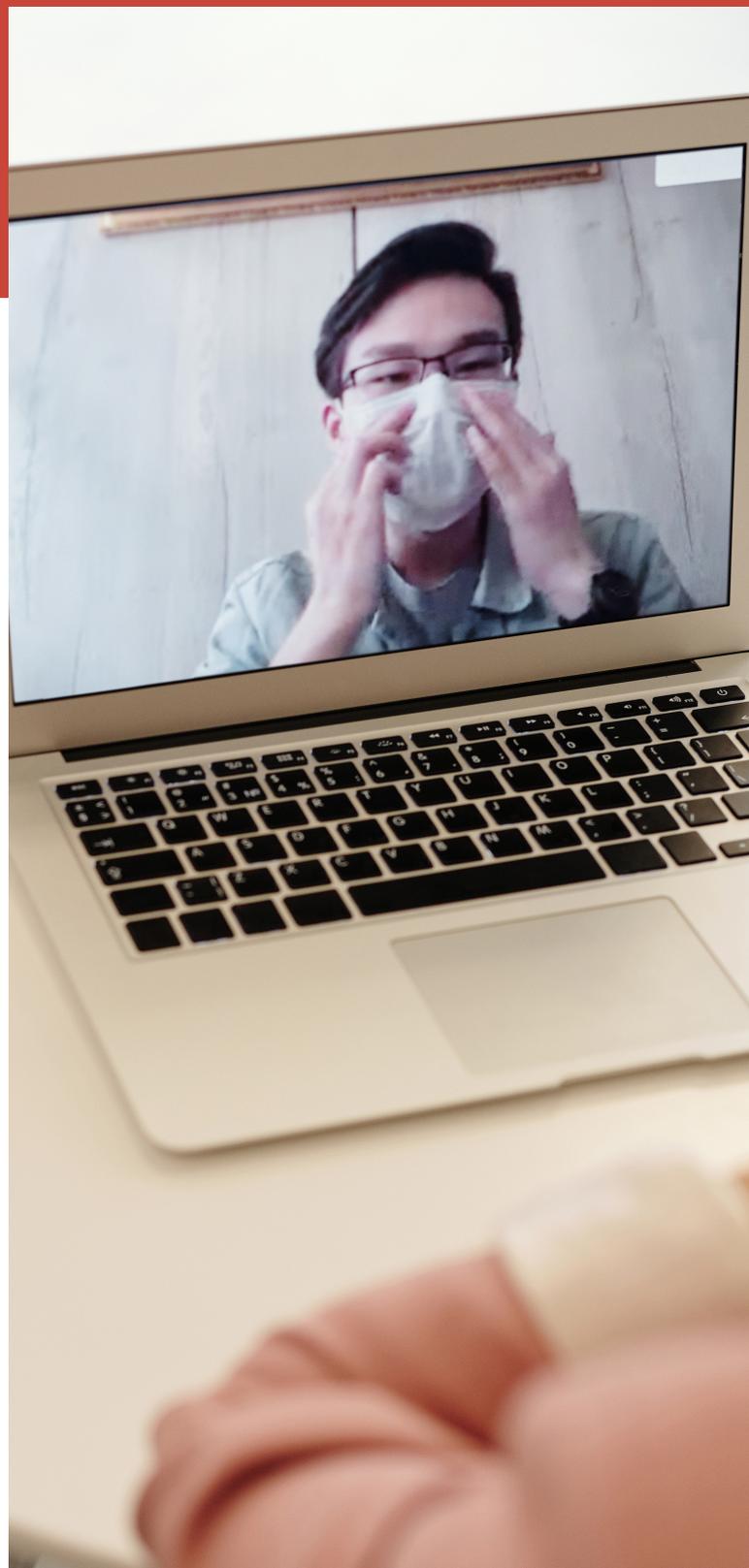


How has the program been affected by the COVID-19 pandemic?

Urban Advantage began supporting teachers at the beginning of the pandemic. Within days of city closures, the program had moved courses online, conducted an assessment of teachers' needs during remote teaching, and created supports in response to teachers' needs. Science educator and policy analyst Suzanne Wilson points out that there is special promise for online teacher learning to provide 'just in time' support and coaching that support teaching strategies (a characteristic of effective teacher development programs) (Wilson, 2013).

Over the long haul of recovery, UA's strong relationship with schools, teachers, and families positioned the program to play a central, unique role in repair. The program has demonstrated its ability to assess teachers' needs and offer learning and support through years of impact studies. This is critical as teachers returned to classrooms with students who needed support catching up from missed in-person learning.

During 2020-2021, UA offered teachers, parent coordinators, and administrators online learning and resources focused on supporting and strengthening hybrid instructional practices. In Fall 2021, UA continued to offer professional learning opportunities for schools, teachers, and families both in person and online. As of Fall 2022, many programs have returned in-person, with several programs that saw success in online formats (e.g. administrator breakfasts) remaining in that format.





The Council of the City of New York

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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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