

Community Schools and University-Assisted Community Schools: Partnerships that Change Schools, Communities, and Universities for the Better

A Deep Dive on the Role of Universities in University-Assisted Community Schools (UACS)

Examples of Academically Based Community Service (ABCS) Classes

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University-Assisted Community Schools (UACS)

A Community School *is*

- a comprehensive neighborhood center
- an institution that educates students for democratic citizenship and serves as a catalyst for community change.

A Community School *is built on*

- democratic partnerships

A Community School *contributes to*

- improved student learning and outcomes, and
- improved community wellbeing



Academically-Based Community Service Courses (ABCS) in University-Assisted Community Schools (UACS)



At Penn...

- 1991-1992: **4** ABCS courses
- 2000-2001: **38** ABCS courses
- 2010-2011: **62** ABCS courses
- 2023-2024: **82** ABCS courses
- Enrolls **1900+** undergraduate and graduate students
- Engages **11** of Penn's 12 schools

ABCS courses...

- Integrate service with research, teaching, and learning
- Are a form of Community-Engaged Scholarship (CES)
- Bring together academic expertise and the expertise of the community via mutually beneficial, mutually transformational democratic partnerships
- Use collaborative local problem-solving to improve the quality of life and learning in the community and the quality of learning and scholarship in the university
- Foster structural community improvement (e.g., effective public schools, neighborhood economic development)
- Emphasize student and faculty reflection on the service experience
- Help students become active, creative, contributing citizens of a democratic society

Lori Flanagan-Cato, Associate Professor of Psychology, University of
Pennsylvania
Lou Lozzi, former School-Based Teacher Leader in Science/Mathematics,
Robeson High School

EVERYDAY NEUROSCIENCE:

Motivating factors

Sharp educational disparities within 10-min walk.

Under-representation in STEM fields.

Ben Franklin: Education that serves the public.

In theory, an easy solution.



EVERYDAY NEUROSCIENCE:

Theory of Change

Penn Students:

An ongoing teaching relationship with “typical” PSD student.

Develop socially-relevant science communication skills.

Indicators: Improved social perceptions and well-being.

Impact: Future scientists and health professionals can engage with broad community.

High School Students:

An ongoing learning relationship with a college student.

Develop stronger science knowledge, confidence and interest.

Indicators: Improved state exam scores

Impact: Future citizens with strong science literacy.

EVERYDAY NEUROSCIENCE:

Basic organization

- Course continuously since 2016.
- Collaborate with science teachers to support learning.
- Twenty-five Penn students/semester.
- Tuesdays: Penn students learn about community needs, develop lessons.
- Thursdays: Teaching-learning groups at the high school for hands-on activities.



EVERYDAY NEUROSCIENCE:

Philosophy of Lessons

Fun

Hands-on

Interactive

Personalized

Flexible pace

Small, consistent groups



- **Peripheral Nervous System Lab:** students see that small electrical signals can activate their muscles to move their arms.

EVERYDAY NEUROSCIENCE: Ingredients for Success

Netter center staff

Facilitating school partnership

Supporting TAs, supplies

School mindset

Supportive principal, staff

Penn students

Enthusiasm and strong enrollment

Synergies

Nutrition programs

Many tutoring programs



EVERYDAY NEUROSCIENCE: Perennial Challenges

College and school district schedules don't align.

Requires attention and time from overworked staff.

Appropriate space doesn't exist, so creativity is needed.



EVERYDAY NEUROSCIENCE:

Mutually beneficial, based on evaluations



PENN

Improved socioemotional well-being

Social connections

Better civic understanding

Science communication skills

HIGH SCHOOL

Social connection with college students

Increased science curiosity

Improved scores on state Biology exam

Penn student work: Reflection

I have been given a new perspective on the great variability in high school education and the need to ensure that all students are receiving a fair and strong education.

Throughout the semester, I saw the students become more confident in their STEM knowledge and resilient in overcoming incorrect answers.

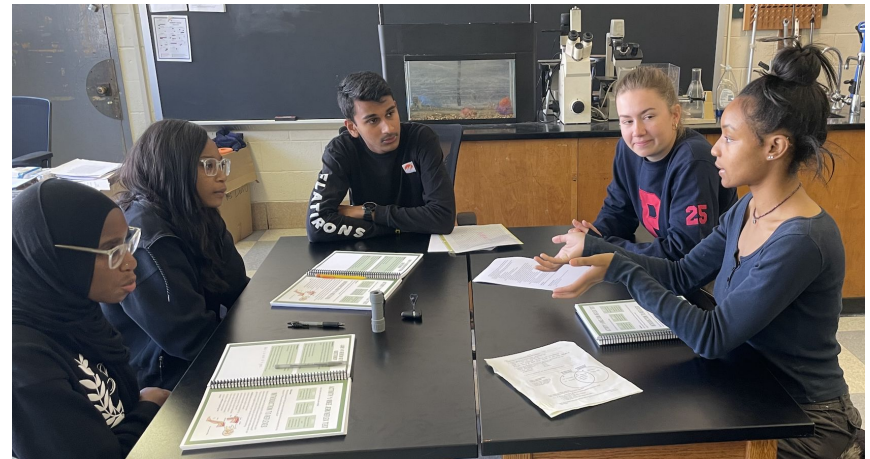
Our students were excited to learn and wanted to complete the activities.

I looked forward to the weekly updates about the students' lives.

How did that test go?

How was work yesterday?

How was your date last weekend?



EVERYDAY NEUROSCIENCE: Evolution

More consistent teaching-learning groups
Improved high school attendance
Including lunch
Better instruction for Penn teaching skills
Class size limit for Penn students below 25
Penn student-designed Theories of Change



Predictions from PVAAS

Actual Keystone Scores

Algebra

Predicted	BB	Basic	Adv/Prof
2026	84.00%	5.00%	4.00%
2025	82.00%	6.00%	1.00%
2024	83.00%	8.00%	1.00%
2023	87.00%	7.00%	6.00%
2022	92.00%	1.00%	1.00%
2021			

Actual	BB	Basic	Adv/Prof
2026	52.20%	41.80%	4.40%
2025	28.90%	49.40%	21.50%
2024	28.90%	63.60%	15.60%
2023	Covid exempt		
2022	52.00%	42.00%	5.50%
2021			

Lit

Predicted	BB	Basic	Adv/Prof
2026	73.00%	13.00%	8.00%
2025	72.00%	13.00%	4.00%
2024	64.00%	23.00%	5.00%
2023	67.80%	22.60%	9.50%
2022	74.00%	18.00%	4.00%
2021			

Actual	BB	Basic	Adv/Prof
2026	Test EOY 24		
2025	9.50%	41.70%	46.40%
2024	5.10%	41.00%	53.80%
2023	4.20%	33.00%	63.00%
2022	5.00%	36.00%	58.00%
2021			

Biology

Predicted	BB	Basic	Adv/Prof
2026	81.00%	12.00%	1.00%
2025	81.00%	6.00%	3.00%
2024	76.00%	13.00%	4.00%
2023	77.00%	14.00%	8.00%
2022	95.50%	4.40%	0.00%
2021			

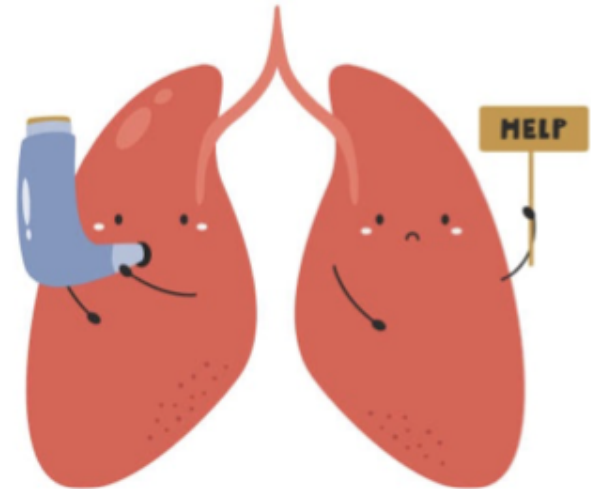
Actual	BB	Basic	Adv/Prof
2026	Test EOY 24		
2025	38.30%	39.50%	18.50%
2024	34.60%	41.00%	24.40%
2023	Covid exempt		
2022			
2021			

Ceire Hay, PhD student, Immunology Graduate Group, Perelman School of Medicine,
University of Pennsylvania; 2023-2025 Provost's Graduate Academic Engagement Fellow at the
Netter Center

Developing a New Academically Based Community Service (ABCS) Course for Biomedical Graduate Students

What is the problem we are trying to solve?

High prevalence of asthma in Philadelphia children



The prevalence of childhood asthma in Philadelphia (21%) is **more than triple** the national rate of pediatric asthma (6%)

Philly is consistently ranked high on the 'asthma capitals' list

Worst Cities for People Living with Asthma

1. Allentown, PA
2. Rochester, NY
3. Detroit, MI
4. Springfield, MA
5. Philadelphia, PA
6. Cleveland, OH
7. Lakeland, FL
8. Baltimore, MD
9. Charleston, SC
10. Providence, RI



2024 Overall Ranking	Overall	Metropolitan Area	Total Score (Avg. 56.08)	Subtotal: Estimated Asthma Prevalence	Subtotal: Crude Death Rate for Asthma	Subtotal: ED Visits for Asthma
1	■	Allentown, PA	100.00	■	▲	■
2	■	Rochester, NY	92.98	■	▲	▲
3	■	Detroit, MI	88.81	■	■	■
4	■	Springfield, MA	87.56	■	■	▲
5	■	Philadelphia, PA	86.72	■	■	■

Overall Rankings

■ Worse Than Average
 ▲ Average
 ● Better Than Average

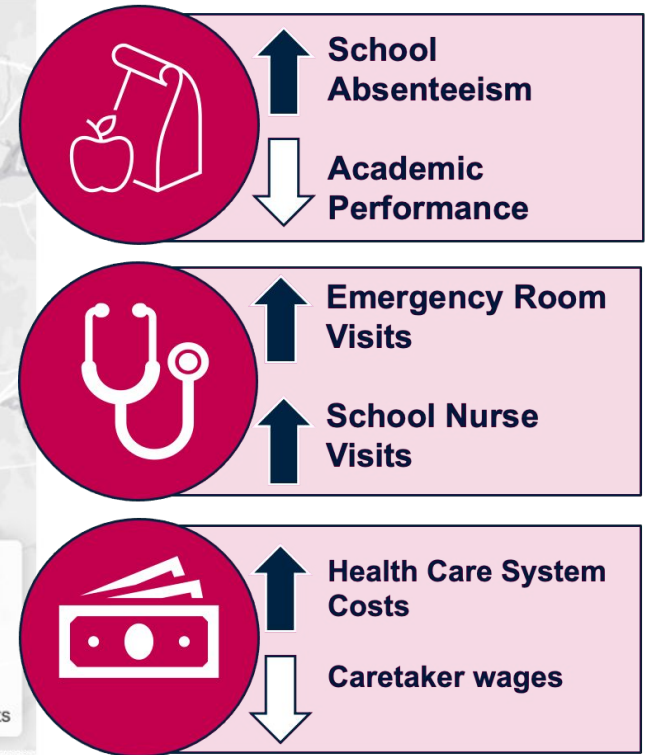
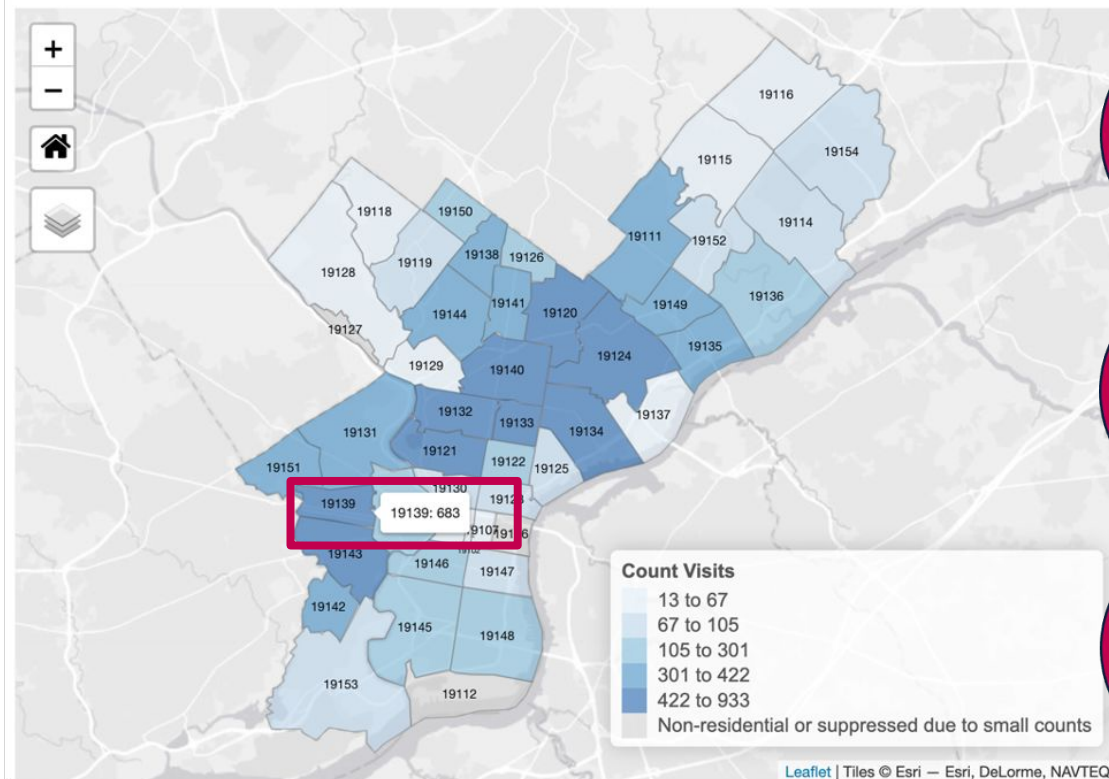
(Factors are not weighted equally. Total scores are rounded for the purposes of this chart.)



Childhood asthma is poorly controlled in Philadelphia

Childhood Asthma Emergency Department Visits by ZIP Code, 2022

Data Source: Syndromic Surveillance, PDPH





**How can graduate students leverage their
scientific training to improve health
outcomes in medically vulnerable
populations?**

IMUN 5900: Community Engaged Approaches to Asthma Research and Education

University of Pennsylvania



Guest Lectures

- ❑ Penn & Drexel Faculty
- ❑ Pediatricians from the Children's Hospital of Philadelphia
- ❑ Community Asthma Prevention Program (CAPP)
- ❑ Philadelphia School District Representatives



Pedagogy

- ❑ Teaching Workshops
- ❑ Lesson plan review sessions
- ❑ Self-reflection assignments related to teaching methods

Andrew Hamilton School



Co-Teaching

- ❑ Graduate students will lead **small groups** of 6th graders through asthma-focused lessons plans
- ❑ Graduate students will guide teams through a **student-directed final project**



Problem Based Learning

- ❑ Hamilton students will learn about asthma through **PBL strategies**
- ❑ Hamilton students will be introduced to the **scientific method** in asthma focused activities

What goals do we have for our students?



Biomedical Graduate Studies (PhD and MD/PhD) Students

1. Attain a broad understanding of the **environmental, social and economic impacts** of asthma on the Philadelphia community
2. Demonstrate **mastery of complex ideas** through the education of early learners
3. Learn about the resources and strategies required to build **mutually transformative** community partnerships

What goals do we have for our students?



Andrew Hamilton School

SCHOOL DISTRICT OF PHILADELPHIA

6th Grade Science Students

1. Learn about the **causes, treatments and pathogenesis** of asthma
2. **Design experiments** and **test hypotheses** via the scientific method
3. Develop a final project that aims to **improve asthma outcomes** in Philadelphia

What goals do we have for ourselves?



Develop an **enduring curriculum** for biomedical graduate studies students



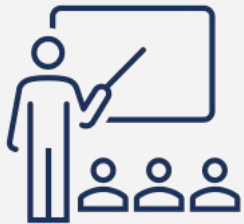
Bring my passion for immunology to the **next generation of scientists**



Inspire the next generation of investigators to engage with our community about their own scientific passions

IMUN 5900: Community Engaged Approaches to Asthma Research and Education

University of Pennsylvania



Guest Lectures



Pedagogy

Andrew Hamilton School



Co-Teaching



Problem-Based
Learning

Tentative syllabus



Rand Quinn, Associate Professor, Graduate School of Education and Civic House
Faculty Director, University of Pennsylvania
Keri Davenport, PhD Candidate, Graduate School of Education
Regina Bynum, Director of Teaching and Learning for UACS, Netter Center



QUESTIONS