

The Leadership Prize Application

Part I: Preliminary Information

Title: Developing and Sustaining a School Garden Collective in Alamance County

Abstract

Children in Alamance County sometimes struggle to stay focused in classrooms, which is often because material is not relevant to their lives or meeting their needs. What if capturing their curiosity and imagination, facilitating their understanding of content, practicing 21st century skills, connecting them with nature, and addressing food insecurity in the community could occur all at once? School gardens are interactive, interdisciplinary spaces for transformative teaching and learning. Studies show that being outside improves attention and motivation and supports mental health. Moreover, school gardens can be used to teach math, science, social studies, and literacy, and to promote food justice. With the support of the Leadership Prize, I would work with my mentor to 1) develop and sustain a school garden collective to support current and future school gardens in Alamance County, and 2) expand a study on the social-emotional effects of school gardens.

Part II: Problem Description and Personal Statement

Problem Description

Education affects the future of the world. From the innovators and political leaders of the next generation to the ordinary citizens who spread kindness to their neighbors, everyone is shaped by their educational experiences. According to a study at the University of Pennsylvania, elementary students in the United States perform far lower than other countries; academic and social engagement is of particular concern (Barghaus et al., 2016). According to the Center for Disease Control and Prevention (2019), approximately 6.1 million children ages 2-17 have received an ADHD diagnosis, and approximately 4.5 million children ages 3-17 have a diagnosed behavior challenge. These kinds of diagnoses are not decreasing but increasing. Why? One reason might be the lack of outdoor learning incorporated into the school day, which contributes to what Louv (2008) calls nature-deficit disorder. Students in Alamance County could continue to cycle through scripted lessons, the latest techno gadgets, and test upon test upon test – what Love (2019) calls the “education industrial complex” – but there are other options. Going outside of the classroom and into gardens offers many affordances to both people and the planet (Williams, 2015).

There many different philosophies of education. For example, I attended a Montessori school when I was young. Hands-on, independent learning is at the heart of the Montessori method. I grew up around sunflowers, tomato plants, and bumble bees. I came home from school each day covered in dirt, scrapes, and a large smile stretched across my face. Some might hear this and

immediately think about *privilege*. Montessori schools cost money; many are unable to afford such schools when public, free education is available. Even Montessori schools that are free often have a lottery system, and only a few students are lucky enough to be enrolled. What if every child received an education that integrated nature every day and took a holistic approach to teaching and learning? What if this privilege was available to *all* students? I was lucky that my parents had the option to put me in a Montessori school, and I received benefits because of it. I am independent and open-minded, and I have cultivated a love for learning. Every child deserves a fair chance at success and happiness. In too many schools, this is not guaranteed. Some say, “We have always done school this way!” That is not a good enough reason to continue doing school the way it has been done for so many decades (Darling-Hammond & Oakes, 2019). It is time for a change. It is time to offer students in *all* schools – no matter the color of their skin, the income level of their families, or their home language – the rich and dynamic opportunities they need to thrive (Love, 2019).

With so many wicked problems across the United States, it is easy to shy away from change. The challenges seem too big, too embedded, too complicated. If we start small, however, the effects will spread. Alamance County is a perfect place to start. Research has shown that school gardens have positive effects on academics, nutrition, and mental health (Ozer, 2007; Passey, 2009; Williams, 2018; Williams & Dixon, 2013). In a system that emphasizes standardization and assimilation, school gardens provide an oasis of hands-on, differentiated, and deeper learning opportunities (Hirschi, 2015). School gardens not only offer lessons in growing food but also science, math, social studies, literacy, creativity, communication, physical activity, and teamwork. Given that some people in Alamance County also experience food insecurity, school gardens can also be sites of political and economic resistance to systemic challenges that prevent certain people from accessing high-quality, fresh food. School gardens are part of the food justice movement (Gottlieb & Joshi, 2013; White, 2018).

Unfortunately, many teachers and administrators are unwilling or unable to break the mold and get students outside (Ham & Sewing, 1988). It takes training and support. It takes vulnerability and courage. In an article from *The Guardian*, Patrick Barkham explained that teachers shy away from venturing outside because they are concerned that being in nature will not prepare the children for future schooling; however, forest school teachers argue that children need resilience to succeed, and resilience is one of the major lessons learned outside. For students to access the benefits of being in nature, support for teachers and administrators in schools is needed. My mentor and I would like to develop and sustain a School Garden Collective in Alamance County that builds and maintains school gardens and trains and supports the teachers who use them.

Personal Background and Motivation

One of the first times I worked with elementary students in a garden, I became emotional. They were so excited to learn with me. I had never seen students as joyous as they were over a simple lesson. It was inspiring. That day, my lesson was on nutrition. At first glance, the students were diverse in many different aspects. However, I soon spotted the similarities: curiosity,

intelligence, and eagerness, to name a few. These qualities erupted when we went outside to the garden. I do not think that was a coincidence. The children who were hesitant to speak became the most vocal of the group. There was something about sitting in a circle in the grass, surrounded by the sounds of nature, that brought out their brilliance.

Over the past year, I have worked with the garden club at Eastlawn Elementary in Burlington. Dr. Morrison teaches a course called Environmental Education, which I took last fall. Part of the course includes teaching lessons to 3rd-5th graders. Because of the success of that course, he created a service-learning course in the spring called Garden-Based Learning. During those two semesters, my classmates and I planned and implemented garden-based lessons with the help of many teachers from Eastlawn. I have seen first-hand that a simple math lesson using pumpkin seeds can bring out the curiosity and love of learning in all students. In addition to leading weekly lessons in the garden to groups of excited students, we organized a celebration of Earth Day for an entire week at the school. The lessons included sensory scavenger hunts, an all-school clean up, composting in the cafeteria, and yoga in the garden. It was an inspiring culmination to a year of learning and collaboration.

I have extensive experience working with children of all ages, personalities, and backgrounds. I began volunteering in a nature-based camp for children at the age of 13 and have been teaching children ever since. I have taught children from a range of income levels. I have helped children who struggle with reading and children who hardly speak. What I have learned is that all children have a story. I have also learned that no matter their stories, they enjoy time outside. Furthermore, I have seen the difference that nature has made in my own life. I lost a few years of connection with the natural world, but I have recently become reconnected as a result of Dr. Morrison's courses. Nature has helped ease my anxiety, and it prompts healthy reflection. Cultivating life in a garden has been therapeutic for me. Dr. Morrison has seen similar outcomes for students at Eastlawn Elementary. He has been studying the social-emotional effects of the school garden based on student writing and teacher interviews. The benefits of being outside and learning in a school garden should be available to all students in Alamance County, but some structures need to be put in place to make that happen.

Part III: Plan for Intellectual Inquiry

Instead of altering where and how children learn to meet their diverse needs, schools tend to use reward and punish systems as forms of motivation, which have been shown to reproduce inequality and contribute to the school-to-prison pipeline (Milner, Cunningham, Delale-O'Conner, & Kestenberg, 2019; Smith, Fisher, & Frey, 2015). Examples include behavior charts, point systems, isolation from peers, and time out of the classroom or school. These attempts to "manage the classroom" and manipulate students' behavior are largely ineffective, particularly for students who have experienced trauma and marginalization inside and outside of school. School gardens, along with restorative practices that emphasize reconciliation and community building, can help teachers and students experience the therapeutic effects of being outside, like reduced symptoms of anxiety and depression, lower heart rate and blood pressure, decreased

stress, and increased focus and attention (Chawla, 2015; Williams, 2017). At the same time, school gardens offer interactive, interdisciplinary opportunities for teaching and learning, which can help students understand the content and practice the skills they need to be successful (Hirschi, 2015; Williams, 2018). The purposes of this research and leadership project are to 1) create the School Garden Collective in Alamance County to support teachers and administrators who would like to leverage the benefits of school gardens, and 2) expand research on the social-emotional effects of school gardens.

The School Garden Collective needs to be a partnership among Elon University, Alamance-Burlington School System (ABSS), and other local organizations (e.g., Impact Alamance, Healthy Alamance, Alamance Achieves). Dr. Morrison has been in touch with Tammy Cobb at the Kernodle Center, and she has connected us with the Alamance Wellness Collaborative. This is a group in Alamance County working on issues like poverty, public health, and food justice. In December, we will begin attending their monthly meetings and consulting with them about how to best partner with existing initiatives. We will also arrange meetings with district administrators and school leaders in ABSS to gauge their interest and seek their advice on the creation of the School Garden Collective.

After our initial consultation meetings with a variety of stakeholders, we will develop a survey to send to teachers at schools throughout ABSS. This will help us determine levels of interest, areas of need, feasible timelines, and potential participants. Ideally, data from this survey will shape the direction of the project. Once interested participants are identified, we will arrange monthly meetings, which will be one of the structures to initiate and maintain momentum. Although topics for the meetings will be determined by the data we collect from the teachers, we imagine there will be interest in starting new gardens, developing garden-based curriculum, organizing garden clubs, meeting the needs of students outside, writing grants, and maintaining existing gardens. Dr. Morrison has facilitated several workshops for teachers on using school gardens in the past two years, and we hope to continue these types of workshops in Alamance County. I know several teachers at Eastlawn who have expressed an interest in teaching in the garden but are still unsure if they can do it on their own during the school day. Providing the training for teachers will become a key function of the School Garden Collective.

The second part of this research and leadership project involves continuing and expanding a study that Dr. Morrison and another undergraduate student started last year on the social-emotional effects of school gardens. According to Dyg and Wisoft (2016), “Few studies have investigated the effects of the garden environment on student wellbeing” (p. 1178). Sources of data for this study include student journal writing, interviews with teachers, and observations of students in the garden.

Sample journal prompts include:

- Is there a vegetable or fruit that your family loves that you want to see in the garden? What is its significance to your life?

- How is working with a plant in real life different from learning about it in a book? Which do you prefer and why? How is learning outside different from learning in your classroom? Do you like one better? Why?
- Can you explain how you feel when you're outside in the learning garden? How do you think the garden makes your classmates feel? How do you know?
- What are some ways that you interact with your teacher in the learning garden? How is it different than in the classroom?
- Draw a picture of your favorite plant in the learning garden. Why is this plant your favorite and how does this plant connect to your life?

Sample interview questions for the teachers include:

- How often have you been using the garden?
- What has worked well?
- What has not worked well?
- Do your students talk about the garden without your prompting? If so, what do they say? How do you respond?
- Do you see a difference in student behaviors inside the classroom versus outside in the garden?
- Have you noticed any academic benefits from using the school garden? If so, can you provide specific examples?

This study has IRB approval, and data has been collected over five months from over 40 students and eight teachers at one school. More data is needed, however, from a variety of schools and over a longer period of time. We will be inviting additional teachers and students to participate in the study through the School Garden Collective.

Finally, we will need to develop ways to document the progress and evaluate and effectiveness the School Garden Collective. How will we know if what we are doing is working? What kind of data would be most valuable? This process will be collaborative with the participants in the collective. We hope, however, to get IRB approval to begin a study of the experiences of the people participating in the School Garden Collective.

I am an active member and advocate of experiential learning on Elon's campus. I have participated in two study abroad experiences: one short-term program in Ghana, Africa, and the other a semester in Alicante, Spain. I consider myself an active global citizen as I have experienced and reflected on several cultures different from my own and plan to continue to do so in the future. In addition, I have participated in several internships and field experiences in schools with children of many different backgrounds. I have taught lessons outside and have become an advocate for the environment on campus as vice president of the Sierra Club. I am eager to put what I have learned at Elon into practice in a way that benefits the broader community in Alamance County.

Part IV: Feasibility, Budget, and Timeline

Feasibility Statement

There are already existing partnerships and conversations that suggest this project is feasible and needed. We have a connection to the Alamance Wellness Collaborative, which will provide some initial guidance and direction. Dr. Morrison is continuing his work with Eastlawn Elementary in the spring. In addition, several teachers at Elon Elementary have reached out to him for advice on starting a garden and garden club at their new school, and he has met with them four times already. Right now, there are five teachers at these two schools who are investing their time and energy working on their school gardens, and they are actively seeking support from community partners.

The school garden at Eastlawn Elementary was started because of a \$20,000 grant from Impact Alamance. Dr. Morrison led a workshop for 25 teachers from two schools in July 2017 on using school gardens. There were more teachers interested in participating than there was space available, so we have evidence that there is interest.

The preliminary findings from the research that Dr. Morrison and another undergraduate student started was presented at the North American Association for Environmental Education Conference in October 2019. Since there is already IRB approval for this study, including permission from ABSS, this study can extend to other teachers and schools in Alamance County.

Budget

\$2,500 for miscellaneous supplies for school gardens (e.g., shovels, gloves, seeds, soil, buckets, books)

\$1,500 for food and drinks at SGC meetings, planning sessions

\$1,500 for travel to Life Lab in September 2020 for training on garden-based learning; Life Lab is a national organization supporting school gardens

\$1,500 for attending and presenting research at the North American Association for Environmental Education Conference in Tucson, AZ in October 2020

\$500 to buy materials and to support my travel to and from meetings

Timeline

February: attend Alamance Wellness Collaborative meeting; arrange meetings with district administrators and school leaders in ABSS; develop survey for teachers at elementary schools in ABSS; solicit participation in the school garden research

March: distribute survey; write IRB for study of teachers involved in the SGC; begin collecting data on social-emotional effects of school gardens at participating schools

April: analyze data from survey; collect data at participating schools; submit proposal to NAAEE Conference

May: kickoff interest meeting of the SGC; collect data at participating schools

June - August: plan and offer a one-day workshop on garden-based education to teachers in ABSS; attend the school garden symposium at the NC State Plants for Human Health Institute; analyze data from students and teachers in the research study; solicit new participants school garden research study

September: first SGC meeting for the 2020-2021 school year; attend training on garden-based education at Life Lab in Santa Cruz, CA; continue data collection for two research studies

October - December: monthly SGC meetings; continue data collection for two research studies; attend NAAEE Conference in Tucson, AZ

January - April: monthly SGC meetings; finish collecting data and then analyze data from two studies; present project at SURF

Part V: List of Sources

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