

## **Farm-to-Table: How One Teacher Fostered Passionate, Project-Based, Place-Based Learning**

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**Abstract:** While passionate, project-based, and place-based education may sound like a stream of buzz-phrases or fads in education at face-value, this article uncovers their impact on student engagement and academic proficiency. While they are not textbook, traditional, pedagogical approaches, they are esteemed in the field of Education as undeniably effective and worth teachers' consideration. This article discusses the impactful aspects of a.) passionate teaching, b.) project-based learning (PBL), and c.) place-based education (PBE). A former fifth-grade teacher's experience in creating and implementing a curriculum titled, "Farm-to-Table," contextualizes the power of passionate teaching, PBL, and PBE when used simultaneously. The article concludes with special considerations for other teachers that warrant attention before they start planning their own passionate, PBL, and PBE curriculum.

**Keywords:** creativity, elementary, engagement, nutrition, real-life, sustainability

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### **Tomato Juice Inspiration**

The statement, “I can convince a fifth-grader to love studying fractions” may be comparable to “I can pull a rabbit out of my hat.” Alas, I am no magician, but rather, an educator with some tricks up my sleeve. My colleagues in Education have remarked that magic is the only way to have fifth-graders enjoy the fractions units in their math curriculums. During my first year of teaching, I thought they were right in this assumption. Whenever math block began, students groaned in agony and frustration. There was nothing they wanted less than to work with fractions.

I spent my first year of teaching fifth grade trying to make the curriculum engaging. I tried math-center games and humorous story-problems, only to be met with unimpressed, glazed eyes from students. To say that teaching math was the bane of my existence that year, was an understatement. Parents were reporting issues at home trying to get their children to complete the curriculum’s standardized homework worksheets. This math curriculum was disrupting teacher-student and parent-child relationships every direction I looked. As I cleaned the classroom on that final day of the school year, I was lost in the thought to myself, “There has to be a better way to teach math.”

That summer, I spent considerable time regaining my energy from the chaos of the first year. I was forewarned that the first year was the most challenging, and that proved to be true. While I brought love and compassion to my work, I feared that students’ lack of engagement in certain areas, like math in particular, was hindering them from fully experiencing and

internalizing what it means to have love and compassion for their work. I did not enter the teaching profession for the summers off or for the pay (as meager as it is). Rather, I became a teacher because it was the profession that I loved and evoked in me the greatest sense of compassion for others. Love and compassion made it a job that I enjoyed daily, even with its inherent challenges. With unengaged students, however, I feared that they were blinded from seeing my love and compassion for my work and for them. I needed time and recovery to self-reflect.

I chose to distance myself from the stress and get lost in one of my deepest passions: farm-to-table cooking. Farm-to-table refers to using produce that is sourced directly from local farmers and then cooking with them for personal, community-based, and environmental benefits (Barber, 2015; Benjamin & Virkler, 2016; Local Harvest, 2020; Pollan, 2014). I loved working in my garden and going to local farm-stands for the freshest produce. From increased nutrition to enhanced environmental sustainability, farm-to-table practices have numerous benefits, ranging from improved health and environmental sustainability to greater support for the local economy (Barber, 2015; Benjamin & Virkler, 2016; Edelstein et al., 2009; Local Harvest, 2020; Pollan 2014). Having read many books and watched countless documentaries on this mentality, I revamped my grocery shopping and cooking routines with an emphasis on local agriculture. Michael Pollan's books about food influenced me greatly. With the cultivation of every vegetable and every season I tossed into stews, I flowed with love and compassion. Why couldn't teaching be like this?

On a hot summer day, while out picking tomatoes, cucumbers, and bell peppers in the garden, I considered the numerous dishes I could cook with my vibrant bounty. Salads, salsa, soup, so many options could make any gardener's head spin and stomach grumble with anticipation. I was in the kitchen, with my hands covered in tomato juice as I made a batch of pasta sauce, when inspiration hit.

Once the last lid was on the final jar of sauce and the kitchen was clean, I pulled out my teaching bag for the first time since summer began and got to work. I was determined to bring the love and compassion I felt in farm-to-table cooking to my career. I decided to write a passionate, project-based, place-based curriculum called, "Farm-to-Table." The elements of passion, projects, and place took time for me to pull together and understand fully. However, my research proved that I needed all three of these elements for "Farm-to-Table" to work. Each of these components are explained in the subsequent three sections, along with insight into the needs for grant-funding, consistent planning meetings, and creativity.

### **Passionate Teaching**

There is a plethora of academic literature expressing the power of teaching topics in which teachers are passionate. I greatly credit my "Farm-to-Table" curriculum's success to the fact that it was something that personally interested me, and I wanted to learn more about. Since I am not a professional farmer nor a professional chef/baker, I figured there was plenty more for me to learn within the farm-to-table mentality.

When teachers have the opportunity to learn alongside students, they are more likely to "reflect on their own learning, children's learning, and to examine their teaching practices from new perspectives." (Mueller & Welch, 2006, p. 150) When implementing a new teaching strategy for the first time, like project-based learning, such reflections and self-evaluation opportunities may illuminate ideas to improve instruction. Trial-and-error experiences are then authentic and allow for deep reflection on how to improve in problem-solving together.

Teachers who reflect on their passions can integrate what they care most about into their work (Ghaye, 2010). Focusing on personal passions within one's teaching improves the quality of instruction. While teaching to one's passions can cause the educator to feel more motivated in his or her instruction, proficiencies and priorities also play an integral role in improving the instruction. The topic or skill that a teacher is passionate about may be his or her area of proficiency and may be his or her priority in life outside of teaching. At the same time, a passion may be an area of improvement or a lagging area that the teacher wishes was a priority in his or her life. By bringing that skill or topic into the classroom, students can be a part of the journey of improvement. For example, if I were passionate about eating healthy, but have not been eating well and did not prioritize my nutrition, nutrition could still be a passion I brought to my teaching. My students and I could work on making the passion a strength and priority. The process of improvement is synonymous with the process of learning.

Wangberg (1996) explained that passionate teaching begins with enthusiasm. Can a fifth-grade teacher show authentic enthusiasm over fractions? For me, no. In contrast, an easy question for me to answer was, "Can a teacher show enthusiasm over baking muffins?" Yes, this teacher sure could. Wangberg explained that enthusiasm is contagious and if a teacher displays authentic enthusiasm, it is incredibly likely that students will follow suit. He added that most students have "unbridled enthusiasm" that just needs to be manifested appropriately and follow the lead of the teacher (Wangberg, 1996, p. 199). Enthusiasm for a topic, when paired with enthusiasm for the students, leads to passionate teaching (Wangberg, 1996).

Furthermore, Wangberg (1996) added that a total immersion into subject-areas leads to passionate teaching and learning. This starts with the teacher modeling complete engagement in the topic. A teacher who lectures and shows little passion and engagement him/herself cannot practically expect students to exhibit complete and total engagement in the subject area without showing his/herself. The key to having the passion for a subject-area translate into passionate teaching is that the teacher must share the passion for the subject-area. Wangberg (1996) concluded by writing that educators who teach with passion are not afraid to try creative, new, and innovative teaching strategies with the intentionality of better supporting their students' learning and engagement. He emphasized that failure is an inherent part of this necessary competent when becoming a passionate teacher. The final ingredient that Wangberg (1996) explained was one that has already been mentioned in this section, but places further emphasis on its importance: being a teacher and learner simultaneously. He contended that students who believe that their teacher is a learner alongside them are more likely to be more passionate learners.

Given the above-stated academic literature, no wonder my students were not engaged in math. I was not showing them that I was truly and authentically motivated by that particular subject-area. I love to read and had no issue pulling out my childhood favorites to share with students, of which they read with vigor and shared insightful reflections and discussions with myself and peers. Reading was a passion of mine, math was not, and that reflected in my teaching. By bridging math and science with my love for the farm-to-table movement, math and science merged into my new favorite cross-disciplinary subjects to teach.

### **Project-Based Learning**

Similar to how the academic literature has expressed the power of educators teaching their areas of interest and passion to motivate students, project-based learning has an impactful effect. Project-based learning (PBL) is "a student-driven, teacher-facilitated approach to

learning” (Bell, 2010). Students focus on learning about a question that engages their curiosity. With students sharing an inquiry, they are guided to work together to reach an answer. PBL is not intended to be supplementary, but rather, it is meant to provide students with core subject-area content and skills.

This approach has shown to have numerous benefits. From increased standardized test scores in elementary schools (Thomas, 2000) to increasing the success rate for students accurately answering application problems on assessments (Boaler, 1999), PBL does more than just engage students in learning. PBL actually improves their academic performance. Another benefit is that PLB reflects real-life scenarios so that students feel a connection between what they are learning in school and what they will be doing in life or in their careers one day (Bell, 2010). PBL helps discourage students from asking, “when will I ever use this stuff?” like many teachers hear from students all-too-often.

In conjunction with seeing real-world connections, students are more apt to develop 21<sup>st</sup> century skills when learning through a PBL format (Bell, 2010). PBL assessments are deemed more authentic because teachers use a mixture of performance rubrics and students complete self-evaluations. Students also have opportunities to give critical and constructive feedback to peers. These self-evaluative and peer-evaluative skills are practical in the 21st century workplace.

“Farm-to-Table” was deemed a project-based learning curriculum because it was a long-term endeavor that led to a culminating event, which was a celebration that highlighted our newly found farming and cooking abilities. My newly constructed “Farm-to-Table” curriculum was project-based and also matched my personal passion, combining two academically-researched, pedagogical approaches to enhance student engagement. To increase student engagement even further, place-based elements were added, as discussed next

### **Place-Based Education**

Place-based education (PBE) is when teachers utilize the surrounding community and resources in their teaching. Specifically, this is education that utilizes what is within close proximity to the school, thus truly taking advantage of where the school is located. Furthermore, PBE is, “the process of using the local community and environment as a starting point to teach concepts...emphasizing hands-on, real-world learning experiences” (Antioch University, 2020). This form of learning has many benefits, including increased proficiency in academic achievement, appreciation for nature, understanding of the surrounding community, and stronger commitment to serve and support the surrounding community as a result of such appreciation.

There are three central goals of PBE (Promise of Place, 2020). These include 1.) student achievement, 2.) community, social, and economic vitality, and 3.) ecological integrity. Student achievement refers to the increased engagement students experience, along with the improvements in their academic achievement and self-efficacy in their role of serving and supporting the local environment and community. Such benefits within student achievement also can potentially re-energize educators in their role. Community, social, and economic vitality refers to how students feel a strong bond between the school and the surrounding community and environment. This strengthened relationship then helps increase the quality of life for the local people and nature. The final goal is ecological integrity, which involves students making real-life contributions to help solve local problems. A specific focus within this goal is that local environmental sustainability is emphasized.

Mill River Elementary, where I taught fifth grade, is located in a rural section of western Massachusetts in a town with less than 200 residents and what seems to be endless farmland. Next to the Mill River Elementary property, is a family-run farm. Many of my students were familiar with this farm because their parents shopped at the small farm-store that sold raw milk, fresh produce, baked goods, and more. Thinking about how students were familiar with this farm and that there was a chance that the farm was familiar with Mill River Elementary, or at least the students who attended there, I thought it would be worthwhile to reach out to the farm to pose a simple inquiry: Would they be willing to partner with me? Their enthusiastic agreement to support my creative and far-fetched endeavor gave me the confidence to put my plans into fruition. Receiving local grant funding and business donations made it clear that the community appreciated and supported this program and how it would influence their town as the students grow into influential community members. The subsequent section delineates the structure and implementation of “Farm-to-Table.”

### **“Farm-to-Table” in Action**

My planning first began with learning how to best mix passion, PBL, and PBE. Then, logistics and creativity merged as the writing process began. After many planning sessions with the Mill River Elementary principal and the farmer, it was clear that by the first day of school, this project-based, place-based curriculum that grew from passion would be able to begin. The curriculum followed a “mini-unit” format with the focus on what was in season for produce.

Each mini-unit began with a lesson about the produce on which we were focusing. The lesson would start with gathering students’ background knowledge about the produce and what they wondered about it. We then dove into a nutrition lesson in which students learned about vitamins, minerals, and how our food affects our bodies. Each time we started a mini-unit with the nutrition lesson, students compared that produce to the produce we learned about in previous mini-units. For example, if we learned about squash and then raspberries, by the time we got to milk, students were comparing the nutrition of milk to squash and raspberries. A meaningful discussion about protein then ensued.

What I found most surprising from these nutrition lessons was what I was noticing about my students during snack-time and when I was serving on lunch-duty. Suddenly, students were reading their nutrition labels more often and asking me questions about sugar amounts and salt. Parents reported that they were asking to go grocery shopping to pick out their snacks and lunch ingredients. To my students, added sugar went from their favorite ingredient in the world to a disgusting, seemingly unavoidable aspect of the American diet. I saw some 21-century lifestyle skills developing in my students.

The nutrition lesson on each type of produce led to a lesson about how each produce is grown/cultivated. For example, if we were studying asparagus, we learned about how it takes an incredibly long time for asparagus to develop and if a farmer buys land with asparagus roots already in place, it is like striking gold. If we were studying milk, we learned about the milking process and pasteurization. The “problem” that the class was seeking to solve typically was illuminated during this session, as students made a list of questions that they had pertaining to the produce. Sometimes they were farming-related questions and other times they were about how to use the product in cooking or baking. We narrowed down our questions to one or two that helped shape our farming visit that came next, which I communicated with the farmer in advance. A detailed account of this process is described next.

In September, butternut squash was ready for picking; this was our first “Farm-to-Table” endeavor. We began with a lesson focused on the vitamins that squash provide and the numerous health benefits. This led to a lesson on the growing and cultivation process in which students wanted to know if all squash were left in the field for the same amount of time, would they all get to be the same size? This question inspired a math lesson in measurement that met the required fifth-grade Common Core standard related to measurement and conversion. We also were able to address comparative values. The measurements students took then provoked them to ask if a squash’s weight changes when it is baked in a pie. This mini-unit on squash began with the lessons that provided background, sparked curiosity, and led to inquisitive questioning. With our background knowledge and questions we made our way into the fields for our first session of harvesting.

Part of the bargain with securing the partnership with the farm was that the fifth-graders needed to help with a farm chore to better understand the hard work and dedication that went into running a farm. This sweat and effort truly put into perspective that their food has a story and journey. On that warm September afternoon, students helped clear brush from a section of a field to prepare for burning that weekend. They learned that the ashes would be used to make the soil richer and more nutritious for future crops. The farm-chore part of the curriculum had an unintended consequence. Students were learning to appreciate the work to produce their food more and wanted to waste less. Numerous class discussions about the environmental and economic impacts of food-waste led students to only take food that they were going to eat and to help the entire school track their waste with a goal of diminishing the school’s food waste by half.

In “Farm-to-Table,” students participated in the cultivation and preparation process by picking butternut squash in the farm fields. They brought them back to the school to be washed and dried for in-class measuring using balance scales and digital scales to answer their inquiry questions for our initial lessons (meeting science standards, see figure 1). Students were so excited by their squashes that they gave them names and personalities. During creative writing time, many of them wrote of their squash’s life stories and what things they saw when laying in the sun in the farm fields (writing standards were met. as well).

Now that the farming portion was complete, along with some lessons that sprang up due to curiosity, students had more questions related to the cooking process. This led to the second-to-last lesson of the mini-unit, which was the “table” part of the “Farm-to-Table” curriculum. During this portion of the mini-unit, the farmer visited our class in the school cafeteria. We processed the squash by roasting it in the oven, taking turns to ensure that it was not burning and reaching perfect softness. The squash was then pureed, and pie-filling ingredients were added in each student’s bowl. After filling their crusts, they measured their pies’ weights, baked them, and once they cooled, they remeasured their pie’s weights (see figure 2). They found their pies were slightly lighter, which then caused many questions about evaporation and a subsequent series of lessons (more science standards covered).

Figure 1: Students' squash measurements

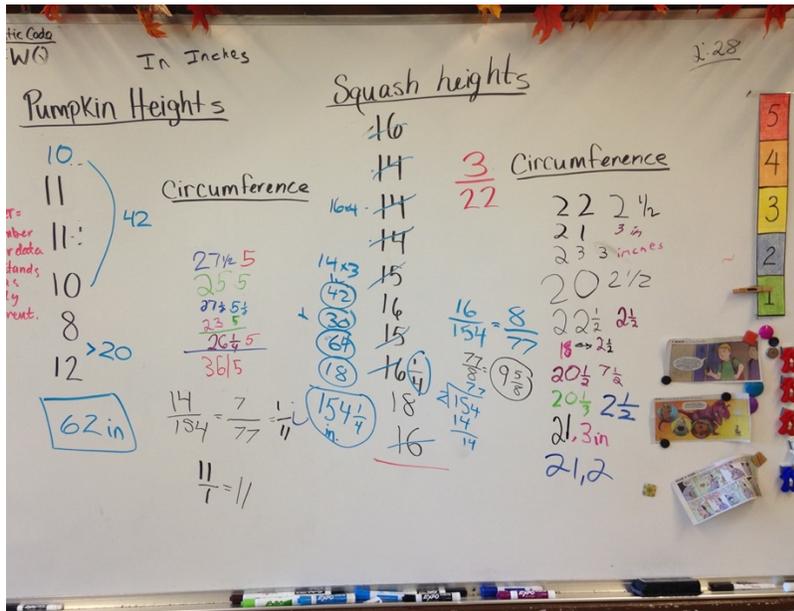


Figure 2: Students measuring their pie weighs before baking.



Students got to bring their pies home, along with the recipe, and were encouraged to try and make the recipes at home. I am proud to say that most students did, indeed, make the pie recipe at home from scratch and most of them made it to go on their Thanksgiving tables. The pride they held in their delicious contributions was unmatched. Making the recipe from each mini-unit was the norm for my students and parents were delighted.

“Farm-to-Table” ignited a fire inside me during my teaching. I felt my energy increase and my eagerness exude as we harvested produce and cooked delicious treats. I felt a sense of warmth inside as students were viewing their planet as a resource that needs love, attention, and protection. I felt hopeful for the future of Earth, as the planet’s future adults were learning to love the planet as a means for cultivating its bounty.

### **Special Considerations When Writing a Curriculum**

Yes, I am a college professor writing about a great success I had in my elementary classroom teaching career, but that is not to say that I did not overcome hurdles and faced occasional failures along the way. There are some important recommendations and forewarnings that I would like to supply any educator or educator-preparer considering implementing a similar teaching approach. The process is long and arduous, but I look back on my efforts with purse satisfaction and pride. It is worth it and possible.

#### **Prioritize Relationships**

In my “Farm-to-Table” curriculum, I was reliant upon the support of many different people. The farmers were willing to freely donate their produce and time to the curriculum’s implementation. They were also nice enough to give us supplementary ingredients when we were still waiting for our grant money to clear. The curriculum’s success was also heavily reliant upon the support of the school. While my school’s principal raised his eyebrows skeptically when he heard I wanted to teach students proper culinary knife-handling procedures, he overcame his initial fear of an impending lawsuit and helped me craft an all-inclusive permission-slip and waiver to send to parents. The cafeteria staff also allowed our class to use their oven, baking sheets, and more. My students and I made our appreciation known to those that supported us in different ways, ranging from gifting them thank-you cards to sharing our culinary masterpieces with them.

#### **Secure Funding**

PBL units require a myriad of materials, depending on the focus of the unit. In “Farm-to-Table,” we needed money to pay for ingredients, kitchen tools, and boots for students. We also occasionally took a bus to local farms like a maple sugar house. To pay for all of this, I wrote for many grants each year. From applying to the town’s cultural council for a grant, to simply asking local businesses for support, we found that we had more than enough money to make “Farm-to-Table” flourish. Since this program was a yearly endeavor, I feared that maybe we would not be able to get some grants a second time. Rather, I found that many organizations, like the town’s cultural council, were eager to have projects and learning experiences that met their missions and had a surplus of funds because it was a challenge to find anyone that fit their requirements. For future teachers concerned about money, it does take a fair amount of online research and asking administrators and people in the surrounding community for recommendations and networking, but the money is there.

#### **Practice Reflection**

When planning and implementing a passionate, PBL, and PBE curriculum, it is of paramount importance that teachers self-reflect on why they are putting in all this time and effort. What is the central goal of all this? For me, I wanted my students to better understand where their food comes from and to develop a deeper appreciation of our Earth, farmers, and cooks. My reflections showed me that, while I felt I was achieving this goal, I was also noticing other great benefits. For example, students were concurrently wasting less food and paying closer attention to nutrition labels for the betterment of their health and the environment. It is essential to reflect on how the curriculum can grow and improve. Teachers should secure critical feedback from colleagues and from students. Understand that to ensure students feel engaged,

the teacher's passion needs to remain high. If the topic the teacher is using for the curriculum is no longer a passion, then it is time to revise to start a fresh curriculum.

Writing a passionate, PBL, and PBE curriculum takes a vast amount of time and dedication. Mistakes and failure are an inherent part of the process. I recommend educators expect bumps in the road. I look back at my time teaching "Farm-to-Table" and there are two sentiments that are strongest in my memory. The first feeling I recall is pride in that I had an idea that I saw come into reality. The second feeling I recall is inexplicable happiness. From the smiles on students' faces to my own contentment with teaching one of my greatest passions, days with "Farm-to-Table" lessons were the best of the academic year. By writing and implementing a passionate, PBL, and PBE curriculum, students felt my compassion and love for them and my work. If these students grow up with love and compassion for others and their planet, then "Farm-to-Table" was a success.

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