



Lego Robotics in PG County Schools



Imirie Billey

College Park Scholars – Science & Global Change Program
Computer Science
ibilley@umd.edu
CPSS240

College Park Scholars Academic Showcase, May 3, 2024

Introduction

In collaboration with other UMD students, I took the CPSS240 Service-Learning class and taught a 10-week Lego Robotics program to students from local PG County schools. Students learned the basics of building and programming a Lego robot and used what they learning to tackle the "Grand Challenge" on week 10.



My students testing their robot on the obstacle course.

Activities:

- In the classroom, I was taught the importance of STEM education, and devised our weekly lesson plans with the help of other UMD students.
- I met weekly with my students at the Cesar Chavez school and built up their knowledge of Lego robots so they could be prepared for the "Grand Challenge", which was an obstacle course.
- On the 10th week, students applied what they learned through the program to build a robot that could successfully navigate through an obstacle course.

Impact

Among my students, I helped facilitate an interest in robotics and technology. Throughout the course of teaching this class, I was able to see my students become more confident in their own abilities and apply what they learned in thoughtful and creative ways. Introducing them to this subject will hopefully encourage them to continue learning about technology and pursue other similar experiences.



Picture of myself instructing the students in my group about the programming portion of Lego robotics

Issues Confronting Site:

Students of all different backgrounds participated in this program, so some students required more help than others.

Site Information:

Cesar Chavez Spanish Dual Immersion School
6609 Riggs Road, Hyattsville, MD 20782

Supervisor: Daphne Ranti

Site mission: Teach Lego robotics so students can eventually build one that can navigate an obstacle course.

Goal: Help students foster their interest in technology and encourage critical thinking.

Discussion:

I found this to be a very enriching experience for both myself and my students. I helped them foster an interest in technology that will hopefully continue to grow throughout their primary education.

Giving students, especially those from lower income areas, the opportunity to learn about STEM related topics is essential to their education. Not only will it encourage them to pursue higher education later in life, but it'll also encourage them to pursue challenging fields of study that generally lack diversity.

Acknowledgments:

I want to thank my Dr. Kuan-Hung Lo and Daphne Ranti for helping me over the duration of this class. I also want to thank Dr. Holtz and Dr. Merck for making these past two years in SGC so enjoyable.

