Land-Based Learning Centers: A Multi-Generational Educational Approach to Promoting On-Farm Sustainable Agriculture

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Introduction

To augment sustainability efforts in Michigan and beyond, Michigan State University developed land-based learning centers (LBLC) cooperatively with local farmers implementing sustainable agricultural practices. The land-based learning centers provide on-farm, active learning opportunities for high school students in Michigan to learn about sustainable agriculture practices and careers. This project developed an educational model connecting farmers, students, and educators to cooperatively improve Michigan's farm and community awareness, and application, of sustainable agriculture.

The LBLC model builds from the concept of place-based learning. Place-based learning has its roots in environmental education, conservation, and community development (Smith, 2002; Sobel, 2004). Educational programs utilizing place-based learning approaches leverage learners' connections to their communities to achieve a wide range of conservation, community stewardship, ecological as well as cultural literacy objectives (Center for Place-based Learning and Community Engagement, 2008). There is precedence for using placed-based learning in an agricultural context. For example, the Center for Land-Based Learning (www.landbasedlearning.org), an NGO based in California, uses local farms as educational laboratories for urban, suburban, and rural high school students. This project builds on their results by utilizing private land to augment school facilities while creating teams comprised of producers, teachers and Extension educators. Additionally, service-learning is a fundamental strategy used by the LBLCs to link sustainable agriculture principles to educational program objectives.

Methodology

We were mindful and purposeful in creating a collaborative environment connecting students, farm cooperators, educators and other community members through the creation of LBLCs for the expressed purpose of increasing the knowledge, awareness, skills and aspirations of student-farmers and current producers about sustainable agriculture. A key component of the LBLC model is the associated Sustainable Agriculture Educational (SAE) team which creates a unique experiential learning environment for teaching students sustainable agriculture practices. By incorporating farm cooperators into the SAE team, teachers have access to practitioners knowledgeable about food and agriculture systems. The inclusion of Extension educators gives farmers an opportunity to learn and implement the most up-to-date sustainable agriculture practices into their operations, ultimately supporting a long-term outcome of improving the natural resource base through sustainable farming practices, eventually leading to improved farm profitability. Having teachers on the SAE team completes the triumvirate, providing pedagogical expertise to ensure projects are educationally sound. Furthermore, Michigan State University provides coordination to the seven LBLCs, ensuring cohesion and uniformity to the effort.

Results to Date

There are seven Intermediate School Districts (ISD) in Michigan's Upper Peninsula, each with a land-based learning project currently in progress. These projects have a high-school teacher, their students, a producer, and an Extension educator working together to make a local farm more sustainable. For example, a sheep producer is working with the local high school biology teacher and his environmental science class to improve the soils of hay fields in a regenerative way that is both good for the environment and economically viable. The local Extension educator serves as the facilitator between the teacher, students, and the producer. After identifying the farm, students met with the producer to understand the farm by taking soil samples, interpreting results, and learning about agriculture in their community. Now, students are working collaboratively with the farmer and Extension agent to test multiple interventions to increase soil health on the farm.

Implications

Even though the LBLCs developed in this project are located in the Upper Peninsula, the development and validation of this innovative experiential learning model emphasizing active and engaged learning has implications for the United States in general. Given the latitude of the Upper Peninsula, this is especially true for states in the northern climates similar to the Upper Peninsula that possess the same resources as this project – experiment stations to provide regional coordination and the teachers, farmers and Extension educators with which to form the SAE team and establish the LBLCs. This project is identifying best practices in developing and implementing LBLCs focused on sustainable agriculture practices.

Costs and Resources

The development and implementation of the LBLCs was funded by a $150,000 USDA Sustainable Agriculture Research and Education grant. One-third of the budget was dedicated to mini-grants for the seven LBLCs that were used for project implementation. Another one-third was dedicated to personnel costs for project investigators and the staff educator that coordinated the seven SAE teams. The final third was used for travel, supplies and fringe benefits. Crucial to the success has been the time and expertise provided by the cooperating farmers/ranchers, teachers and Extension educators. What needs to be identified is a funding source going forward to assist with subsidizing and expanding projects.

References

Center for Place-Based Education and Community Engagement (2017). What is place-based education? Available online at http://promiseofplace.org/what_is_pbe.

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