PROJECT TRUE

Teens Researching Urban Ecology

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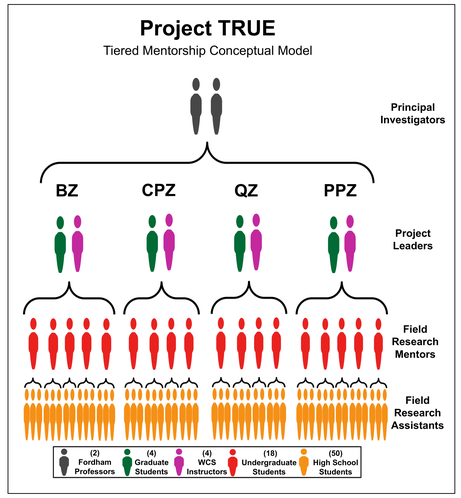
OVERVIEW

Through a unique university-zoo partnership, Project TRUE engages New York City high school students in authentic urban ecology field research in the surrounding metropolitan area. Central to the project design is a tiered mentorship model, in which Fordham University professors mentor undergraduate and graduate ecology students, who in turn mentor high school students from communities underrepresented in STEM fields. Project TRUE also pairs the university students with informal science educators at WCS zoos. This builds the university students' capacity to communicate research to public audiences, while increasing the zoo educators' science knowledge.



GOALS

- To increase the rate of underserved and underrepresented high school youth pursuing STEM majors in college through a summer program that provides mentorship and hands-on applied STEM learning.
- To advance the field of STEM learning by investigating four key programmatic elements that research has suggested increase interest and participation in STEM: 1) hands-on STEM experience, 2) awareness of the utility of STEM learning in the real world, 3) exposure to a STEM role model, and 4) interaction with peers that have a shared interest in STEM (Brody, 2006).

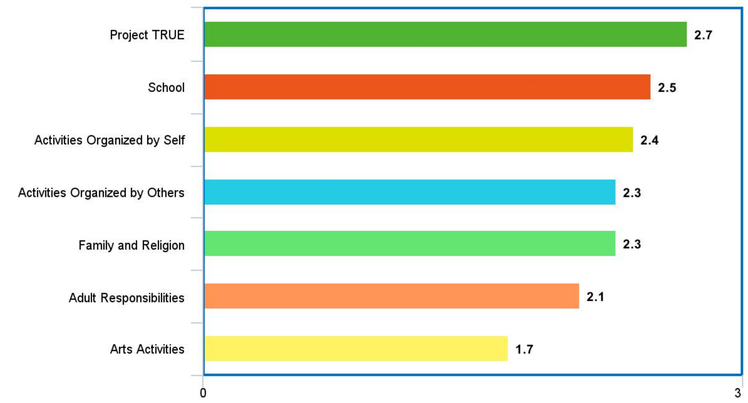
AUDIENCES

The primary audience for Project TRUE is New York City high school students from populations underrepresented in STEM fields. Secondary audiences for Project TRUE are the Fordham undergraduate and graduate students, as well as the informal science educators at WCS zoos.

YEAR 1 FINDINGS

Through Project TRUE, we are investigating the research question, *How do the four key elements of youth development in Project TRUE contribute to an increase in pursuit of advanced STEM study and career path in the short- and medium-term?* The research, led by Dr. Joe Heimlich of Lifelong Learning Group, is examining the influence of each element on short- and medium-term outcomes over the five-year study. In the project's first year, research instruments were developed and validated, and the following findings were generated:

- 75% of Project TRUE high school participants demonstrated a change in their career intentions. These changes included both identifying a new career interest or bringing greater focus to a career intention.
- Of all the external factors that might influence students' choices and decisions, Project TRUE ranked the highest.
- There was a correlation between student perceptions of mentorship quality with mean Project TRUE influence (r=-.298, p=.049).



Seven dimensions of influences on student interest in science (1=no influence, 2=some influence, 3=a lot of influence)

INSIGHTS

- Students who were highly focused on a particular career when entering Project TRUE tended to broaden their areas of interest, while others who started out more generally interested in STEM tended to focus more on environmentally related disciplines.
- Students who reported hiding their STEM knowledge and interests in school found it refreshing to have their interest and expertise celebrated among Project TRUE peers.
- All mentors reported growth in their capacity and confidence as mentors. Undergraduates expanded their mentoring abilities and techniques, and graduate students gained experience teaching in diverse ways.

EVALUATION

Evaluation of Project TRUE, led by Dr. Rachel Becker-Klein of PEER Associates, is focused on program implementation in order to inform program improvement, future implementation of the program, and scaling up the program to other sites and organizations. Evaluation findings and recommendations from the project's first year include:

- While the tiered mentorship model was successful overall, clearer roles, expectations and activities for mentors were recommended.
- Variation in the complexity of each zoo site research project has led to a more unified urban ecology research model in year two.
- Early thoughts about program replication point to the need for established trust and collaboration between formal and informal institutions.