

**“Growing in SC: The Future of STEAM is Here” Grant Report**  
**“Produce to Pizza”**  
**Scranton Elementary STEAM Academy**

**1. In what ways did focusing on learner collaboration through a project/unit with a practical, real-world application to STEAM influence your practice as an educator.**

Throughout the last few years, project based learning has become more popular, and teachers are expected to understand and implement this strategy in their classrooms. While training and professional development are of absolute importance, planning and completing a unit is where I, as a teacher, learned the most. One way that this project influenced me as an educator was by teaching me the need for and value of in-depth research and planning before starting. Due to the fact that this was a unit on gardening, I was required to learn and research enough about plants and crops to lead my students. I had to prepare by choosing the right vegetables, collaborating with other farmers/gardeners, and learning when and how to correctly harvest. As teachers we are expected to plan, but completing a unit with a real world application takes planning to the next level. In completing this project, I learned that, while the students are responsible for guiding their learning in PBL, I am the one who must provide the opportunities and activities for the students. Another way this project helped me as an educator was by teaching me that flexibility is key with completing a real life unit. Each week my co-teacher and I prepared for the topic we would cover and the activities we wanted use during that week. We quickly learned during week one that things would not always go the way we planned. On the second day of camp, our plan was to have students research plant needs and then have groups complete a mini-project to share with the class; however, this did not happen that day due to unexpected events. We went outside, and one of our garden beds with garlic in it seemed to be dying. The students and I quickly researched on my phone to try and determine the problem. We learned that there was no problem as garlic starts to look like it is dying when it is ready to harvest. Once the students heard this, they wanted to pick the garlic so we quickly changed our plans. We watched a video on harvesting, took the fresh garlic inside, researched how to peel garlic, ate the garlic, and found recipes for the students to use that night at home with their garlic. This was real life learning, and the students were so excited to be peeling fresh garlic to take home and cook with that night. We quickly realized this garlic harvesting took almost half of our time, causing us to have to take out a different activity and change our plans. While it was not what we expected, this learning path was a real life opportunity for these students to experience farm to table, which made it one of the best parts of camp. Overall, as an educator seeing the importance of providing students with these opportunities at school and allowing them to lead the learning makes me want to complete another STEAM project during this school year.

**2. What were the specific deliverables your learners produced? How were you learners able to achieve those deliverables by collaborating with peers?**

Our students were given a plant on the very first day of camp with the expectation that they would learn about and care for that specific plant. Students had to research the

needs of the plant, transfer the plant to a pot, learn about diseases that could affect the plant, water the plant daily, decide if the plant needed “food” or fungal spray, and harvest any fruits their plant produced. Each week students would measure their plant and determine if the plant needed any additional care due to flooding, drought, insects, or disease. If the plant was dying, students had two options in order to care for it. They could first go research the symptoms to try and find a solution, or they could ask a peer. Each student had at least three other students who also planted the same vegetable or herb. By having multiple pots of the same crop, students were encouraged to work together. They had the chance to use other learners to make sure their plant survived. By the end of the camp, every student could show his/her plant and discuss details about it.

Another goal of the program was to introduce students to the culinary side of farming and gardening. We decided the title of our program would be “Produce to Pizza” because we wanted to focus on both gardening and cooking. Many of our students have seen farming and growing crops due to the agricultural focus in our area and the gardening program offered at SESA, but have not had much exposure to the culinary arts. Due to this lack of exposure, we decided a goal for our program would be for students to be able to create their own pizza by the end of the program. Students took a cooking class where they learned the recipe for homemade pizza sauce and some kitchen safety tips. Students also completed a webquest on reading recipes and kitchen safety with a partner. By having the students work together to complete this webquest, they were able to research and discuss important kitchen tips that they would need when making their pizza. Students helped create the pizza sauce for the pizza and made their own personal pizza on the last day. They were the ones who were required to assemble the pizza and cut their own toppings using skills learned throughout the program. Overall, students met the cooking goal by completing a webquest with a partner and producing their own pizza with crops out of our garden.

**3. What were your successes and challenges as you and your learners completed the project/unit? What data supports learner outcomes that were met? What might you do again? What might you change for next time?**

During this project, several different methods were used to collect data. One of the primary ways we assessed student learning was with notebooks. Students used these notebooks daily, and information from every topic was placed in these notebooks. When students researched any topic, they were required to write about it and place it in the notebook. Also, I checked tracking sheets and journals in these notebooks to follow student learning and determine if students were meeting the gardening goals put in place. Finally, my coworker and I used a rubric for STEM learning to determine if students were successful with guiding their learning, thinking critically, and working collaboratively. We used the scores from this rubric to determine student growth performance from the end of the school year when they were scored by their teachers using the same rubric.

This project had both challenges and successes that we discovered as we completed it throughout the summer. One of the biggest challenges was out of our control because we found out two weeks prior to the beginning of the program that we would not be able to plant in our beds due to construction. While we could still visit the garden beds to harvest the crops already planted, we were not allowed to plant new crops in it. Because of this decision, we had to go buy pots to plant each crop individually. While it was difficult at first because the crops needed more attention (too little/too much water, not enough nutrients, root rot), it ended up being a positive part of the program because students got to take their plants home. They were excited to have their own crops and to continue caring for them at home like they had done all summer. One of our biggest successes was producing vegetables, fruits, and herbs for the students to eat. By the end of the program students harvested and tasted tomatoes, bell peppers, banana peppers, eggplant, watermelon, zucchini, cabbage, garlic, and leeks. Seeing students grow, harvest, and eat crops out of our very own garden was one of the best parts of the project. Also, it was a success to see students try new foods and actually learn that they like vegetables.

If I were to complete this unit again, the only part I would change would be to plant the crops earlier. Due to waiting until the program started, many of the plants were not producing fruit by the end of the program. The crops needed a few more weeks, so many of the students did not have the chance to harvest their specific plants. While everyone had the chance to harvest out of the garden beds, many were disappointed that their crop had not produced fruit. Overall, I would love to do this project again because it was a great hands-on, real-world learning opportunity for students.

4. How were your “lessons learned” shared with colleagues? What feedback did you receive from your colleagues based on your lessons learned from the project/unit?

Due to this program being during summer, our lessons learned have not yet been shared with colleagues. We plan to meet with the teachers during our staff development days before school starts. While we have not met with our staff, we have been featured in the newspaper and our staff newsletter. Our colleagues have shared the article on Facebook and congratulated us on a job well done. Our gardening teacher plans to use some of the plants we planted and some of the “going green” activities we used during camp, like composting. We will report on our lessons learned once school returns.

5. What would some of your learners say about how collaborating with peers on a real-life project/unit impacted their learning? (Include specific quotes written or told by learners.)
  - a. Being able to work with people in groups helped me learn how to be a better team member. I will use this in class and in my job later on.—Mary Kate
  - b. If I want to be a farmer, this helped me learn how to use the land and pay more attention to the environment.—Hampton

- c. I learned how to compost and how to use trash in different ways. Working with a group to film a commercial was fun and now I want audition for our school news show.—Karsyn
- d. The program was fun because we were outside and growing our own crops. I even took a plant home and now take care of it there.—Lillie

6. Attach photos and/or videos from your project/unit (from beginning to end) that we may use for the final report, as well as share with others. Include a description of each photo/video. (You may include a video link for YouTube if necessary.)

- Field Trip to Moore Farms



- EdVenture



- Going Green



- Our Harvest/Gardening



- Pizza Celebration

