Strategies Used to Improve Youth Engagement in Community Gardens

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Introduction

It is important to find strategies to keep the youth engaged in community gardens because it provides them with deeper educational knowledge about science and it allows them to have a sense of belonging to their community.
The known variable is that most youth are more engaged in screen activities than they are in physical activities. The unknown is how we can get more young people more engaged in community gardens instead of screens.

The relevant terms we need to know to understand consists of the following and are not limited to: Social Constructivism, Social Justice and Youth Development, Experiential Learning, and Horticulture. "Social constructivism is a sociological theory that knowledge is constructed through social interaction and that human development is socially situated." (Pepperdine University). Social Justice and Youth Development "a model that focuses on creating equal opportunities for all young people and raising awareness of how systems of power can oppress certain groups of young people." (University of Louisville). "Experiential learning" is practice that stimulates knowledge, skills, and attitudes through experience intertwined with reflection and feedback (Malone, 2008).

Research Question

Our research question is what strategies are used to improve youth engagement in community gardens. This is relevant to us because in the CODES (Community Oriented Digital Engagement Scholars) Program at Southern Illinois University of Edwardsville we take on the responsibility of working with the community, especially the Missouri Botanical Gardens and because of this we feel it is important for younger people to be involved with their community. We feel it is important for the youth to get involved with science, community gardens are a great opportunity for children to learn and engage.

In addition, researching strategies used to improve youth engagement in community gardens helps us reach the youth audience surrounding MOBOT youth could be a strong strategy for us to help with youth engagement at MOBOT. Overall, strategies used to improve youth engagement in community gardens are through creating an experiential learning program, activating student led research in relation to environmental science, and through peer mentorship programs.

Review Papers

North Minneapolis: Connecting Youth and Community through Garden-based Experiential Learning

Rogers, M., Livstrom, I., Roiger, B., & Smith, A. (2019). Growing North Minneapolis: Connecting Youth and Community through Garden-based Experiential Learning. *HortTechnology*, *30*(1), 25–30. https://doi.org/10.21273/horttech04308-19

This paper was published in the *HortTechnology* science journal, with several other peer-reviewed papers based on horticulture (Rogers et al., 2019). The purpose of this review paper is to acknowledge how garden-based experiential learning aided in the relationship with youth and the community (Rogers et al., 2019). The review proposes a new model of an experiential learning opportunity for youth to engage in.

This review article focuses on the Northern Minneapolis region of Minnesota (Rogers et al., 2019). The University of Minnesota and Northern Minneapolis community are in partnership to create an experiential learning program for youth and the program is called Growing Northern Minneapolis (GNM) (Rogers et al., 2019).

The goal of this study is to provide an experiential learning opportunity for the youth that live in the northern region of Minneapolis which are considered to be underprivileged based upon socio-economic factors (Rogers et al., 2019). There were 31 students between the ages of 14 and 15 that participated in the program and were mentored by undergraduate student mentors and gardeners from northside gardens (Rogers et al., 2019).

The students were divided into teams where they engaged in a series of activities and were responsible for maintenance related garden tasks at the garden sites (Rogers et al., 2019). The activities consisted of student-led research based upon horticulture knowledge (Rogers et al., 2019). The maintenance of the garden consisted of and not limited to soil separation, transplanting, seeding, weeding, irrigation, harvesting, trellising, and cultural pest management (Rogers et al., 2019).

The conclusion found in this article is that the youth benefited from the knowledge on horticulture as well as from the relationships with other students and mentors (Rogers et al., 2019). The next steps found in this article are finding more funding to pay mentors and possibly pay students for their work (Rogers et al., 2019). The new information that the article presents is garden-based experiential learning to engage the youth (Rogers et al., 2019). This provides us with answers to our research question, community gardens can engage the youth through creating a program with garden-based experiential learning (Rogers et al., 2019).

Urban Agriculture as a Tool for Horticultural Education and Youth Development

Rogers, Mary A. "Urban Agriculture as a Tool for Horticultural Education and Youth Development." *Urban Horticulture*, vol. 18, Springer International Publishing, 2018. Sustainable Development & Biodiversity, https://link.springer.com/chapter/10.1007/978-3-319-67017-1_9. Accessed 2024.

The purpose of this review is to review gardens in schools and how they positively impact students, the environment of the school, and other things. There's an underlying tone of persuasiveness in the way the review presents information, as if trying to convince a school superintendent or school organization to start their own school garden up.

This review doesn't offer any new insights into school gardens, it's just a collection of information detailing the history of school gardens and the benefits of school gardens, specifically for the students. Additionally, there's information about schools and organizations that successfully founded their own gardens.

The review starts off with section 9.1, which is the introduction to school gardens, giving a small overview of the history of school gardens and the effects of one on the school's environment and student population. From there, the next section goes further into depth about the history of gardens, reaching as far back as the first known school garden in the US in 1891. Going through history through WWI when they started to fall out of fashion since the government stopped funding them, to modern day where they've started to pick up steam again.

From there, the largest part of this review is given with the benefits of school gardens. It starts with benefits for students, particularly those who might suffer from nature deficit disorder, with other benefits ranging from improving academic performance to reducing stress. In a subsection, the review goes into detail about the academic improvements that school gardens provide for students. The next subsection goes into detail about the nutritional and health benefits of school gardens.

The final three subsections of the benefits of school gardens section are the environmental awareness subsection, which is a small part mentioning the environmental awareness that school gardens provide to students, opening their eyes to nature and the world around them, and the personal and social development that gardens give. This second subsection talks about all of the developmental benefits given by gardens for young minds by allowing them the space and opportunity to work in one. The final subsection is about leadership and skill building that can happen when adults work with the youth in the gardens.

The final sections are the case studies, where real world examples of working gardens are shown and discussed, and the summary which concludes the review with an overview of the information followed by a reference section.

This review article is more about persuading a school administrator to make a garden than anything else, but it still has value for our research as looking at gardens in another medium, especially one where youth frequent is very helpful. Plus, there aren't any other sources in our project for school gardens.

Research Papers

"Sowing and Growing" Life Skills Through Garden-Based Learning to Reengage Disengaged Youth

Truong, S., Gray, T., & Ward, K. (2016). “Sowing and growing” life skills through Garden-Based Learning to reengage disengaged youth. *LEARNing Landscapes*, *10*(1), 361–385. https://doi.org/10.36510/learnland.v10i1.738

This research paper was published by Son Truong, Tonia Gray, and Kumara Ward. The purpose of this paper is to investigate the relationship between the Royal Botanic Garden (RBC) and the youth from the community that participate in the RBC’s Youth Community Greening (YCG) program. YGC had a specialized program called Outdoor Links to Learning (OL2L). OL2L was a garden project designed to reengage disengaged youth from the community. These specific youth referred to this program are from a suspension center that is within Southwest Sydney, New Wales, Australia. The students are facing behavioral and emotional challenges making it difficult for them to learn in school.

Truong, Gray, and Ward conduct this study to further observe the traditional educational system and how it can impact students with behavioral and emotional challenges. Through critical research and review Truong, Gray, and Ward were interested in how experiential learning can impact students that are wrestling with these challenges. The specific type of environment for experiential learning that they chose was garden-based learning also known as GBL. In the article they emphasize that GBL can unlock new perspectives for students beyond the classroom setting. More specifically, they highlighted the beneficial effects of learning in nature, the influence of engagement through nature, and establishing a mentorship relationship with students.

Researchers used qualitative methods for this study. The specific qualitative evaluations conducted consisted of observing students, formulating impromptu discussions with students, and facilitating informal interviews with students, teachers, and community educators. To collect data these evaluations happened before, during, and after the OL2L program. The qualitative method approach provides the researchers with a way to fully comprehend the impacts that GBL in the community have on disengaged youth.

While analyzing the responses researchers discovered that there were five interconnected concepts that were addressed: 1) enhancing health literacy and well-being, 2) building life skills, 3) engaging students in alternative educational environments, 4) connecting with adults, 5) increasing self-esteem and connection for participants (Truong et al., 2016). Researchers from the study provided direct quotes from the responses of students of OL2L, a school principal, and YGC coordinators. From those responses researchers contributed further analysis through connecting other similar discoveries within other papers.

In the discussion aspect of this paper, it showcases the discussion as well as recommendations. The discussion calls attention to the significance behind the study that is strongly associated with GBL promoting the five interconnected concepts. Furthermore, researchers of this paper recommended that GBL is an experiential learning practice that should be implemented more within the traditional classroom environment to reach students that are facing behavioral and emotional challenges.

Participatory Rural Appraisal as an Approach to Environmental Education in Urban Community Gardens

Doyle, R., & Krasny, M. (2003). Participatory Rural Appraisal as an approach to environmental education in urban community gardens. *Environmental Education Research*, *9*(1), 91–115. https://doi.org/10.1080/13504620303464

This research paper was published by Rebekah Doyle and Marianne Krasny. The hypothesis of this paper is to evaluate if youth from Cornell University Garden Mosaics program could effectually lead Participatory Rural Appraisal (PRA) activities with senior community gardeners and create written reflections based on social experiences and learning experiences within their projects. The Cornell University Garden Mosaics program acted as a summer PRA project that challenged this hypothesis to find more ways to engage youth in PRA practices.

The methods used in this analysis are qualitative methods. Qualitative methods were conducted by Doyle in this study. Which included recorded and transcribed interviews, attentive observation of participants, and the review of student's reflections. These methods were conducted before, during and after the program. Doyle took the time to collect data from the youth while engaging in activities to build a trusted relationship with the youth to ensure trustworthy responses.

Through data assessments Doyle discovered themes that were exemplified by the results to do this, she used a coding software program for qualitative data analysis. Unfortunately, the results were skewed because the youth didn't facilitate PRA activities with assistance from senior community garden educators. In retrospect students were able to receive mentorship from the senior community garden educators and build meaningful relationships with them. More often than not the facilitator roles rotated between the youth and senior garden educators depending on the difficulty of the activity.

Youth participants that were inclined to lead PRA activities within this study struggled with the more interactive activities as well as understanding the content within the activities because of language barriers. In addition, youth participants also struggled with short attention spans, limited time, transportation issues, academic level, age, and language. The following variables were difficult for senior community garden educators to combat so they were provided with supplemental activities to connect with students.

Overall, the paper does address that there are issues in youth facilitating PRA activities, but PRA activities did encourage meaningful relationships between senior community garden educators and the youth. This study provided learning objectives for students that went uncomplete a future direction provided in the conclusion was analyzing the areas of the program that the students enjoyed the most and areas that the did not enjoy at all. To create an improved version of the program that could better alleviate the challenges that the youth participants faced while meeting learning objectives.

Demystifying Science Teachers' Epistemic Belief on Chemical Concepts: Students' Engagement in the School Garden

Acharya, K. P. (2019). Demystifying science teachers' epistemic belief on chemical concepts: Students' engagement in the school garden. *Pedagogical Research*, *4*(4). https://doi.org/10.29333/pr/5943

This participatory action research study was published by Kamal Prasad Acharya. The purpose of this study is to uproot students from the traditional classroom environment provided for learning chemistry and create an impactful and interactive way of learning for science teachers to introduce to students from community schools in Nepal. Acharya is concerned by the lack of knowledge that science teachers have about chemical concepts through gardening activities. With this grave concern this study has allowed her to take the initiative and think about activity-based chemistry learning.

Acharya used qualitative methods in this study to investigate the beliefs that science teachers have regarding activity-based chemistry learning and how those beliefs transform over the course of sixth months. Science teachers that participated in the study meet the requirements of three subgroups: 1) science teachers who have taught for over ten years, 2) they are interested in understanding the traditional textbook approach of learning science vs. the activity-based approach of learning science, 3) have experience issues in the classroom related to teaching chemistry (Acharya, 2019).

Acharya took the time out to observe the teacher's classroom and observe the teacher's teaching style. Then Acharya conducted interviews with teachers before and after garden activities. With the data collected from the interview Acharya used an interpretive design to showcase the results of the study. Results showed that teachers believed that students' minds were overwhelmed with hands-on activities, there was an increase in the engagement of students, and lastly more interactive activities shifted science teachers' perspectives on how science should be taught.

Within the course of six months, science teachers longed to rediscover new science teaching activities that kept students engaged. Putting aside the traditional textbook way of learning and providing more activity-based instruction for students. Acharya advocates for activity-based learning to empower students beyond the boundaries of textual content. Results of this research highlight that even though science teachers from Nepal only have knowledge about one way of teaching science that there is other effective way to engage and educate students. Acharya has high hopes that new activity-based learning concepts can be added to the science curriculum to further expand the teachings of teachers and the learning of students.

In conclusion, this study in Nepal takes learning chemistry beyond the textbook and into the hands of students to teach them about chemical concepts. This study also provides information on how to engage students within their school environment and chemistry courses in relation to gardening. The study is exemplary in finding coming up with a strategy to help with youth engagement by activity-based learning.

The Many Faces, Features, and Outcomes of Youth Engagement

Saito, R. N., & Sullivan, T. K. (2011, September 1). *The many faces, features and outcomes of youth engagement*. Journal of Youth Development. https://jyd.pitt.edu/ojs/jyd/article/view/178

The purpose of this research is to study youth engagement and test out a new framework of connecting good programs under different names together by having common indicators of good youth engagement. This research article particularly focuses on youth ages 14 and up, and from lower-income households. The hypothesis of this research article is that the framework, aptly named 'The Rings of Engagement', is a good method to unite differing definitions of youth engagement into one.

To test this hypothesis, Sullivan, one of the authors of the study, hosted interviews, focus groups, and four different observations of the framework in action. Additionally, there were also interviews with other experts in the field of youth engagement, 2 hour-long discussions with people who used the framework and ten half-day regional forum postings.

Using all of the data and feedback from the aforementioned methods of testing, the different feedback was relatively good. They gave feedback on how they viewed the framework, which is where the research paper goes into defining each section of the framework. Additionally, the paper brings up three notions from their practical feedback data. Allowing youth to contribute and lead, understanding that children grow older and develop different needs and thus different attractors, and making youth engagement engaging for both the adults and youth.

From there on, the paper goes into detail about each ring, Participation, Passion, Voice, and Collective Action. It speaks about what that ring means and what would fall under that ring. Then each ring includes a section about the benefits of such ring on the youth, particularly of 14+ lower income. These rings are also shown in how they meet the requirements of those testing sites and feedback. Each of them talks about data from other studies and how it would fall into that category.

Overall, the article is laid out in a way that promotes and shows how to use the framework. The final two sections go into detail about how to support and promote youth engagement and any other final closing remarks. The suggested methods to find good ways to promote and support youth engagement includes finding useful research, developing broader and deeper practices, making effective tools to communicate and raise awareness of this field, and building systems at the lowest level possible to allow access to opportunities, resources, and technologies.

The article closes by showing the goal of getting everyone involved, even people who aren't in fields that they think relate to youth engagement. They speak about how adults and youth can form deeper bonds and enable them to lead the world in the future. Even going as far as to say this should be an entire cultural shift in western society. Though this article leans heavily into youth engagement, there is still value in understanding how to attract youth. This article is helpful for that information and some concepts can even be used to promote engagement on a community level.

Project Green Reach at Brooklyn Botanic Garden

Conlon, S. (2005, December). *Project green reach at Brooklyn Botanic Garden: A case study of the summer program*. TRACE. https://trace.tennessee.edu/utk_gradthes/1854/

The study looked at Project Green Reach, a program at the Brooklyn Botanic Garden, which has been teaching kids about gardening and science since 1914. PGR involves K-8 students from local schools in fun, hands-on learning using both indoor and outdoor spaces. Overall, the study concluded that PGR has a positive impact on students, helping them appreciate gardening, science, and the Brooklyn Botanic Garden itself.

This is a good source to look at because it is a program that helps a botanical garden, which relates to what we are doing in CODES. The article's focus is about engagement in the community. The strengths of this article include using data and is an actual project at a garden. A weakness could be it is only a summer program, which limits time and the impacts. This could be very helpful for our team as it is very relevant to our group project.

Each year, a few students are picked to join a summer program where they work on garden and science projects. Researchers studied how PGR helps these kids. They found that the program helps kids do better in school, understand science and gardening, and learn how to take care of the environment. It also helps them grow personally by becoming more confident, working well with others, and feeling proud of their work. For many of these students, it's a special chance to connect with nature and feel part of their community. The program is important because it gives kids who might not have many opportunities to explore nature a chance to learn in a fun and hands-on way. Overall, the study shows that PGR has a positive impact on these students, especially those who face challenges at home and school.

This study used a method called "qualitative research," which means they collected detailed information to understand people's experiences. The study was based on the idea of "social constructivism," which means that people's answers and views are not always simple or the same for everyone. Instead, their answers depend on their own personal experiences and the situation they are in. In this study, the researchers gathered information from a small group of people who each had their own unique perspective on the PGR program and how it affected them.

The first big finding in the study was that many kids in the PGR Summer Program came from difficult home and school situations. One teacher noticed that a girl had a sore on her head because she hadn't been able to take care of herself properly. The girl also told the teacher that she had a lot of pain from wrestling with her brothers, and sometimes she didn't have any breakfast. She also slept on the floor because her brothers broke their bed. The teacher made notes about other kids having problems at home, like not having enough money or dealing with health issues.

The Role of Youth Engagement in Positive Youth Development and Social Justice Youth Development for High-Risk, Marginalized Youth

The Role of Youth Engagement in Positive Youth Development and Social Justice Youth Development for High-Risk, Marginalised Youth, www.tandfonline.com/doi/full/10.1080/02673843.2015.1067893. Accessed 16 Sept. 2024.

The article discusses the experiences of youth leaders and community partners involved in a long-term research project. It emphasizes that meaningful youth engagement, led by young people, is crucial for positive youth development and social justice youth development. Overall, the article shows that the involvement of youth leaders is essential for promoting both positive youth development and social justice. This article is focused on youth and partner engagement. This article relates to my group project as the writer is talking about youth and participation.

Some strengths of this research article include diversity in their research and using data. A weakness may be that it is not focused on community gardens. This source could be helpful as the data shows what helps and what does not help when including youth in community projects.

Youth participation and engagement are important for helping young people grow, fight for social justice, and become good citizens. In this research, they found that when young people are involved in creating change in their communities, it helps them stay motivated and excited to keep working on important issues. Instead of adults making decisions for young people, it's better when youth lead the way in making positive changes.

In their research, both the youth leaders and community partners agreed that two important ideas helped make the project successful. First, Positive Youth Development (PYD) focuses on helping youth use their strengths and grow in a supportive way. This includes building their skills and working together with others. Second, Social Justice and Youth Development (SJYD) is about getting young people involved in making changes in their communities and using their voices to speak up for what they believe in.

The research showed that PYD and SJYD work best together. Youth leadership was key in helping young people get involved and make a difference, especially for those who face challenges. When youth take the lead and work alongside adults and community partners, it helps them grow, make positive changes, and feel empowered to improve the world around them.

In this article's project, they found that having young people take the lead, with support from community helpers, is really important for making positive changes in society. Young people, especially those facing tough challenges, can be powerful in creating change. The project showed that when youth lead and get involved, it helps them grow and make a big difference in their communities, especially for those who need extra support. Youth leadership was key to the success of the project and helped inspire others to make positive changes.

Science Communication Articles

Inclusive Spaces: Promoting Diversity and Inclusion in Community Gardens

Webb, Stephen. “Inclusive Spaces: Promoting Diversity and Inclusion in Community Gardens.” *Medium*, Medium, 4 Aug. 2023, medium.com/@stephen-webb/inclusive-spaces-promoting-diversity-and-inclusion-in-community-gardens-7816a5781849#:~:text=Promoting%20inclusion%20and%20representation%20of%20marginalized%20groups%20is%20key%20to

This blog’s purpose is to promote community gardens and why/how they relate to inclusion. The article also goes into depth about strategies and benefits of community gardens specifically in urban settings, with information about other successful gardens to show some success stories. And there’s sections about other countries’ garden networks to see what it looks like in different places around the world.

The audience of this article is likely people interested in community gardens, either joining one or starting their own. This article is a good guide to starting a garden or understanding how gardens work in other places around the nation and global. The author of this article is Stephan Webb, an avid gardener and writer whose written plenty of articles about gardening in general.

There’s plenty of information about how to run a community garden including information to maintain upkeep, but Webb starts with discussing the role of community gardens in urban settings at both a community level and an individual level. Then Webb speaks about making sure gardens are inclusive and diverse. Next are the barriers and benefits of inclusive community gardens.

From there, the article goes into strategies to involve as many members of the community as possible. Ranging from adding raised beds for disability accessibility, to addressing financial concerns by securing grants and funding for the plot. And from that, the next section details connecting the community with the local authorities and government and local organizations through the common ground of the garden. And finally, there’s a section on measuring how well this garden does and how to continuously improve from there. And to close it, there’s a section about other communities worldwide and a conclusion.

I believe this information to be biased since Webb is a gardener and entrepreneur. But writing about it, Webb has experience in these things, so there is some ethos to the words written. This work doesn’t have any evidence given besides the examples from around the globe, but that doesn’t mean the information given is false. There’s plenty of information that can be proven using other sources and through trial and error.

This work is relevant to our research question because knowing how community gardens run and how to start one is important for understanding methods to attract people to them. Understanding how a garden works and how a community must come together to run one can show how someone should use the space to engage youth, which our research question is all about.

Effective Youth Engagement

Effective Youth Engagement | Cornell Garden-Based Learning. (n.d.). https://gardening.cals.cornell.edu/lessons/program-tools/planning-organizing/effective-youth

This article says kids should be involved in every part of the garden project, from planning to planting. When kids help design the garden, they feel more garden, they feel more excited and connected to it. Instead of adults doing everything for them, kids should work alongside adults, making decisions together.

The document warns against "tokenism," which means making kids feel involved without really letting them help. For example, just having kids wear T-shirts or name the garden without any real say isn't enough. Instead, it encourages using tools like Dr. Roger Hart's Ladder of Participation to make sure kids have real opportunities to participate. It gives us some valuable ideas for how we can get the youth involved with gardens. It relates to having the youth be the main target for how we can get the community involved.

Some strengths include looking at youth as partners and giving examples of how we can include children in the garden. A weakness is that the article could focus more on community. This source is useful as it gives us plenty of activities and how we can keep the youth engaged and encouraged throughout the process of our project.

There are benefits to including kids in planning, but it may take a bit more time. You can start small, ask around to find volunteers, and adjust your timeline to make it work. For older kids, like middle and high schoolers, a garden project can be a fun way to learn about science, ecology, and even help others by growing food for people in need. It's also a chance for them to learn business skills by helping sell what they grow. The key is to make sure kids are genuinely part of the project, so they feel excited, responsible, and proud of their work.

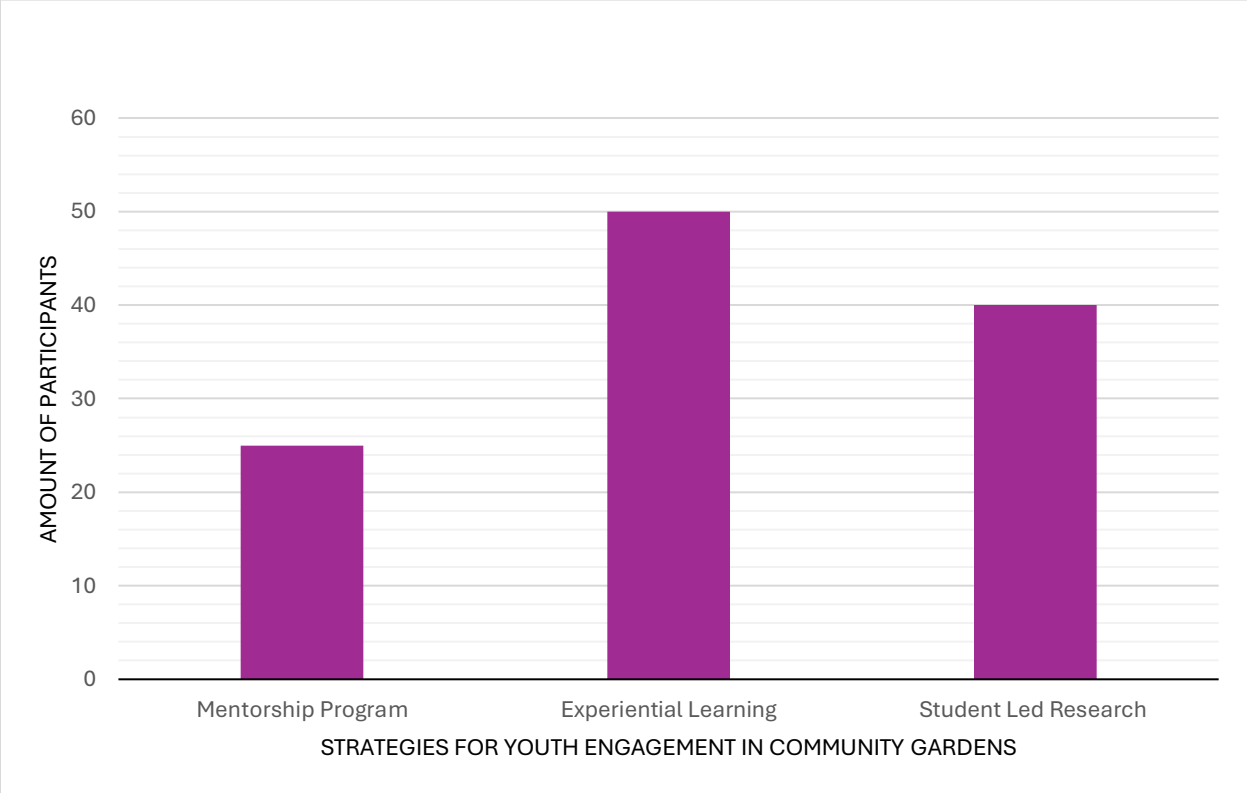
When adults start a new project to get kids involved, they often find that the biggest challenge isn't getting kids excited, it's managing the enthusiastic adults who want to jump in and help too much. Here are some ways the article says to include adults without making them feel left out: Hold a meeting: Get together with parents, teachers, and other volunteers to explain your plan, what the kids will be doing, and how the adults can support the project in helpful ways. Separate activities: If you're hosting an event for kids, consider having an event for adults at the same time.

For example, while kids are busy sharing ideas, adults can work on finding community help, such as people who can offer skills, donations, or other support. This way, everyone can be involved without taking over the kids' activities.

Proposed Experiment

Independent variable: Strategies for Youth Engagement

Dependent variable: Amount of Participants



This proposed experiment showcases the three main strategies of youth engagement we found in our research: Mentorship Programming, Experiential Learning, and Student-Led Research.

Summary and Reflections

Summary

This report has a lot of given sources that answer our research question: What are the strategies that are used to improve youth engagement in community gardens? Some of them, such as the *Inclusive Spaces* blog post, are about community gardens and the ways they work, while others, such as *Project Green Reach,* are more about youth engagement and the study of how to attract young people and make good enriching programs for them. There were some articles that were of each type, review, research, and sci comm. Overall, strategies used to improve youth engagement in community gardens are through creating an experiential learning program, activating student led research in relation to environmental science, and through peer mentorship programs.

There were many different methods used to engage young people and found gardens in all kinds of places, such as schools, and community gardens. Along with that, there's frameworks and research going into understanding how youth engagement can be classified and properly done. For example, the framework called the *Rings of Engagement,* is from a research article where this framework was tested in various different mediums all to allow this framework to potentially stem into further research in youth engagement.

There were also the three strategies we concluded on using the different documents above: the Mentorship Programming strategy, the Experiential Learning strategy, and the Student-Led Research strategy. Each method would be tested as described in our proposed experiment section.

The next steps to address our research question moving forward is to investigate each strategy, looking at pros and cons, and possibly searching for more strategies along the way. From there, we can combine these into one strategy through testing and answer our research question using this newly crafted strategy.

Reflection

The most interesting thing about this project is how researchers nationally are trying to find ways to better engage students in their community. In addition, a surprising factor was that students enjoyed engaging with the world around them, even though they may not have been exposed to those gardening specific practices. This project shifted our way of thinking about science because it emphasized how meaningful learning about the world around you can be.

We think that it is detrimental for people to educate themselves about student engagement in their community because it shows generational reciprocity. As students learn from educators and people from their community, they begin to have a deeper relationship and appreciation for the world around them. Just like the students and participants addressed in our research documents.

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