

HYDROPONICS: NUTRITION AND SUSTAINABILITY IN A FOOD DESERT



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Background Information

- "Center of Life (COL) supports the people of Hazelwood as they strive to be strong and to make their community strong."
- COL serves Hazelwood and its surrounding communities through rich academic out-of-school programs, opportunities for music and arts education, and community support.
- "Everything is about the people."

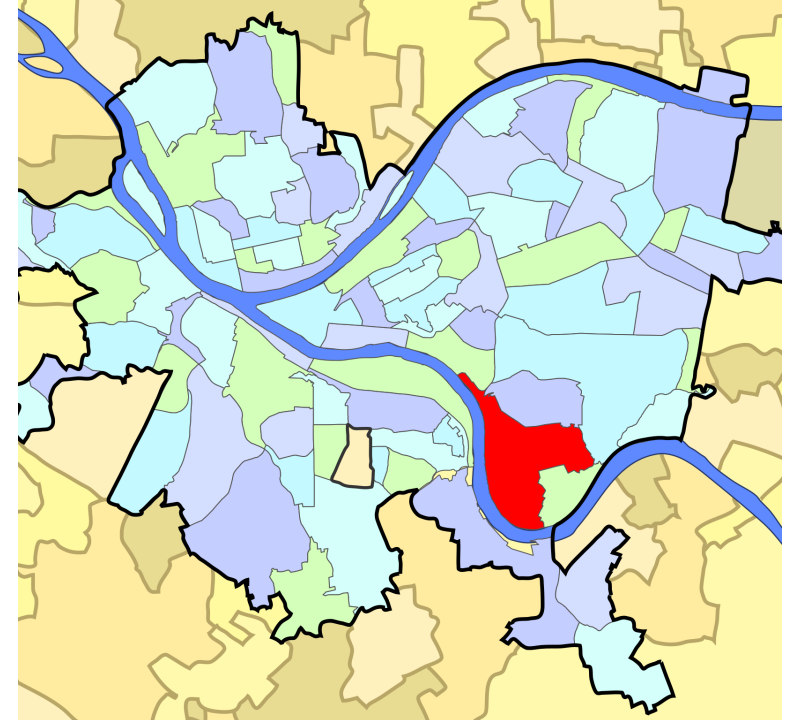


Background information

- Programs in place:
 - Fusion: after-school tutoring and enrichment
 - Crossover: after-school physical education
 - Camp Hazelwood: recreation and education opportunities for students over the summer
 - As well as: KRUNK (hip hop education), jazz (music education), family and community engagement, social justice resource center

Background Information

- Hazelwood is a neighborhood of Pittsburgh along the Monongahela River with a population of about 4,600.
- Hazelwood was significantly influenced by the steel industry and its downfall.
- Hazelwood is a very family-oriented neighborhood with a rich history of important residents such as August Wilson.
- Hazelwood is a food desert.
- The members of this community face disproportionate rates of health conditions such as heart disease, type 2 diabetes, and high blood pressure.



Project Context

- As Hazelwood is a food desert, our main focus was to introduce the importance of nutrition and food sustainability.
- Additionally, as many children do not receive proper nutrition, we wanted a program to encourage children to want to eat more vegetables.
 - Observation and informal interview: many children threw vegetables away at lunch.
- Goals:
 - To create a children-friendly lesson and activity to teach about sustainability and healthy eating habits.
 - To encourage children to feel ownership over their nutrition by growing vegetables at home.





Project Description

- For our project, we created a lesson plan focused on nutrition and food sustainability. To reinforce concepts, we used a hands-on activity about regrowing vegetables hydroponically.
- We did this lesson/activity with about 30 students in 4th-8th grade.

Hydroponics Lesson

- Part 1: Nutrition
 - Students learned about the importance of eating fruits and vegetables and were informed of different ways in which they can incorporate vegetables into their diet.
- Part 2: Sustainability
 - Students learned what sustainability is and were introduced to the reduce, reuse, recycle model.
 - Students learned what food sustainability is and that hydroponics is an easy way to create sustainable food.





Hydroponics Lesson

- Part 3: hydroponics activity
 - Each student received a reused container (reinforcing concepts of sustainability).
 - Students all received a stock of celery and interns helped students to cut the base of their celery off.
 - Students filled their containers with water.
 - Students attached toothpicks/skewers to the base of their celery and placed it in the water.



Hydroponics Lesson

- Part 3 (cont.): hydroponics activity
 - Students used the remaining celery to make ants on a log (reinforcing concepts of how to include vegetables in your diet).
 - Students were encouraged to add water to their plant every day and watch it regrow (reinforcing concepts of food sustainability).
 - Students were given a handout to remind them how to perform hydroponics and inform them of what other vegetables can be grown hydroponically.

Community Cultural Wealth Model

Aspirational capital

- Tutoring/music education to improve opportunities
- Providing job opportunities for community members
- Creating role models

Social capital

- Hazelwood community events
- Tight-knit community
- Employees living in/working closely with the community to build social connections

Resistant capital

- SJRC
- KRUNK: resistance through art and music

Familial capital

- Opportunities for childcare combined with job opportunities for parents
- Family and community engagement
- Family focused events

Project Evaluation

- We would evaluate our project by:
 - Determining how often the curriculum is used for students
 - Surveying children's attitudes about nutrition/sustainability before and after the lesson
 - Observing if children maintain care for their plants or use this knowledge within their homes
 - Hearing from staff members how effective the lesson plan was

Recommendations for the site



Emphasize concepts of nutrition and healthy eating.



Calculate portions for breakfast/lunch sizes since many of the younger children never finish their meals.



Implement a system to reduce food waste at breakfast and lunch.

i.e., allow children to take home the remainder of their meals instead of throwing them away.

Summary of engagement & community work

- **The neighborhood**
 - Hazelwood has community centers to empower community members.
 - Culturally competent messaging
- **The site: COL**
 - Commitment to help children, youth, and families
 - Aiding with housing, employment, important necessities, and mental health support
 - Discourse on emotions and their management
 - Children get the chance to be exposed to higher education institutions and resources around the community.
 - Role models and encouragement to make change



Results of Hydroponics Activity

- The real-time growth of tiny sprouts excited the kids.
- Students showed concern regarding water level.
- Students talked about ways to introduce celery in their diets.



For me being an intern in an organization meant I could be able to showcase all the knowledge I have accumulated over the years. But after working closely with the children and the employees, I realized I had a lot of room for **growth**. ***I felt that this entire experience was humbling.*** Working with the community helped me gain some insight into the day-to-day life of Hazelwood and I developed a sense of attachment. The **welcoming environment** of Center of Life got me involved in various engaging activities and **valued my opinions** and redirected them when necessary. I have learned to have an **open mind** working with people from different walks of life. More than ever, I **appreciate the work non-governmental organizations do for the community.**

Sara's Reflection

Through what time I was able to spend at COL, I was able to learn a lot about the community and students there. Hazelwood is filled with so many kind, generous, creative, and bright young minds and COL is an amazing organization that allows them to grow and feel empowered. It can be challenging to maintain children's attention, so this project allowed me to explore ways to engage children through learning and give back to the community in some way.

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