

Chapter 28

Growing PEAS at the Duke Campus Farm: An Analysis of Post–Secondary Sustainable Agriculture Education Curricula

Damon Cory-Watson
Duke University, USA

ABSTRACT

This chapter explains a study designed to create a guide to aid the Duke Campus Farm (DCF) in developing an educational program on sustainable agriculture. Currently, many such education programs exist, but they are very different in their content, tools and approaches. Qualitative analysis of 58 syllabi from 30 post-secondary educational institutions was used to understand frequent practices in the field of sustainable agriculture education (SAE). The analysis showed consistency for 14 content areas that appeared in 93% to 26% of all syllabi, 10 tools that appeared in 93% to 14% of all syllabi, and 10 approaches that appeared in 86% to 7% of all syllabi. A gap in SAE was also discovered in that most educators use only one of the four phases of Experiential Learning (EL) theory when implementing EL. This information was then used to create an education program for the DCF. Studies such as this seem useful in compiling and codifying new innovations in education about sustainable development.

INTRODUCTION

Sustainable agriculture (SA) practices have become more prominent and necessary as our population continues to grow, our natural resources diminish, and changes in climate and weather patterns create uncertainty in our food systems. In many ways, adoption of SA practices is a policy

issue, but it is also contingent on educating farmers, public servants and the general population about ways in which food can be grown without causing deleterious effects on natural ecosystems and human health. Proper education about SA will help create positive changes towards building more sustainable, local, regional and global food systems.

This chapter addresses a study that attempted to answer three questions about SA education

DOI: 10.4018/978-1-4666-5856-1.ch028

(SAE): 1) What information are educators currently teaching? 2) How are they teaching this information? and 3) How can this information be simplified and made useful for future programs?

Placing this larger problem in a local context, The Duke Campus Farm (DCF), a production and education farm on Duke University's campus, is eager to create an education program about sustainable farming that is based on common practices in current SA courses and programs. Despite numerous examples of innovative and creative SAE programs and curricula at the K-12 and post-secondary level, as of now, no agreed upon set of parameters define education focused on SA. The DCF's desired goal of identifying the key concepts of SAE then becomes an extremely cumbersome endeavor of sorting through examples of disparate programs and courses in an attempt to create their own. The answer to the three questions above and the solution to the DCF's problem came by analyzing a set of 58 post-secondary SAE syllabi and incorporating that information into the Programming for Education in Agricultural Sustainability (PEAS) tool. The PEAS tool presents the major trends in post-secondary SAE to help educators design SAE courses and programs and is described in this chapter as a useful development in SAE.

Academics differ in their opinions about the state of SAE. Stevenson (2006) argues that very little clarity exists amongst educators about what exactly constitutes SAE, while others (D. M. Parr, Trexler, Khanna, & Battisti, 2007) note a strong and continually developing canon of best educational practices and approaches. Though divergent, combining these viewpoints would posit that, though best educational practices may be available (Bawden, 1990; C. A. Francis & Carter, 2001; Lieblein, Ostergaard, & Francis, 2004), their implementations differ in pedagogy, curricular design, content, materials, and infrastructure. Another complicating factor in the development of SAE is that regional conditions affect teaching methodology. Program designs are driven by physical landscape characteristics, such

as climate, topography and soil. Socio-economic influences, such as budgets, institutional politics, and student interest play large roles, as well. Given the interdisciplinary nature of agroecology, the complex connections between natural and social sciences, and regional environmental differences, educators are still exploring and developing ways of teaching about SA.

This study was not designed to assess effectiveness. In fact, an underlying assumption of the study was that all of the analyzed syllabi were exemplary models of SAE. The goal was to systematically distill the main and prominent features being practiced in these 58 syllabi and present them in a user-friendly format.

The final product resulting from this study presented to the DCF was a guide that combined the PEAS tool and information from interviews and observations of local educators. This guide was created to help educators design SAE programs in the context of current major trends in SAE and implement them on farms, gardens, or other growing spaces. It can be used to create whole programs, a suite of lessons, or just one class. The guide answers the questions: "What should I teach?" and "How should I teach it?" It has 4 main features; 1) a systematically organized view of options for teaching, 2) numerical data to help with decision making, 3) advice from local educators, and 4) readings associated with content categories. The guide proposes a solution to the problem of the cumbersome task of creating a program in the context of current SAE practices.

A deep explanation of the entire guide would extend well beyond the space allotted for this chapter. Rather, this chapter will describe the major characteristics of educational approaches, tools, and content found, the PEAS tool that was created from this information, gaps in SAE that became apparent and the way in which the DCF used the PEAS tool to create its SAE program.

The type of analysis used for this study was effective at yielding a set of common and best practices in the discipline of SAE. Extending this

20 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:
www.igi-global.com/chapter/growing-peas-at-the-duke-campus-farm/103527

Related Content

A Review of Technologies Trending Towards 5G Networks for Smart Healthcare Using IoT

Harsh Kaushik, Neelam Sharma and Nitish Pathak (2022). *Futuristic Trends for Sustainable Development and Sustainable Ecosystems* (pp. 48-59).

www.irma-international.org/chapter/a-review-of-technologies-trending-towards-5g-networks-for-smart-healthcare-using-iot/307668

Measuring Scientific Research Performance of Human Resources in Romanian Universities

Silviu-Mihail Ti, Carmen Tiand Carmen Claudia Arustei (2013). *International Journal of Sustainable Economies Management* (pp. 46-57).

www.irma-international.org/article/measuring-scientific-research-performance-of-human-resources-in-romanian-universities/94588

Prospect and Potential of Green Jobs towards Green Economy in Bangladesh: A Situation Analysis and Way Forward

Khalid Md. Bahauddin and Nayma Iftakhar (2014). *International Journal of Social Ecology and Sustainable Development* (pp. 25-38).

www.irma-international.org/article/prospect-and-potential-of-green-jobs-towards-green-economy-in-bangladesh/120102

The Competitiveness Constraints of Romanian Wine Sector and the EU-28 Agricultural Model

Ladaru Georgiana-Raluca and Boboc Dan (2019). *Agri-food Economics and Sustainable Development in Contemporary Society* (pp. 28-46).

www.irma-international.org/chapter/the-competitiveness-constraints-of-romanian-wine-sector-and-the-eu-28-agricultural-model/210014

Rethinking Advertising as a Mitigative Model for Environmental Sustainability

David J. Park (2021). *International Journal of Social Ecology and Sustainable Development* (pp. 58-72).

www.irma-international.org/article/rethinking-advertising-as-a-mitigative-model-for-environmental-sustainability/287525