Placed-Based Learning in the Garden

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Introduction

"Place-based learning is a student-centered approach to instruction that immerses students in a non-classroom environment—such as a park, museum or an outdoor landscape, [such as a garden]—and uses the experience as the foundation for lessons." (Fester, James. National Geographic Education Blog, 2020) https://blog.education.nationalgeographic.org/2020/07/30/place-based-learning-exploring-and-unpacking-the-world-from-anywhere/ What would be a better place than having a placed-based learning project at the Urban Garden Center (UGC) in Pearl City!

The 4-H Project Garden at UGC provided a spacious outdoor setting where students participated in a real-life project. The students collaborated with their peers and drew upon prior learning to create working food gardens.

Place-based learning activities help students to gain a stronger understanding of standards-based curriculum taught in the classroom. Experiential projects like garden development can improve a student's ability to apply learning to everyday life and motivate them to continue learning throughout their life.

Brainstorming Projects

Students from Hawaii Technology Academy (HTA) in the Ewa Beach campus toured UGC in August. Eager 2nd-5th graders were amazed with the educational garden space and received suggested project areas to focus on for their placed-based learning project. They could pick one of the following:

- Salad Garden—propagate lettuce in the nursery and focus on STEM (science, technology, engineering, and math) concepts to draw observations and research environmental needs and to measure the yield and weight of the harvest.
- Static Hydroponics—design, create, and grow lettuce or other crops in a small system.
- Pizza Garden—after seeing the original Pizza Garden, students were interested in developing a smaller version, researching plants, planting seeds, propagating seedlings, and measuring the growth.
- Rock Garden—design and paint rocks to decorate and use for visual arts activities.
- Bird Feeders—design and create bird feeders using recyclable materials.
- Compost—learn and develop a compost bin for the garden and duplicate it at school.

- Garden Beds—design a themed garden bed (similar to pizza garden) in the 4-H Project Garden, plant seeds and seedlings matching the theme, develop a map on what and where to plant specific crops, and label the plants.
- Vermicasting—assist with the existing vermicasting bin, learn what to feed the worms and how to maintain it.

Final Project Decision-Making and Action Plan

As part of their placed-based learning experience, students selected their project area and theme and listed the supplies needed, drawings of their plan for a garden plot, and any questions that they had. Teachers facilitated project development while giving students the opportunity to discuss and express their own ideas about the project topics. Necessary educational activities such as having a Master Gardener share about how to set up and use a bucket composting system, strategically placing plants in the garden bed according to the sunlight and shaded areas, and transplanting seedlings was provided. Students started planting seeds, seedlings, and cuttings while prepping the soil in the garden beds and creating borders for the garden.

Many of the groups picked the themed-garden beds and the Pizza Garden. The 2nd and 3rd grade class designed the Pizza Garden together.

Photo 1: Pizza Garden designed by the 2nd and 3rd grade class.

The 4th and 5th graders split into groups of four and decided on the following themed gardens:

Salad Bar Garden

Photo 2 and 3: Salad Bar Garden draft plan and final garden bed outcome. Growing tomatoes, lettuce, corn, kale, cabbage, chili pepper, and carrots; crops found in salad bars.

Stir Fry Garden

Photo 4 and 5: Stir Fry Garden draft plan and final garden bed outcome. Growing garlic, lemongrass, rainbow chard, zucchini, Hawaiian chili pepper, Okinawan spinach, Napa cabbage, and tomatoes.

Italian Pizza Garden


Photo 6 and 7: Italian Pizza Garden draft plan and final garden bed outcome. Growing cilantro, oregano, tomatoes, eggplant, and basil.

Healthy Snack Garden

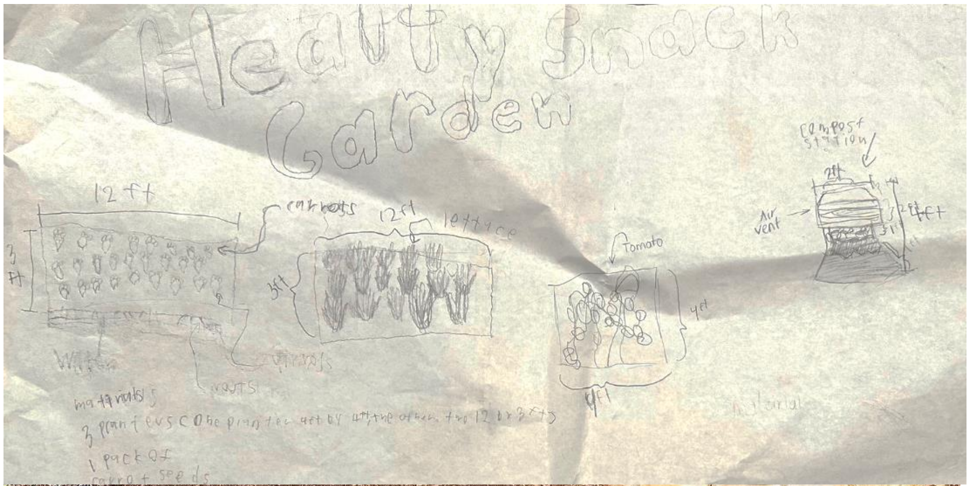

Photo 8 and 9: Healthy Snacks draft plan and final garden bed outcome. Growing tomatoes, lettuce, carrots, celery, and corn. The group also incorporated a bucket compost system that they learned from a Master Gardener.

Fruit Salad Garden

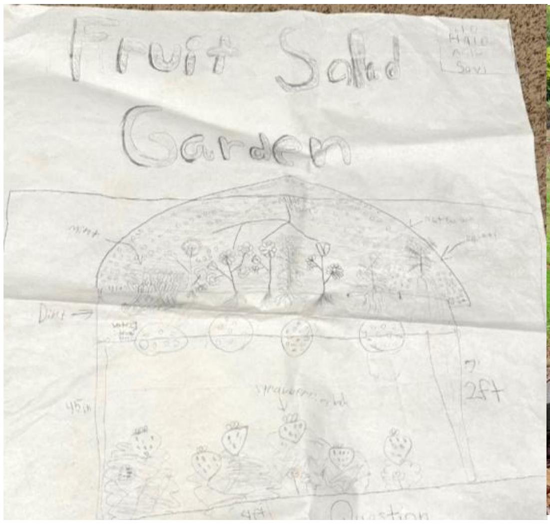

Photo 10 and 11: Fruit Salad Garden draft plan and final garden bed outcome. Growing strawberries, mint, rosemary, and edible flowers such as marigold, begonia, and dianthus in a vertical garden.

The 4-H Project Garden is a place where visitors can participate in hands-on and educational learning experiences outside and in the garden. Working in the 4-H Project Garden, the students were also asked to think of how to engage visitors of all ages with their themed garden bed. For example, the Healthy Snack Garden group wanted to have participants try a healthy snack recipe with one of the crops in their garden. They also planned to have participants share their own healthy snack recipes that includes a crop in their garden with a QR code that will connect to an Oahu 4-H webpage. With the assistance of the Oahu 4-H Assistant Extension Agent Christine Hanakawa, other groups thought of activities such as growing mung beans in a paper towel for bean sprouts and stir frying, planting more crops in the garden bed, harvesting lettuce or other crops, and propagating kitchen scraps such as celery and garlic.

Final Showcase

Photos 12-15: 4th and 5th graders presenting their themed-garden to their families and peers.

On their final day, students invited their families and presented their placed-base learning project to a large crowd comprised of the students' families, HTA teachers, and UH faculty and staff. Second and third graders shared in their presentation, "(Oahu 4-H helped) us learn so much about plants." They described their service project and the different steps on planning and creating their class pizza garden. "This project took a lot of work and planning, but we learned a lot and had fun creating something together as a class!" Parents proudly listened to the children's project reports and reinforced the positive benefits of the students' efforts as they applauded.

Photo 16: 4th and 5th graders presenting their Salad Bar Garden and sharing some of the crops that they planted as seeds.

Photo 17: HTA students in Kindergarten to 5th grade taking a final group photo. Kindergarten and 1st graders also visited UGC and did a simple rock painting activity to decorate the 4-H Rock Garden.

Lessons Learned

A 5th grader shared that she learned "how to do more research on the plants that we were growing and to take care of these plants (and) if I had to take care of them at school or at home." One of her biggest challenges was "getting the momentum to get started and (also) getting this big piece of lemongrass out (of the garden bed) completely." Her parent shared, "As a parent, I myself have learned quite a bit regarding how community gardens work, the different styles of gardening, native plants in the area…she brought home really a lot of good information." Kevin Eiker, the HTA Curriculum Coordinator and Curriculum Coach and the 4-H community partner shared that "one of the biggest takeaway was students being able to get their hands in the gardens and actually be in the process of creating a garden from the planning stages, design it, and see it all the way through.HTA hopes to continue working with 4-H and UGC to have more placed-based learning projects in the garden. As for UH faculty and staff partnering with HTA, they learned next time to include educating students about the different pest management for slugs and snails that they can safely and easily apply after the seedlings were eaten in the nursery and in the garden beds..

Resources

Center for Transformative Teaching. University of Nebraska-Lincoln. (n.d.). Place-Based Learning and Outdoor Experiences. https://teaching.unl.edu/resources/introduction-place-based-learning/.

Student Resources 9n.d.). The University of Tennessee Knoxville. Benefits of Experiential Learning. https://experiencelearning.utk.edu/student-resources/benefits/.

Fester, James. National Geographic Education Blog, 2020. https://blog.education.nationalgeographic.org/2020/07/30/place-based-learning-exploring-and-unpacking-the-world-from-anywhere/.