

1.1 Introductory Statement

My experience with Garden-Based Learning is: short so far! While I have volunteered and worked in community gardens for some time now, I've only participated in Garden-Based Learning for a little bit. Last year, I began smaller with field trips, youth volunteer groups, and skills workshops that were more adult focused. This spring, however, I have begun working with more traditional Garden-Based learning with class time sessions at our school gardens.

I think my experience as someone who was once a student volunteer and who enjoys general garden exploration and experimentation will lend to teaching Garden-Based learning. I have been in the shoes of the students and still remember what it is like to approach the garden full of questions.

However, I think my experience will be different from some of the other students in this course since I have very little *regular* classroom experience. I've not yet taught or created lessons based on a long-term curriculum, so I may be lacking insight on how to plan garden sessions that bolster standard learning.

I would like to expand on my knowledge by: hearing about the experiences of others. As I noted above, my teaching experience in and out the garden is much more limited than other course participants. This is part of what makes this course so exciting to me; I can listen to the advice and experience of the other educators.

Some of the main questions I am looking to explore about being a Garden-Based educator are: How do you moderate key lessons like seed starting and garden planning based on grade level/age? How strongly do teachers tie garden lessons into their classroom curriculum?

I have a feeling much of this comes with learning from your own experience and is dependent on the schools, kids, etc., but there is power in using the experience of others to jump off of!

I consider my teaching style to be: exploration based. I tend to find students are the most focused and relaxed in the garden when they have time to explore, experiment, ask questions, and form their own plans and partnerships. Kids (and adults) can get so much done in the garden when they are working on a task that interests them, so I like to outline a few objectives and let people decide their path to reaching them themselves. This may be a great break from more structured classroom time and help build confidence and creativity.

Yet, I think exploration based teaching is a unique opportunity for my position. Most of the kids I guide in the garden are on field trips or in time set aside for gardening. Compared to other educators, I have more time to let kids explore and don't have to worry about meeting curriculum objectives or grades. That's why I am open to considering the teaching styles of other course participants in different roles than me.

In the school / youth garden, I see myself teaching: gardening focused sessions. I like when the objectives are garden based, like building new beds or planting seeds. These sessions happen to include more classical learning with the use of math, science, and other subjects to reach the goal, but don't have the forced feeling of overly structured garden sessions. This may help students adjust better to the post work world, where learning is gained and utilized while working on productive tasks.

Additionally, I think gardening time breaks up students' days to help them focus and succeed when they are in the classroom. By allowing the mind to wander more, but still be productive, time in the garden can keep students well-balanced. It also feels great to accomplish physical and visual tasks in the garden!

3.1.1: Setting Goals and Objectives

1. Your overarching program goals:

Short term: Learning new terms and phrases in English, sharing each other's' cultures, exploring the local environment and ecosystems, give opportunities for students to have their interest-based projects connect to the garden.

Long term: Increased confidence in applying English language skills, more consistent engagement in the wider Buffalo community, appreciating cultures represented in their school, becoming more familiar to the local professional environment, becoming mentors for younger students Connecting the garden to the school!

2. Learning objectives: construct them so they fulfill these short to long term outcomes.

- Demonstrate and practice English language skills in vocabulary and conversation through multicultural and personal gardening experiences.
- Build community by providing mentorship through the design and execution of learning plans for younger students.
- Illustrate and experience multicultural garden practices by sharing and exchanging traditions with others.
- Construct relationships between the school garden and community actors/resources.
- Build entrepreneurial skills by managing a personal interest-based learning project.
- Experiment with the local environment to better understand relationships that exist in an ecosystem.

3.1.2: Curriculum Map

Lesson 1: Environmental Science	Lesson 2: Multiculturalism	Lesson 3: Youth Mentoring	Interest Project 1: Entrepreneurship	Interest Project 2: Local Advocacy
<p>Objectives:</p> <p>Identify native species Discover and explore local ecosystems Observe climate factors Plan factor-specific gardens</p>	<p>Objectives:</p> <p>Experience multicultural garden practices Illustrate personal gardening experiences Gaining language confidence</p>	<p>Objectives:</p> <p>Design and execute learning plans for younger students Build connections with younger students</p>	<p>Objectives:</p> <p>Construct relationships between communities Gain confidence with outreach and building support Manage a personal project</p>	<p>Objectives:</p> <p>Explore an advocacy issue Utilize public resources and advocacy groups Manage a personal project</p>
<p>Lesson Content:</p> <p>USDA Plant Hardiness Zones Native, introduced, and invasive species Urban agriculture and ecosystems</p>	<p>Lesson Content:</p> <p>Indigenous garden practices around the world Agriculture and global trade English vocabulary</p>	<p>Lesson Content:</p> <p>Connecting and teaching youth How to teach English garden-related words and phrases to young ESL students</p>	<p>Project ideas:</p> <p>Reach out and connect the garden to local businesses, individuals, government, or programs Run a donation/materials drive Organize speakers or lessons at the community garden Run an information station to inform others about the school garden Evaluated with a final write-up or presentation</p>	<p>Project ideas:</p> <p>Link the garden to an advocacy issue like food security, lack of urban green spaces, or racial disparities Connect with advocates, societies, and nonprofits Organize speakers or lessons at the community garden Raise awareness of an issue through volunteering, tabling, journalism, or social media Evaluated with a final write-up or presentation</p>
<p>Activities:</p> <p>Native plant identification Sun mapping Soil testing Growing and hosting local species in the garden</p>	<p>Activities:</p> <p>Sharing recipes and food Creating multilingual signage Writing short stories of personal experiences utilizing English</p>	<p>Activities:</p> <p>Teaching garden tasks to visiting students Planning and conducting activities for elementary kids Using letters or email to stay connected to mentees</p>		

4.1 Cross Curricular Lesson Plan

Activity plan: Plant coins!

Target audience: 9th & 10th grade new Americans who are learning English

Goal: Students will be given the opportunity to learn about how different cultures use plants as important symbols with a few examples of international coinage. They will then apply their knowledge of symbolism by making their own coins based off of plants in the school garden to practice creativity and self expression. With a short written explanation of their work and verbal sharing with others, students will also practice their English skills. This activity could be extended to a classroom lesson related to currencies, such as math or economics.

Objectives:

- Study examples of different cultures using plants as symbols
- Practice utilizing symbolism
- Use creativity and artistic skills
- Produce a work of self expression
- Practice written English skills with a short explanation of their work
- Utilize English skills in listening and speaking by sharing their work with classmates

Timing: 45 minutes (one class period)

Materials needed: Handout with example coins (attached), blank paper circles, drawing/coloring materials, , writing surfaces, pencil and paper

Procedure:

1. Share with students the attached handout with examples of coins with plant symbols from around the world.
2. Discuss each example, including what the plant is and how it is used to symbolize a trait or historical event for each country.

3. Let students find a plant in the garden that they can use as a personal symbol for themselves, their school, or their wider community.
4. Have students design and color their coin including this plant.
5. Let students write 2-3 sentences about their coin. They can describe their drawing and what the included plant symbolizes, using the handout as an example if needed.
6. Allow students to share their coins with other students and discuss what their plant symbols represent.

Student Evaluation: Students will have produced their own coin with a short written explanation of their work. These can be evaluated for understanding of symbolism and for English writing skills like spelling and vocabulary. The sharing section of the activity can be evaluated for participation, listening skills, and spoken English skills.

Lesson/program Evaluation: If successful, students' work will show creative examples of symbolism and self expression. They should be engaged when listening to their classmates share their work and be willing to present their own work. If students are uncharacteristically hesitant or unproductive, the lesson plan may need to be paired with more background learning.



Vermont, USA, state quarter: This coin shows two sugar maples, which are the state tree of Vermont, being tapped for sap to make syrup. Tapping sugar maples has been practiced for centuries in Vermont, and is important in symbolizing local culture and economy.



South Africa's one Rand coin: The 1R coin of South Africa shows the king protea flower. This large and unique flower is native to South Africa and is the country's national flower. It symbolizes South Africa's natural beauty and is proudly used as an emblem for the nations' sports teams.



Japan's 100 Yen coin: This Japanese coin features sakura, or cherry tree blossoms. The flowers, which are the national flower of Japan, symbolize regeneration and life. Celebrations have been carried out for centuries across the country when the cherry trees bloom each spring.



Mozambique's 50 Meticaïs: The 50 Meticaïs coin shows a cashew tree branch with flowers, leaves, and fruit. While cashews are native to Brazil, they were a key crop to Mozambique's economy before the country's civil war. Now, the revival of the cashew industry represents resilience and a hopeful, prosperous future.

4.2: Portfolio Introduction

Building community at the Lafayette Garden: The students and families of Lafayette International High school are new Americans looking to make Buffalo home. Following the heart of the school, the garden strives to connect Lafayette students to both global cultures and local practices. The garden provides opportunities for students to share their history, build their English skills, network with neighbors, mentor younger students, learn about their surroundings, and take initiative in their own learning. This all leads to the main goal of building community for the Lafayette students who have had to leave their original homes.

5.1 Project Based Lesson

Growing Communities

An interest-based project opportunity exploring local garden partners

Target audience: This project is aimed at students looking to fulfill their junior/senior year interest-based project requirements through the community garden. Participating students must be confident in using their English skills in reading, writing, listening, and speaking.

Goal: Students will research on and collaborate with local partners of the school garden to learn about and participate in community work.

Objectives: Students will...

- Utilize their research skills
- Learn about the work of local organizations
- Apply English conversational and interview skills
- Participate in community advocacy/volunteering
- Practice creating and conducting a presentation

Timing: Six or seven class periods and additional independent time spread over either the fall or spring semester; option for meetings with project advisors.

Materials needed:

- School computer with internet and slideshow capabilities
- Camera or device with a camera
- Board or projector for slide show

Student Evaluation: Students will create a final presentation that summarizes research findings, interview conversations, and advocacy/volunteering sessions, along with their main takeaways from their project experience. This presentation will be graded for effort, quality of research, and presentational skills; as well as participation in discussions on the work of their peers.

Program Evaluation: Students, teachers, and participating partners will be asked to submit feedback on the project, asking if they felt supported throughout the timeline and if the project felt sustainable for their workload, or how the course could be improved/altered.

Growing Communities Project Lesson Plan

Session 1: Research (in-classroom)

- Lesson briefly introducing the garden's community partners.
- Students will select a community partner of the school garden. A list of potential partners is attached.
- Independent research time on selected partner, answering questions like "What issue does your partner address", "How is your partner funded," and "Who in the community does your partner benefit".

Session 2: Connections to the garden (classroom/garden)

- Students will research how the partner is connected to the community garden and school.
- Students will gather evidence connecting the partner and the garden, such as provided materials like plants, signage, or rain barrels, and photograph them for their presentation.
- Students will ask their peers and school staff what other support their partner gives; whether information, lessons, etc., and collect short testimonials.

Session 3: Connecting to partners (classroom)

- Students will connect with a staff member or volunteer, either via video chat, phone, or email, to gather a testimonial from the partner organization's perspective and explore the partner's other projects.

Session 4: Advocacy/Volunteering (school or off-site)

- Option 1: Students will join the partner for a volunteer/shadowing session if available.
- Option 2: Students will advocate for the partner organization on the school campus by improving/maintaining their materials in the garden (painting a rain barrel, installing a sign, etc.) or by sharing informational materials like fliers informing their school community about their partner.

Session 5: Presentation preparations

- Students will create a presentation on their garden partner and their experience interacting with them.
- The presentation should include the research, connections findings, testimonials, and their own experience with volunteering/advocacy from throughout the project, as well as concluding takeaways.
- Students can share their drafts and practice with peers and project advisors for feedback.

Sessions 6/7: Presentations

- Students will present their work for their peers, using 10 minutes each.
- Each presentation will be followed up with peer comments and questions for about 5 minutes of conversation.

Optional partners for Lafayette International Garden Partners:

Buffalo Niagara Waterkeeper (*provide garden rain barrels, rain gardens, and expertise*)

The Tool Library (*loan tools to the school garden and offer repair workshops*)

West Side Community Services (*West Side Teens group uses the school garden*)

Grassroots Gardens (*provides beds, soil, seedlings, classes, other support*)

Massachusetts Avenue Project (*connect local youth to the local food system, like the garden*)

Dave the Butterfly Man (*helps schools grow native plants and raise butterflies*)

Buffalo Olmsted Parks Conservatory (*help schools use park greenhouse for seed starting*)

NYS Department of Environmental Conservation (*provides native plants and education*)

Gardens Buffalo Niagara (*funds beautification like gardens and planters*)

Nusantara Arts (*give free Indonesian Gamelan music concerts in school/community gardens*)

The Foundry (*students in training make and donate metal decorations and trellises*)

Urban Roots Cooperative Market (*support garden through plant education and materials*)

6.1: Evaluation Plan

Lafayette IHS Garden Evaluation Plan

Evaluation Methods	Method 1	Method 2	Method 3
Environmental Science	<p>Student garden planning maps:</p> <p>Do student-made garden maps consider what was learned about growing conditions, such as sun exposure, soil types, and urban conditions?</p> <p><i>Maps made at the end of the related unit.</i></p>	<p>Student terms testing:</p> <p>Quiz on related terms like native, non-native, introduced, pollination, etc..</p> <p><i>Quizzes conducted throughout the course.</i></p>	<p>Teacher survey:</p> <p>Is the garden an appropriate tool to facilitate and exemplify environmental science terms and topics? What could make it better?</p> <p><i>Survey conducted at the end of term.</i></p>
Multiculturalism	<p>Student bulletin board:</p> <p>Open board with sticky notes for students to add thoughts on topics like new foods they tried, what surprised them, etc.; to reflect on their peers and their own growth.</p> <p><i>Boards can be left up and added to throughout the course with new topics added each session.</i></p>	<p>Student writing and discussion:</p> <p>Students will submit a short written piece about a recipe using fresh foods that is important to them. These will be shared with peers and constructive discussion will be evaluated for participation.</p> <p><i>After related sessions on food and recipes.</i></p>	<p>Teacher bulletin board monitoring:</p> <p>Teachers can record the bulletin board to see what students add each week and monitor this for new learning.</p> <p><i>Monitoring throughout the course; both before and after new sessions.</i></p>
English Language	<p>Student terms testing:</p> <p>Quizzes on new terms learned in garden sessions.</p> <p><i>Quizzes conducted throughout the course.</i></p>	<p>Student sign making:</p> <p>Students will create signs for different items in the garden with various translations including English.</p> <p><i>To be made in the corresponding lesson.</i></p>	<p>Teacher survey:</p> <p>Monitor if students seem more confident (chatty, loud, etc.) using English in the less-formal setting of the classroom?</p> <p><i>Throughout the course.</i></p>
Interest-based projects	<p>Student portfolios:</p> <p>Students will collect materials made throughout their project, like photos, interviews, and reflections, that should show inquiry and effort in their project.</p> <p><i>Created throughout the course, but final submission at the project's end.</i></p>	<p>Student presentations:</p> <p>Students should show confidence and effort in sharing their portfolios with the class, and be engaged in listening to/discussing peer work.</p> <p><i>End of project presentation time.</i></p>	<p>Advisor/Interviewee surveys:</p> <p>Surveys asking if advisors and interviewees felt supported and were able to commit time to student projects, and how to improve this.</p> <p><i>After the end of each project rotation.</i></p>