University of Cincinnati

Date: 3/7/2015

I, Robert Wight, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Educational Studies.

It is entitled:

Community Supported Agriculture as Public Education: Networked Communities of Practice Building Alternative Agrifood Systems

Student's name: Robert Wight

This work and its defense approved by:

Committee chair: Mary Brydon-Miller, Ph.D.

Committee member: Lisa Markowitz, PhD

Committee member: Todd Haydon, Ph.D.

Committee member: Christopher Swoboda, Ph.D.

13922

Community Supported Agriculture as Public Education:
Networked Communities of Practice Building Alternative Agrifood Systems

A Dissertation

Submitted to the Graduate School of the University of Cincinnati

In partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY (Ph.D.)

Department of Educational Studies

College of Education, Criminal Justice, and Human Services

2015

Robert Alan Wight

Masters of Arts in Sociology, University of Cincinnati, 2008

Bachelor of Science in Communications, Ohio University, 2003

Committee Chair: Professor Mary Brydon-Miller, Ph.D.

Abstract

This project investigates the learning and educational opportunities happening within Community Supported Agriculture (CSA) programs in Ohio, Kentucky, and Indiana. I approach this study from an Action Research and Critical Ethnography orientation. Employing a system of theoretical frames and using mixed methods, I conducted a series of case studies, collecting qualitative and quantitative data through over 100 hours of participant observation, organizational document analysis, and 31 semi-structured interviews with shareholders and growers at ten CSAs in the Cincinnati area. Furthermore, to gain a regional perspective, I conducted a telephone survey with 140 CSA growers in Ohio, Kentucky, and Indiana. Findings indicate that the number of CSAs and shares offered are growing in all three states. Along the lines of education, many CSAs provide recipes, newsletters, farm tours, and classes. Other CSA programs offer opportunities for learning and education by training new farmers, conducting research, building community partnerships, and organizing outreach, volunteer, service learning, and social events. Findings indicate a dynamic and constant evolution of the CSA model as organizations adapt from season to season. The case study data reveals a rich network of people, organizations, and resources that are working together to build alternative agrifood systems.

Copyright 2015

Robert Alan Wight

Acknowledgements

The last four years of my life have been dedicated to learning the art of ecologically sustainable agricultural. I am indebted to the staff and volunteers at Gorman Heritage Farm, specifically John Hemmerle, Barb Liphardt, Jamie Stoneham, Mike Roman, Sandra Murphy, Christine Schuermann, and Kathy Aerni. Thank you for your kindness, patience and willingness to teach, work with, and guide me as I traversed the paths of graduate student, environmental educator, and gardener. My time at Gorman has provided me with valuable knowledge and practice. A special shout out to John and Barb, my gardening mentors, friends, and slam poets—laying down the rhyme beats as we toil in the soil.

I am also extremely grateful to all of the CSA gardeners and shareholders, and members of the Cincinnati agricultural community who made this project possible through their participation. Thank you to the farmers—to MaryLu, Steve, and Karen of EarthShares, Megan and Melinda of Turner, Linda of Gravel Knoll, Gretchen of Greensleeves, Kate of Carriage House, Charles of Our Harvest, Ryan, Kevin and Lauren of Urban Greens, and Luke and Angela of Permaganic—keep doing what you are doing, as the world needs more people like you. Thank you to the shareholders—to Kate, Mike and Denise, Jessica, Greg, Kathy, Dan, Maria, Shannon, Robin, Aron and Josh, Bill and Deborah, Julie, and Kristin—for your valuable insights and participation in the movement. I would also like to thank Cathy Multbie, Mike Roman, Sandra Murphy, and Deborah Jordan for all of your advice, copy editing, and feedback. Special thanks to William Brown for the numerous copy edits!

Thank you to my committee. To Todd Haydon for his interest and moral support throughout this project, and personal quest to eat clean, healthy, better-than-organic food.

To Chris Swoboda for his help with survey and curiosity with the CSA concept and movement. To Lisa Markowitz, for her work in agrifood systems, literature suggestions, and for taking on a student outside of your university. To Mary Brydon-Miller, my chair, longtime supporter, mentor, and friend. Thank you for working with me and guiding me over these past five years, for introducing me to the work of Paulo Freire, Action Research, and the AR community. I appreciate the many opportunities you have provided, from the graduate student assistantship with the Center for Clinical and Translational Science and Training, to working space in Action Research Center, the blog turned AR+, the listserv, help with publications, the numerous chances to meet your amazing international colleagues, and the wonderful trip to Denmark and England. Your demeanor and approach to working with others is inspirational. I am blessed to have you as an adviser and look forward helping you change the university into a more humane, socially just, and community-centered entity.

Most importantly I am forever grateful to my family, especially my parents Rob and Peg Wight, who have encouraged and supported me from day one. I am able to pursue graduate school and this dissertation because of all that you have given me. Thank you to my sisters Katherine and Suzanne for being interested in health, gardening, and CSAs. Thank you to my brother, Philip, I admire your protest activities, writing skills, and eco-interests. Thank you to Peg and Beth Conrad for watching my daughter, Juniper, so I could write. Thank you to Grace, my partner and friend. Thank you for your patience and support. I am excited to work with you and improve the Hughes High School Garden and build greater capacity to impact the lives of others. I am fortunate to have you as a partner who is selfless and caring. You inspire me to be better.

Table of contents

List of Tables, Figure, and Photographs	vii
Acronyms	viii
Introduction	1
Chapter 1: Literature Review	9
Chapter 2: A System of Theoretical Frames	35
Chapter 3: Methodology and Methods	69
Chapter 4: Findings for Regional Numbers and CSA Characteristics	98
Chapter 5: Findings for Educational Opportunities within Case Study CSAs	117
Chapter 6: Interview Themes and Findings	169
Chapter 7: Discussion	214
Chapter 8: Conclusions	249
References	266
Appendix A	291
Appendix B	294
Appendix C	296
Appendix D	298
Appendix E	299

List of Tables, Figures, and Photographs

Figure 1: The CSA Journey

Figure 2: A Systems Approach to Theorizing about Education in a CSA Context

Figure 3: Action Research Cycles

Figure 4: Map of Case Study CSA Locations in the Cincinnati OH Tri-State Region

Figure 5: CSA Age Distribution by State and Total

Figure 6: Regional Grower Motivations

Figure 7: Agricultural Practice by Organizational Type

Figure 8: Motivation by Organizational Type

Figure 9: Educational Opportunities by Organizational Type

Figure 10: Educational Opportunities by Motivation

Figure 11: Idea Flow within the Cincinnati Alternative Agriculture Community of Practice

Figure 12: People Flow within the Cincinnati Alternative Agriculture Community of Practice

Figure 13: Money & Land Flow within the Cincinnati Alternative Agriculture Community of Practice

Figure 14: Total Flows within the Cincinnati Alternative Agriculture Community of Practice

Table 1: Theoretical Frames by Level and Domain

Table 2: Variables by Category

Table 3: CSA Programs for Case Studies

Table 4: Regional Survey Responses

Table 5: CSA Programs by Dataset and State

Table 6: CSA Programs by Dataset and State

Table 7: Regional CSA Organization Educational Opportunities by State

Table 8: Number of Classes by Organizational Type at the Regional Level

Table 9: Regional Partnerships by Organizational Type

Table 10: CSA Program Characteristics for the Case Study Organizations

Table 11: Change in CSA Shares Over Time for Case Study Data

Table 12: Working Shares by Case Study Organization Over Time

Table 13: Educational Opportunities by Case Study Organization

Table 14: Ranked Shareholder Interview Themes

Table 15: Ranked Grower Interview Themes

Table 16: Variations on the Task of Weeding

Photo 1: Greensleeves' Garlic Festival

Photo 2: Tour at the Bahr Farm during the Our Harvest Coop CSA Kick Off

Photo 3: Turner Farm Apprentices learning how to assemble a mobile electric fence

Photo 4: Turner Interns visiting EarthShares CSA at Grailville

Photo 5: Cincinnati State Students working at The Bahr Farm with OHC Farming Staff

Photo 6: Doug Seibert's Soil Mix vs. Ohio Earth Food's Plant ProPotting mix™

Photo 7: Research Team and Gorman Staff at the Inaugural Biochar Burn

Acronyms¹

AAO	Alternative Agriculture Organization
AE	Agronomist Educator
AEE	AgroEcological Educator
AR	Action Research
CE	Critical Ethnography
CCTST	Center for Clinical and Translational Science and Training
CFFM	Corporation for Findlay Market
CGC	Civic Garden Center
CHEF	Cultivating a Healthy Environment for Farmers
CHF	Carriage House Farm
CNG	Certified Naturally Grown
CoP	Community of Practice
CORV	Central Ohio River Valley
CP	Critical Pedagogy
CS	Cincinnati State
CSA	Community Supported Agriculture
CUCI	Cincinnati Union Cooperative Initiative
DoE	Department of Energy (United States)
EE	Environmental Education
ERUEV	Enright Ridge Urban Ecovillage
ES	EarthShares (Grailville)
FGBE	Farm and Garden-Based Education
GHF	Gorman Heritage Farm
GHG	Green House Gases
GK	Gravel Knoll
GUFAT	Green Umbrella Food Action Team
GS	Greensleeves
GV	Grailville
IPM	Integrated Pest Management
LH	Local Harvest
LPP	Legitimate Peripheral Participation
OEFFA	Ohio Ecological Food and Farming Association
OHC	Our Harvest Cooperative
OSU	Ohio State University
OTR	Over the Rhine
PAR	Participatory Action Research
SL	Situated Learning
SWOEFFA	Southwest Ohio Ecological Food and Farming Association
SARE	Sustainable Agriculture Research and Education (USDA program)
UG	Urban Greens
USDA	United States Department of Agriculture
WWOOF	Worldwide Opportunities on Organic Farms

¹ For terms appearing more than twice in the report.

Introduction

This dissertation exists at the intersection of Action Research (AR), the Food Movement, and Environmental/Farm and Garden-Based Education. These three domains provide the guiding research philosophy (Action Research), the broad subject area (social change around food and food systems), and the specific fields regarding the applications (Environmental/Farm and Garden Based Education) of this work. The study investigates Community Supported Agriculture (CSA) as a context for learning and education. The research questions focus on grower and shareholder motivations, organizational characteristics and resources, the types and topics of education, and the how, when, and where learning is occurring in these farm settings.

Statement of the Problems

This work addresses the major health and environmental problems associated with our conventional agrifood systems by investigating if and how CSA programs are educating the public on these issues. The human health implications of the current food system have been well documented (Fabros, 2005; Gallagher, 2007; Kriwy & Mecking, 2012; Morris & Zidenberg-Cherr, 2002; Pollan, 2006; Rose & Rickelle, 2004; USDA, 2009; Winson, 2010). The consequences of our agricultural subsidies and policies are reflected in our dietary choices and are contributing to higher health care costs in the US. We face obesity and health related epidemics of Type II diabetes, hypertension, and heart disease that amount to 10% of our total health care expenditures (Campbell & Campbell, 2006; Finkelstein, Trogon, Cohen, & Dietz, 2009). We live a country where a full two thirds of our population is overweight or obese (Morris, 2011). In addition, there is robust research that highlights

the link between animal protein based diets and other ailments such as a wide range of cancers, coronary heart and autoimmune diseases (Campbell & Campbell, 2006). While some may blame individual choice, and point to other confounding factors, such as class, race, education, geography, and culture (Winson, 2010), the fact that our industrial food system is negatively impacting our health is evident.

The industrial agriculture system and the resulting food choices are also having a detrimental impact on our economy (Schlosser, 2001) and the larger ecology of the planet (Carlsson-Kanyama, 2007; Tilman, Cassman, Matson, Naylor, & Polaksky 2002), which are independently important and also related to human health. Specifically, industrial agriculture's use of synthetic fertilizers and pesticides is causing chemicals to accumulate in the food chain, and leach nutrients that pollute our bodies and ecosystems, and reduce nature's ability to clean air, water, and soil (Grijp, 2008; Tilman et al., 2002). This causes eutrophication in our waterways and results in dead zones, such as the Gulf of Mexico (Horrigan, Lawrence, & Walker, 2002). Water-soluble synthetic fertilizers (such as ammonium nitrate - NH_4NO_3) use an excess of limited freshwater, pollute ground water supplies (Pimentel, Hepperly, Hanson, Douds, & Seidel, 2005), and are made via the Haber-Bosch process, requiring substantial amounts of energy (i.e. fossil fuels) that contribute to greenhouse gas (GHG) emissions.

Finally, industrial agriculture's use of pesticides harms fish, bees, birds, and other animals all the way up the food chain to humans (Grijp, 2008; Levitan, Merwin, & Kovach, 1995; Phipps & Park, 2002). These pesticides increase resistance among weeds, insects, and fungus, creating "super bugs" and "super weeds;" organisms that then become impervious to our chemical management techniques (Horrigan et al., 2002). Industrial

agriculture's reliance on large-scale monocultures reduces biodiversity and genetic variability, and is a leading cause of desertification, deforestation, overgrazing, and erosion (Pinstrup-Anderson & Hazell, 1985; Robertson & Swinton, 2005). Large-scale irrigation promotes salinization of soils (Horrigan et al. (2002), and the centralized design of our food system promotes urban sprawl and hampers land conservation efforts (Vallianatos, et al., 2010). Plus, this system relies on a massive amount of subsidized external energetic inputs (fossil fuels) that are responsible for an estimated 60% of anthropogenic GHG emission, which contribute to climate change (Smith, Martino, Gwary, Janzen, Kumar, McCarl, Ogle, O'Mara, Rice, & Scholes, 2007). CSAs represent a paradigm shift in agriculture, economics, and our human-earth relationship. CSAs are one way for us to confront some of the most pressing health and environmental problems of the 21st Century.

Contributions

This research makes several contributions to the state of the art of CSAs, both from an academic and activist point of view. First, this study advances a new theoretical framework, a systems approach to understanding learning and education with CSAs. Using this system of theoretical frames, this project presents data from four different levels of analysis: regional, community, organizational, and individual. Second, a study of this breadth and depth has not been undertaken before, and provides the most comprehensive information about learning and education within the CSA movement in the Midwestern United States. Third, for both the academy and the food movement, the data collected here assists in tracking the growth of CSA programs and shares at the regional level. Fourth, this work serves to inform CSA patrons of the best practices regarding the education and training of shareholders and CSA staff.

Throughout the findings chapters we see how partnerships and the developing of relationships within the broader community impact the learning and educational opportunities available to the members and public. We gain an appreciation for the diversity of CSA programs, their unique histories, and connections that exist between them. We also learn about a wide variety of educational programs that exist within these CSA organizations, from farm tours, volunteer and service learning, to in-house farm research projects and farmer-training apprenticeships. Organizations that have established their own non-profits or built relationships with non-profits are able to offer more formalized educational opportunities. Evidence for and against the idea that CSAs are educating the public about agrifood issues is presented from several points of view.

Overview

This report is organized as follows. First, the reader is invited to learn about different agricultural philosophies that are discussed throughout the manuscript. Then chapter one introduces the food movement, CSAs, and reviews the significant literature regarding the intersection of CSAs, learning, and education. Here, the relevancy of this study is discussed and key terms regarding education and learning are defined. Chapter two is a synthesis of several different but related theoretical frames that pertain to CSAs and education. Chapter three discusses the methodologies and methods used in the study including Action Research, Critical Ethnography, participant observation, interviews, and a material culture/document analysis. Chapter four presents the findings from the survey, providing a regional understanding of CSA organizations. Chapter 5 introduces the CSA organizations in the case study and presents an analysis of their characteristics and educational opportunities. Chapter 6 explores that interview data and presents the findings

for the grower and shareholder motivations and what is being learned within the CSA context. Chapter 7 examines the major themes within the data, presents the research questions in turn, and discusses the implications of the findings. Chapter eight concludes with suggestions for best CSA practices, additional research, and a reflection about the future of the CSA and food movement.

Agricultural Practices and Philosophies

The following terms and definitions are used throughout this manuscript to describe the organization, programs, and growing practices used by the CSAs in the study. These terms refer to both specific practices and broad agricultural philosophies.

Alternative Agriculture. This term denotes a wide variety of agriculture approaches, including biodynamics, certified naturally grown, low-input, civic agriculture, aspects of integrated pest management, the historic definition of organic agriculture, and permaculture. Alternative agriculture is the foundation for alternative agrifood systems, which include the production, distribution, and consumption of food. It is contrasted with conventional, industrial, and what Lyson (2000) calls commodity agriculture.

Biodynamics is a spiritual-ethical-ecological approach to agriculture, food production and nutrition. Biodynamics was developed in the 1920s based on the insights and practices of the Austrian writer, educator, and social activist Dr. Rudolf Steiner (1861-1925), whose philosophy is called “anthroposophy.” Today, the biodynamic movement encompasses thousands of successful gardens, farms, vineyards and agricultural operations of all kinds and sizes, in a wide variety of ecological and economic settings. Biodynamic farmers strive to create a diversified, balanced farm ecosystem that generates health and fertility from within the farm itself. Preparations made from fermented manure, minerals

and herbs are used to help restore and harmonize the vital life forces of the farm and to enhance the nutrition, quality and flavor of the food being raised. Biodynamic practitioners also recognize and strive to work in cooperation with the subtle influences of the wider cosmos on soil, plant and animal health (Biodynamic Association, 2014; Carpenter-Boggs, Reganold, & Kennedy 2000).

Certified Naturally Grown (CNG). Farmers following CNG don't use synthetic herbicides, pesticides, fertilizers, antibiotics, hormones, or genetically modified organisms (GMOs). CNG livestock are raised mostly on pasture with space for freedom of movement. Feed must be grown without synthetic inputs or genetically modified seeds. CNG is based on the participatory guarantee system model where inspections are typically carried out by other farmers and in our case CSA shareholders. This model promotes farmer-to-farmer knowledge sharing about best practices and fosters local networks. CNG makes an effort to minimize the time and financial costs associated with agriculture (Certified Naturally Grown, 2014).

Civic Agriculture. This refers to aspects of alternative, biodynamic, low-input, CNG, and permacultural practices. This agricultural paradigm is composed of community-supported agriculture programs, community and school gardens, food cooperatives, food hubs, communally shared food-production practices, and farmers markets. It is locally oriented in its production, distribution, and consumption. These methods are based on best ecological, social, economic and bioregion practices. This system is interested in cultivating a healthier human-human and human-Earth relationship (Lyson, 2000; Lyson & Guptil, 2004). There can be overlap between these two ideal types (civic and conventional), as the USDA supports a variety of different agricultural philosophies.

Commodity Agriculture. Also referred to as conventional and industrial in this report. This model is composed of the following institutions: land grant universities, the United States Department of Agriculture (USDA), the Food and Drug Administration (FDA), the United Nation's Food and Agriculture Organization (FAO), and primarily corporate agribusinesses. This model relies on the technology of the green revolution, uses synthetic fertilizers and chemicals, GMOs, and monocultures for production. This system is interested in producing the most food and fiber at the lowest monetary costs possible (Berry, 2003; Lyson, 2000; Lyson & Gupitill; 2004).

Integrated Pest Management. IPM is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment. The IPM approach can be applied to both agricultural and non-agricultural settings, such as the home, garden, and workplace. IPM takes advantage of all appropriate pest management options including, but not limited to, the judicious use of pesticides. In contrast, USDA *organic* food production applies many of the same concepts as IPM but limits the use of pesticides to those that are produced from natural sources, as opposed to synthetic chemicals (US EPA, 2014)

Organic Agriculture (Historic Definition). Refers to agricultural practices that do not use synthetic chemicals. Broadly, organic means an ecological production management system that promotes and enhances biodiversity, biological cycles and soil biological activity. It is based on minimal use of off-farm inputs and on management practices that

restore, maintain and enhance ecological harmony. Due to the controversial nature of the word *organic*, in this report, I use the phrase *alternative agriculture* instead.

Organic Agriculture (USDA Definition). Since USDA began to manage and certify *organic* as a label in 2002, organic agriculture has taken other connotations and denotations. According to the USDA, organic agriculture produces products using methods that preserve the environment and avoid most synthetic materials, such as pesticides and antibiotics. USDA organic standards describe how farmers grow crops and raise livestock and which materials they may use. Organic farmers, ranchers, and food processors follow a defined set of standards to produce organic food and fiber. Congress described general organic principles in the Organic Foods Production Act, and the USDA defines specific organic standards. These standards cover the product from farm to table, including soil and water quality, pest control, livestock practices, and rules for food additives (USDA, 2014).

Permaculture. This approach was developed and coined by Bill Mollison and David Holmgren in 1974. Permaculture is a total way of approaching the human-earth relationship that focuses on building ecological human habitats and community food-production systems for the harmonious integration of human dwellings, settlements, energy production, microclimate, annual and perennial plants, animals, soils, and water into stable productive communities that replicate or exist as part of 'natural' ecosystems in culturally and bioregionally appropriate ways. Permaculture is a design science and is interested in creating ethical systems that care for the earth, people, and communities.

Chapter 1: Literature Review

The past 30 years have seen dramatic changes in the United States' agricultural system and the public's interest in how their food is produced and consumed (Allen, 2004; Evenson & Gollin, 2003; Gottlieb & Fisher, 1996; Hassanein, 2003; Nestle, 2009; Robertson & Swinton, 2005; Shiva, 2005). As a result citizens have revitalized their concerns about the many consequences of our conventional agricultural system. Scholars and activists are interested in the health implications (Morris, 2011; Rose & Rickelle, 2004; Winson, 2010), the environmental implications (Dale 2008; Evenson & Gollin, 2003; Robertson & Swinton, 2005; Vallianatos, Gottlieb, & Haase, 2010), the social and economic implications (Goldschmidt, 1978; Lass, Lavoie, & Fetter, 2005; Magdoff & Tokar 2010), issues with school lunches (Brillinger, Ohmart, & Feenstra, (2003), anti-hunger, food security, and food justice (Allen, 2004; Gottlieb & Fisher, 1996), food deserts (Donohue, 1997; Gallagher, 2007;), food democracy (Hassanein, 2003; Shiva, 2005) and food system localization (Hinrichs, 2003), to name major efforts. These varied, yet related concerns mean that there is not a single food movement, but a constellation of actors operating at all levels of society (local, regional, national, and international) with a multitude of goals, missions, tactics, and organizing strategies (Markowitz, 2011).

Nestle (2009) traces the roots of the food movement to three separate genres: cookery, scholarship, and journalism, identifying a series of publications and people who galvanized the public around some aspect of food. First was Julia Child's cookbook *Mastering the Art of French Cooking* (Child, Bertholle, & Beck, 1961), and then in early 1970s Alice Waters popularized the philosophy of fresh ingredients at her restaurant Chez Panisse in Berkeley California. These two inspirational women helped to reemphasize the

importance of cooking with fresh healthy ingredients. From a more critical standpoint the scholarship and journalism of Mintz's (1995) *Sweetness and Power: The Place of Sugar in Modern History* and Schollosser's (2001) *Fast Food Nation* directed the public's attention to the darker sides of our dietary choices. In addition grassroots efforts and a slew of mass media books and documentaries² have further popularized food production and consumption concerns. These efforts have motivated citizens and communities to create alternative agrifood systems, such as CSAs, farm to school programs, community and school gardens, farmers' markets, food hubs, cooperatives, other forms of institutional purchasing, and of course home gardens (Allen, 2004). Many of these alternative agrifood programs provide unique opportunities and openings to further transform our food systems and educate the public about the wide range of related topics discussed above.

Community Supported Agriculture: Definition, History and Foundations

Definition. CSAs are a financial and food relationship between farmers/gardeners and consumers (Cone & Kakaliouras, 1995; Henderson & Van En, 1997). There are many variations to this model, but the basic idea is that the consumer pays the farmer at the beginning of a growing season (or in regular intervals throughout the season) in exchange for a weekly or biweekly basket of food. In this direct marketing model the consumer often pays less and the farmer makes more money because their relationship cuts out the food processors and distributors. This is a shared-risk cooperative venture because the farmer's successes or failure in growing food are passed onto the members (Cooley & Lass, 1998;

² *Fast Food Nation* (Schollosser, 2001), *Super Size Me* (Spurlock, 2004), *Omnivores Dilemma* (Pollan, 2006), *What to Eat* (Nestle, 2007), *Everything I want to do is illegal* (Salatin, 2007), *The Future of Food* (Garcia, 2007), *In Defense of Food* (Pollan, 2010), *King Corn* (Cheney, I., Woolk, A., Miller, J., and Ellis C., 2008), *Food, INC* (Participant Media, 2009), *Food Matters* (Colquhoun and Bosch, 2009), *Food Rules* (Pollan, 2010), *Earthling* (Monson, 2010), and *Forks over Knives* (Wendel, 2011).

Henderson & Van En, 1999). Some CSAs offer work-trade options, where participants provide labor in exchange for a reduced price. Other CSAs are affiliated with educational non-profit organizations, which provide classes, summer camps, volunteer opportunities, and farmer training programs. These organizational programs and grower–shareholder relationships present the public with opportunities to learn about food and agriculture. Thus, the CSA model is a potential vehicle for Farm and Garden-Based Education (FGBE) (Donahue, 1994; Groh & McFadden, 1990).

History. The CSA idea has its roots in Japan and Europe. It was pioneered as a response to concerns about food safety, the urbanization of agricultural lands (Kaktine, 1997), and as a reaction to the introduction of synthetic chemicals into agriculture in the 1960s. Called the ‘teikei’ and/or ‘seikatsus’ (food with a farmers face) in Japanese, this cooperative model was also devised to help financially troubled farmers (Kaktine, 1997). Growers could share equipment, land, seeds, knowledge, and pool their resources to be more productive and financially viable. While the Japanese and Europeans shared many of the same motivations behind creating these alternative agrifood systems, Okumura (2004) points out that the Japanese version became more formalized, involved more people, and expanded into other types of food related organizations than the European model at first.

CSAs officially came to the United States in the mid 1980s by way of the European model. One of the pioneers in the US was Robyn Van En, who learned of the idea and practices through Jan Vandertuin who had just returned from Switzerland (Kaktine, 1997). It should be noted that there were already groups within the US counterculture that embraced the idea of growing and purchasing non-conventionally produced foods in the 60s and 70s (Miller, 1999). In 1986, under the leadership of Van En, The Indian Line Farm

in Massachusetts became the first CSA in North America. By 2000, it was estimated there were 1,000 CSA's in the country (Sharp, Imerman, & Peters, 2002), and by 2007 the USDA Agriculture Census reported as many as 12,549 (NASS, 2009). Other reports estimated close to 20,000 (Henderson & Van En, 2007; O' Leary, 2010), yet the work of critical geographers suggests the number to be far lower, about 3,600 by 2009 (Galt, 2011).

Foundations. CSAs represent the practical expression of several independent, yet closely related ideas and philosophies surrounding the agriculture-society nexus. First is the idea that modern agriculture has become “an island empire,” divided up into different disciplines³ where only a few corporations⁴ control most of the world's food production (Mayer & Mayer, 1974). This approach to agriculture as a business has impacted how we conduct research and organize agricultural education. Along with increased industrial specialization and division of labor, our society and educational system have left the vast majority of Americans “totally ignorant of an area of knowledge basic to their daily style of life, to their family economics, and indeed to their survival” (Mayer & Mayer, 1974, p. 84). Mayer and Mayer (1974) credit agriculture as the “mother of sciences,” the foundation of civilization and believe that many of our contemporary problems (food and energy shortages, trade imbalances, ecological degradation, etc.) stem from the fact we have become disconnected from growing our food). While this article pre-dates the CSA movement in the US by ten years, these criticisms lay the foundation for a new integrated

³ Such as soil, water, plant, seed and genetic divisions with the sciences; chemical (fertilizer and pesticide inputs) companies and research; agricultural economics, etc.

⁴ According to ETC Group (2007) 1. Bayer, the world's biggest agrochemical company and the world's seventh biggest seed company; 2. Syngenta, the world's second largest agrochemical company and the world's third largest seed company; 3. Monsanto, the world's biggest seed company and the fifth largest agrochemical company; 4. DuPont: the world's second biggest seed company and sixth largest agrochemical company.

and holistic approach to agricultural as described by Groh and McFadden (1990) in *Farms of Tomorrow*. The CSA is the practical answer to addressing the social and ecological problems associated with our current disconnection from food production.

The second major underpinning of CSAs is that of biodynamic agriculture and the ideas of Rudolph Steiner. In her efforts to popularize CSAs in the US, Van En (1988) states, “Our ideals for agriculture come to expression in the biodynamic method of farming which seeks to create self-sustaining and improving ecological systems where virtually nothing needs to be improved and everything has its place in the cycle of the seasons” (n.p). Along with a biodynamic approach, Steiner’s (1977) ideas for what the producer-consumer relationship should be have influenced the CSA movement, and were expressed in Lamb’s (1994) article about a new associative economy. According to Lamb (1994) CSAs represent a new economic and social basis for agriculture regarding profits, planning, waste, risk, local food production, self-interests, and the human-earth relationship. Thus, the founders of this movement view CSAs as more than a food and financial relationship—they believe it is the basis for a new kind of society.

The third foundation that situates and frames CSA is that of Civic Agriculture, as defined and pioneered by Lyson (2000; 2004; 2007) and Lyson and Guptill (2004). Civic agriculture describes a new paradigm, by contrasting itself against our current commodity oriented (conventional) food system. Civic Agriculture is locally oriented in production, distribution, and consumption, and focuses on linking people directly with the farms and gardens that grow their food (as opposed to growing food for export). The goal is to create strong economic and social relationships based on best agroecological practices for the bioregion. Civic Agriculture is opposed to the use of external inputs such as synthetic

fertilizers, chemicals, fossil fuels, and biotechnologies and instead favors permaculture, biodynamic, and alternative agrifood production and consumption methods. Similar to Lamb's (1994) description of Steiner's (1977) associative economy, Lyson (2004) connects these cooperative ideas back to Tocqueville's notion of "civic communities," where norms are embedded in voluntary associations, churches, small businesses, and dense networks of secondary associations (cited in Lyson, 2004, p. 23). CSAs are one of the main expressions of Lyson's framework and references to civic agriculture as a concept appear in numerous articles and dissertations on the subject (Feenstra, 2002; Mouillesseaux-Kunzman, 2005; O'Leary, 2010; Ravenscroft, Moore, Welch, & Hanney, 2013).

Previous Research on CSAs

Over the last 30 years scholars have assessed various aspects of CSAs. These studies describe the program characteristics, demographics and motivations of operators/growers and their shareholders, different types of models (subscription, shareholder, working-shareholder), who is the driving force behind these programs (growers or shareholders), the regional differences, the financial viability, marketing strategies, the challenges and opportunities, retention rates, and educational opportunities. The majority of the research on CSAs is in the form of descriptive case studies, where four or five organizations are investigated at once (Cone & Myhre, 2000; Donahue, 1994; Sharp, et al., 2002; USDA ASFIC, 2013). There have also been regional and national surveys, which provide descriptive characteristics of the movement as a whole (Lass, Bevis, Stevenson, Hendrickson, & Ruhf, 2003; Tegtmeier & Duffy, 2005). Most studies tend to be regionally specific, and focus on the northeast (Brown & Miller, 2008; Cooley and Lass, 1998), California (Allen, FitzSimmons, Goodman, and Warner, 2003), and parts of the Midwest (Donahue, 1994;

Sharp et al., 2002; Wells, Gradwell and Yoder, 1999).

The research into CSAs can be divided into several broad categories. First, CSAs have been investigated from a social movement and alternative agriculture or resistance point of view as compared to the conventional agrifood systems. Researchers have studied the potential strength of CSAs to transform the way we produce and consume food, and how these programs challenge the current system (Cone & Kakaliouras, 1995; Laird, 1995; Lamb, 1994). Some researchers speak of CSAs as a “crack in the citadel” (referring to industrial agribusiness) (Zanecchia, 1991), as a primary form of resistance (Ostrom, 1997), as the rebirth of the small farm (Gregson & Greson 1996), as local food systems and sustainable communities (Feenstra, 1997) or simply as an alternative to the grocery store (Grey, 2000). Okumura (2004) compared CSAs to their predecessors in Japan, and Mouillesseaux-Kunzman, (2005) situated CSAs as the ideal form of Civic Agriculture (Lyson, 2004). There are also critics who frame CSAs as high-end foodie consumerism, where wealthy and environmentally concerned citizens congratulate themselves on ethical purchasing decisions, and this research draws attention to social justice and inequality issues within the food movement (Thompson & Coskuner-Balli, 2007).

A second area of CSA research investigates the financial aspects of CSA operations. Scholars have studied the challenges of direct consumer marketing, the difference between CSA and grocery store prices, and the overall economic viability of this model (Brown & Miller, 2008; Lass, Lavoie, & Fetter, 2005). There are conflicting findings regarding the financial stability and long-term success of CSAs (DeLind, 1999b; Lamb, 1994; Lass et al., 2003; Ostrom, 2007; Polimeni, Polimeni, Shirey, Trees, & Trees, 2006). Some farmers only operate a CSA and are able to make profit, others go out of business within the first few

years, while some lose money with the CSA model, but remain profitable in their other revenue streams. Some of the more successful CSAs are connected to non-profits and private foundations that support their operations (Henderson & Van En, 1999). In thinking about CSAs and profitability, one must keep in mind that as much as 90% of a farmers' income is generated through non-farming wage-labor work (Lobao & Meyer, 2001).

A third area of CSA research investigates the demographics of members and growers, and the reasons and motivations why consumers participate and why growers have chosen to offer CSA programs. The literature indicates that women are the ones most involved in CSAs and the food movement as whole regarding the leadership of programs and participation (Cone & Myhre, 2000; Ostrom, 1997). It is women who primarily join, volunteer their time on the farm, pick up the food, and prepare it for their families. This does not mean that men are not involved or supportive, but their participation is much lower. For example, Pole and Grey (2013) conducted an online survey with 565 respondents in New York state to examine motivations and they found that 84% were women, the average age of participants was 42; 80% were White, well educated; half of the respondents had earned a graduate degree, and 46% had income over \$75,000. These demographics are similar to what other researchers have reported (DeLind & Ferguson, 1999; Earles, 2007; Perry & Franzblau, 2010).

In terms of motivations, studies report members and growers are interested in making money, promoting personal health, having access to healthy food, knowing where it comes from and how it was grown, believe they have a moral responsibility to support small local farms and businesses, protect the environment, reduce the cost of produce, and addressing other concerns regarding the industrial food system (Cone & Kakaliouras, 1995;

Cooley & Lass, 1998; Henderson & Van En, 1999; Kaktins, 1997; Russell & Zepeda, 2008; Worden, 2004). Education and knowledge about food and the environment are also cited as reasons and benefits of belonging to CSAs. However, other than a few theses and dissertations (Ambach, 2002; Iwaki, 2013; King, 2012; Mouillesseaux-Kunzman, 2005; O'Leary, 2010), and a single case study (Donahue, 1994), most research does not explicitly explore the educational opportunities available through CSA organizations.

Learning and Education within the CSA Context. In studying CSAs scholars have used varying conceptualizations of what learning and education mean. Early publications frame education in terms of learning about the CSAs model and are more akin to outreach efforts. In her how-to publication about CSAs, Van En (1988) recommends showing a video created by Jan Vandertuin (1986) called *It is not just about Vegetables* (1986), and engaging people on the streets, getting local media support, connecting the CSA idea to recycling and community composting, and posting flyers in grocery stores, and day care centers, etc. These grassroots efforts focus on getting the word out. In looking to the future, Van En (1988) concludes her guide by mentioning the creation of the Community Supported Agriculture on North America (CSANA); an educational non-profit comprehensive clearinghouse of existing programs, farmers, gardeners and apprentices and equipment that distributes a quarterly newsletter with pertinent articles, policy documents, legal aspects, and land trust information.

In 1990, Groh and McFadden, two of the leading advocates of CSAs, published "Farms of Tomorrow," which would become a seminal book for the CSA movement. They list three primary reasons why we needed CSAs: healthy food, healthy environment, and the education of humanity. Groh and McFadden (1997) outlined nine broad areas that CSAs

and farming can teach us⁵, and concluded that these lessons would help counter the messages of popular culture and contemporary education which stress the quest for money and following our uncontrolled desires. They also suggest practical steps to achieve these goals and provided ten real world examples from farms that were already operating according to these principles. This book is one of the important pillars of the CSA movement from a practical and theoretical point of view.

There were several dissertations published early in the history of the CSAs that mention education. Zaneccchia's (1991) concludes that CSAs are one possible answer to addressing the problems caused by industrial agriculture, "These farms offer something beyond food in that they embody the educational and cultural elements that attract the interest of diverse people with a common interest. In other words, there is an attempt to nurture an authentic local culture" (p. 354). Supurt (1992) reports that "farmers participating in a CSA organization commented on the reduction of market related stress (leaving) extra time for training apprentices, educating members, socializing, spending time with family, organizing agricultural education programs, and giving extra care to farming" (p. 54). She also notes that many of these educational interactions did not occur in

⁵ A rhythmic cycle shaped by the seasons and the sun, with an emphasis on natural pauses and the promotion of human health; A modest life style, adapted to the local bioregion that stresses consumption with limits; A work and service ethic that is needed on farms and in society in general; A deep feeling that you cannot harvest anything without planting, a fostering of foresight, planning, time management, and a fundamental logic of how biological processes work; An appreciation that it is nature, not the farmer that produces food, it is a cooperative relationship with the forces of the earth and the cosmos that allow us to survive; an education on how our current agricultural input-output model uses non-renewable resources that lead to a long list of problems; An understanding of what previous generations have done when working on farms, such as clearing the land, draining swamps, picking out the stones, with an orientation towards future generations; Nature produces best out of variety – not monocultures; Nature needs animals and animals need nature; and finally, the hundreds of technical skills are needed to use tools and machines. They conclude that all of these teachings are absent from most schools today (Groh & McFadden, 1997, p 7 – 9).

the garden, but rather in other related contexts.

Building on these ideas, Donahue (1994) was the first academic to publish on the idea that CSAs are a fruitful context for environmental education (EE). The idea that education happens on farms and in gardens is not new (Trelstad, 1997); however, the CSA model represents a novel context and set of relationships for education between farmers and the public. In 1988 Donahue attended an event in Ann Arbor, MI, where Trauger Groh, one of the founders of CSAs in the US, spoke on the topic. Donahue eventually became involved in a local biodynamic community farm project. Through his participation he concluded that,

There are numerous other areas for fruitful educational programs within the realm of CSA. At the Community Farm, they encompass such issues as nature study and science education; composting and solid waste; the environmental impact of agriculture; soil conservation strategies and programs; alternative agriculture movements and food systems; family farms and agribusiness; farmland, open space, and historic preservation; health and nutrition; agricultural economics and policy; land-use planning and design; rural development; and others. (Donahue, 1994, p. 6)

Donahue's case study set the stage for further research and theorizing about the role that CSAs and CSA organizations have to play in educating the public about nature, food, agriculture, and the long list of topics mentioned in the quote above.

Laird (1995) discusses the need for shareholder education as a major concern from the point of view of growers. Educating members about how the CSA works and the expectations are needed to retain shareholders, otherwise people do not sign up for

another season. One farmer in Laird's (1995) study said, "Many people don't understand a CSA program. Once they do, they become enthusiastic" (p. 37). Even with a charismatic grower and/or CSA organizer, and the use of newsletters, shareholders don't always understand issues of weather, pests, labor, and other challenges that growers face using alternative agricultural methods. Another issue is that education takes time and money. The grower, hired staff members, or a core group of volunteers are normally responsible for education, but often programs are not established. Laird believes,

The ultimate challenge in educating the farm members is to instill a philosophy of what one grower remarked as 'paying to run the farm; not to buy vegetables'. If that idea is grasped and if enough members support the notion, the CSA has a greater chance for success. (p. 38)

One of the lasting conclusions from this study is that shareholder education is an important aspect of operating a successful CSA program (both financially and socially).

Then in 1997, Henderson and Van En, two other leading practitioners of CSAs published "Sharing the Harvest: A Citizen's guide to Community Supported Agriculture," which further tackles the practical aspects of starting and successfully operating a program. Here, the authors devote a section to educational programming, review some academic literature related to the topic, and provide examples. One suggestion is to start with the concept of community, and establish a sense of social coherence, interdependency and mutual responsibility necessary for long term success. It is from this communal foundation that you then build in education about personal health and environmental issues. Henderson and Van En (1999) state, "Education outreach is basic to many CSAs. Several biodynamic CSAs have close relationships with Waldorf schools and regularly host

programs for children” (p. 158). They use Calypso Farm and Ecology Center in Fairbanks, Alaska as an example, and mention the use of ecological gardening classes that cover topics such as boreal forest ecology, natural dyeing, and spring planting. An important take away is that the connection between educating the public within a CSA context is best mediated by a larger organizational structure (like a non-profit, an educational organization, a school or university, an agricultural extension agency, or a local government initiative).

The first study to provide substantial empirical evidence of education within CSAs was conducted by Ambach (2002), who explored three CSA programs in Montréal, Canada. His primary research question was: “How does participation in a CSA constitute a form of learning?” (p. 4). Using a social movement lens with a participatory action research and phenomenological approach, Ambach collected data over three years while working as a CSA shareholder and volunteer. He attended start up meetings, potlucks, pick up locations and gathered data through shareholder interviews, newsletters, and a small survey. The results suggest a large amount of heterogeneity in what is actually learned. Ambach (2002) concluded that CSA participation is not necessarily a major vehicle for transformative learning, but rather exposes participants to alternative opinions on the food system. There are four important conclusions from this thesis that inform my study.

First, Ambach (2002) explored different learning and educational frames—including transformative and adult learning (Mezirow, 1991), situated learning, (Lave & Wenger, 1991) and bioregionalism (McTaggart, 1993; Sale, 1985). He concluded that transformative learning is not the best approach because it focuses on individual cognitive aspects, rather than dialogue and participation. Situated Learning is more appropriate because the learning occurs through participation with a community of practice (CoP)

(Lave & Wenger, 1991). The second relevant conclusion is that learning in CSAs is both a conceptual and non-conceptual process. Conceptually, CSAs are a symbol of eating locally, adapting to the local bioregion, knowing where food comes from, connecting to your farmer, and aligning your values with the food movement(s). The non-conceptual processes occur through the physical work of weeding, seeding, cultivating, preparing, boxing, preserving, and the tasting food. Third, his interviews did not yield much educationally interesting; thus additional methods of data collection are necessary to fully understand education and CSAs (i.e. participant observation, cultural artifacts and documents, member checking, research journal, survey, etc.). Finally, learning is dependent on the CSA community structure, resources, and access to educational opportunities, not on the individual. These conclusions impact my framing and methods.

The next study to mention education was conducted by Okumura (2004) who compared the Teikei (the Japanese predecessor) to US CSA movements; framing them as hybrid institutions that engage in food production and distribution, education and community outreach. Okumura (2004) found that “CSA groups work for food and farming education such as home food processing classes and opening farms and improv[ing] local food security by providing fresh fruits and vegetables to food pantry and soup kitchens” (p. 8). Despite the hypothesis that CSAs are hybrid institutions, Okumura noted the tension between education and CSA operation called for additional organizational structures. Similar to Henderson and Van En’s (1999) point, having a non-profit that can focus on education reduces the economic and time pressures on farming staff, permitting them to focus on production.

Another important study providing insight into CSAs and education was conducted

by Mouillesseaux-Kunzman (2005), who investigated the factors that influence the success of CSAs. She identified major areas that impeded the development of CSAs. Here education is framed as something that is needed and can provide solutions to problems. On the shareholder side there are issues with expectations regarding convenience, food choice, year round access, price, and expectations such as labor requirements, food preparation and quality. For the growers, major issues include their expectations about food production, control over operations, obligations to provide during a bad season, labor, time commitment, and the personal skills need to organize people. Mouillesseaux-Kunzman (2005) states that these impediments are both individual and societal in nature, with the larger problem that we are “Social actors (consumer and producers) caught between two fundamentally different paradigms (ways of seeing the world) and the roles (behaviors and actions) expected of them under these paradigms” (p. 81). The two paradigms she refers to are the capitalistic, commodity driven, industrial food system and civic agriculture as defined by Lyson⁶ (2000).

In her conclusion Mouillesseaux-Kunzman indicates the avenues for educating members, including: (a) media outreach to those consumers who are not familiar with CSAs through the use of both traditional and non-traditional media outlets, such as community papers, local radio, and special events (fairs, farm tours, events, etc.), (b) the development of brochures and member handbooks that detail the concepts, provide descriptions of the vegetables time line of production, pick up days, contact information, benefit and obligations, (c) the use of newsletters and recipes to help members prepare and eat unknown veggies, communicate news that connects members to the community,

⁶ Thomas Lyson (founder of the Civic Agriculture paradigm) was the chair for this thesis project.

the landscape, and the natural cycles of the season, (d) provide hands on experience and training to the members (required and optional), (e) organize farm-based education events such as bird walks, wildflower walks, summer solstice celebrations, winter cross ski outing, etc., (f) develop youth specific educational activities that gets kids excited about the farm, (g) involve members in decision-making, which helps them understand and take responsibility for the projects, and (h) offer CSA based classes like cooking, food processing, gardening, and medicinal plants that will help members understand the civic agriculture paradigm. This 8-point list is the major takeaway and provides benchmarks for evaluating programs. Mouillesseaux-Kunzman (2005) also suggests future research, such as determining if members are learning about the politics of food, are they motivated to help change the system, and what educational strategies convince people to join CSAs? She also suggests investigating different community building educational strategies, what types of civil organizations support a civic food system, and what tools are out there to help agriculture-based community developers. My study addresses several of these questions.

In the last decade (since 2005) the CSA literature has grown to include several publications (theses, dissertations, and articles) that provide additional empirical evidence regarding education in the CSA context as well as the next generation of training guides for the movement (Charles, 2011; Chen, 2012; Feagan & Henderson, 2009; Iwaki, 2013; King, 2012; McNab, 2012; O'Leary, 2010; Pole & Gray, 2012; Zehler, 2011). Of note, King (2012) uses an educational lens to study the creation of a non-profit, service-oriented organization called Community Supported Agriculture and Nature Education. This approach is interesting, but the results speak less to the kinds of education occurring within CSAs and more to the organizational and community development aspects. Also,

Zehler (2011) used an online survey to investigate how CSA participation may increase fruit and vegetable intake, suggesting nutrition professionals work with CSA programs.

There are two other studies that warrant specific attention. First, the United Kingdom's Soil Association (2010) developed a CSA educational teaching program. This two module, 83-page document is for degree seeking students and covers the history, theory (emphasis on biodynamics), practice of CSAs, and includes a section on outreach and education. Similar to Mouillesseaux-Kunzman (2005) the UK Soil Association (2010) calls for "specialist education and training of those—farmers and community members—entering CSA relationships" (p. 67). This curriculum states that "It is easy to forget about the culture change seasonally grown and available food involves—as opposed to all round supermarket availability, which can be a source of losing members if not educated for" (p. 54). This and earlier guides are important documents for furthering the goals of CSAs and civic agriculture as a whole. The take away is that larger support systems are needed to increase resources for growers and shareholders to improve their own programs.

The final study that merits review was conducted by Iwaki (2013). She investigated how joining CSAs served to develop an environmental identity, a self concept and sense of connection with the nonhuman world, which translates into values and behavioral change around food production and consumption. She interviewed 36 families in Manhattan, NY who belonged to CSAs (located up state). Iwaki (2013) found that,

CSA member's beliefs and attitudes towards food and the environment changed in subtle, but meaningful ways over the course of their involvement in the CSA. This again represents a journey, with the CSA as a step in the journey to becoming more committed to issues of sustainability (p. 86).

A major contribution to the literature and to my study was the creation of a learning curve diagram called “The CSA Journey.”

Figure 1: The CSA Journey (Iwaki, 2013)

This model describes changes in thinking and behavior that members may go through on their path to becoming more ecologically sustainable citizens. The model includes motivations, changes in shopping, cooking, and eating behaviors that are associated with “doing the CSA,” the transition to “It’s Who We Are,” as well as the dreams and desires that the shareholders want to “Someday” achieve in the future.

The connection to education is that the members learned how to deal with the copious amounts of kale and root vegetables, the division of household labor required to plan, prepare, preserve, cook, and enjoy CSA produce. Other changes in lifestyle also come with this commitment (less time for other things; more trips to the farm, money for preservation equipment to can, dry, and freeze; and even kitchen remodeling). Iwaki’s (2013) study reinforces the idea of “supermarket withdrawal” as outlined by Cone and Meyer (2000) and Ostrom (2007), because the CSA represents a “detoxing” from the

shopping and eating habits of our modern food system. “Part of ‘detoxing’ from the modern food environment and becoming a successful CSA member required relinquishing control over food choice, and instead attaining a level of comfort with not having a choice in the week’s produce” (Iwaki, 2013, p. 105). She concludes,

The very structure of the CSA forces these changes in behavior. By structure, I mean just the simple fact that there is only one weekly delivery of vegetables. I choose the word forced because though some families made the required behavior changes happily and willingly, the CSA really required for them to make these changes. From this perspective, the CSA acts as an intervention of sorts. Families join because they want to eat in a healthier manner and support local agriculture, but being a CSA member means having to really make and commit to these behavioral changes. (Iwaki, 2013, p. 112)

Here the CSA is framed as an intervention for health, supporting local agriculture, and promoting ecologically sustainable behaviors.

These studies and how to guides have advanced the causes of CSAs, Steiner’s biodynamic philosophy, and Lyson’s civic agricultural paradigm. From the social movement, social change, policy, financial, motivational, and educational perspectives, activists and researchers have made major contributions to the literature and society as a whole. Groh and McFadden (1990), Henderson and Van En (1997), Donahue (1994), Ambach (2002), Mouillesseaux-Kunzman (2005), Iwaki (2013), and others have defined the current state of knowledge about learning and education within CSAs programs and organizations. Despite this important work, there is still a need to improve popular (public) education about these issues and promote peaceful social change around our agriculture-

society nexus. Next I outline why additional research is needed in this area.

Why Additional Research into CSAs as a Context for Education is needed?

CSAs exist because our modern agrifood system is negatively impacting our personal health, economic, and human-earth relationships. The driving questions behind much of the reviewed research focus on the extent to which the CSA context is providing nutrition education, lessons in local economies, food policy, and information about how agriculture impacts the environment. The studies by Ambach (2002) and Iwaki (2013) have produced the evidence that CSAs can transform behaviors, but as indicated by Mouillesseaux-Kunzman (2005), there is a lack of understanding as to how learning and education is happening within various levels of the food movements (i.e. at the national and regional, community, organizational, and individual). Unlike other investigations that focus on one area, this study provides insight into these four levels simultaneously.

The second reason, and a major contribution of this study, is a new theoretical framework, a systems approach to understanding learning and education within alternative agriculture communities. Existing studies use one or two frames at most (Ambach validates three), but are confined to either the individual, organizational, or regional/national levels. They fail to present a unified understanding of how interactions between different groups and organizations at one level (i.e. individual) affect and impact others levels (i.e. communal). Plus, this study streamlines and defines the types of learning and education that are happening across levels to make this kind of analysis possible.

The third rationale is to assess the extent to which CSA programs are either growing or declining. If CSAs are engaging the public about the implications of modern agriculture, then this study will provide additional evidence for shifts in our food consumption patterns

(Winson, 2010). If participation in CSAs is growing, and people are buying their produce from local farms instead the grocery stores or eating at restaurants, then understanding the details of what is happening educationally will help inform movement leaders (Eyerman & Jamison, 1991), and influence the direction of future alternative agrifood efforts. Also, as citizens, municipalities, schools and universities, businesses and others become aware of their food choices and the negative externalities of our current system, there is wide range of policy implications for our elected and appointed leaders to adopt (Allen, 2004).

Fourth, as CSAs and the food movement evolve and more growers and communities become interested in starting, participating, and learning about CSAs, this study guides farmers and educators in their practice. It provides insights into designing programs, and implementing curricula and training (Ambach, 2002; Nells, 2011). This study also informs environmental educators (EE) or educators for sustainable development (ESD) in teaching about the human-earth relationship, specifically the environmental impacts of our food system. Slowly, EE, ESD, and educators in general are turning their attention to food (Sauve, 2005; Weaver-Hightower, 2011). This study will help constituents understand which organizational and pedagogical methods work best for training shareholders, volunteers, future farmers, and students, which approaches are most practical for implementation, and how the CSA context provides for EE and ESD. The data presented illuminate the organizational factors such as mission, resources and characteristics that relate to the types of learning and education occurring. One future outcome will be “how to educate guide” for CSA based-education, which will include the best ways to integrate the environmental, nutritional, service, and experimental learning components (Furco, 1996).

Defining Learning and Education

The last section of this chapter defines learning and education, as previous studies are varied in their approach to investigating this phenomenon. Therefore, in order to evaluate the different types of learning and education it is necessary to define formal, informal, structured, unstructured, conceptual, non-conceptual, procedural or performance learning, farm and garden based education, and the different kinds of resources and capital that are related to successful educational efforts (i.e. the result in changing a members' values and behavior). Some terms were introduced earlier but require further articulation.

I approach learning and education from the broadest point of view, conceptualizing them as part of our socialization process (McCann, 2013; Rorty, 1999). Learning is the act and process of acquiring new information, skills, behaviors, values, preferences, and understandings of the world. Education is couched within different processes of learning; it is one possible way that people learn. The focus of this study is on public or popular education (Freire, 1970, 1973), and experiential education (Dewey, 1938), as it pertains to the farm and garden setting, and CSA activities (Ambach, 2002; Iwaki, 2013).

Formal Education. Formal education refers to a structured learning environment, including CSA orientations, training programs, and classes where a facilitator, expert, or group is operating intentionally (Dib, 1988). By structured environment, I mean that tools, materials, and other supplies are made available and incorporated into the learning process. Formal and structured education may draw from curricula and lesson plans. The facilitator is operating with intent to educate people about a specific topic and uses scaffolding techniques, leading questions, and the context to achieve learning objectives (Abbot, 2014). An example would be a grower who sets out a wheel barrow, shovels, and a

compost sifter for members or volunteers; meets with them at a predetermined time; escorts them to the compost pile, and instructs (explains why, demonstrates, and guides) them through the composting process.

Informal Education. By informal education and learning, I mean there are no predetermined curricula, plan, objectives, setting, or set times for instruction. An expert may or may not be present and the learners are free to choose their topics of conversation and interest. There are overlaps between informal and unstructured education as informal learning is defined as unstructured (Burns & Schafer, 2003). Informal learning happens spontaneously, spanning both work and play (Marsick & Volpe, 1999). Most informal and unstructured learning is tacit, meaning that new knowledge is not created explicitly and may not be overtly communicated. These are thoughts and ideas that live in our heads, and only become apparent after the experience (Polanyi, 1967). Scholars suggest that informal learning is more social in nature than formal, can be triggered by internal events, is not explicitly conscious, and inductively occurs through action and reflection (Bandura 1986; Burns & Schafer, 2003; Lave and Wenger, 1991; Marsick & Volpe, 1999).

Non-Conceptual Learning. This concept will be fully explored in chapter two in discussing Hayden and Buck's (2012) frame of tactile space. Relying on Thrifts (2007) non-representational theory, learning can take place prior to understanding concepts when participants perform an activity, which connects them to some aspect of the world. Non-representational theory calls attention to emotions, passions, desires, and beliefs that are part of a person's everyday life. This kind of learning happens before reflection and even before cognition (Hayden & Buck, 2012; Lorimer, 2005; Thrift, 2007).

Another way to approach this realm of knowledge and skill acquisition is to focus on

procedural learning, which emphasizes, "The order of steps, the goals and sub-goals of steps, the environment or type of situation in which the procedure is used, constraints imposed upon the procedure by the environment" and "any heuristics or common sense knowledge which are inherent in the environment or situation" (Star, 2013, p. 6). When a person is in processes or has just completed an unfamiliar task, they have added a new set of physical motions, or a new combination of already performed motions to their prior experiences. Imagine sifting compost for the first time. After shoveling decomposed soil matter onto a sieve, moving it back and forth and back and forth; you reach into the wheelbarrow and feel the cool, moist grains of soil, barley holding onto each other, slightly larger than sand, spongy, and crawling with worms and pill bugs. You then transport and pour this semi-liquid dark substance onto a garden bed, and using the proper tools, mix it with the existing soil. You have now expanded your gardening experience, become familiar with the tools and steps needed to perform the task, and gained a new feeling, a sense of what it is like to make compost and build soil. These kinds of learning experiences can then be reflected upon and incorporated into an existing knowledge base. But in those first moments of doing and feeling, there is a tacit, an un-thought and unspoken aspect to learning, a pre-conceptual step in the process. Non-conceptual learning occurs through experience and can be formal and informal, structured or unstructured.

Farm and Garden Based Education. The next term that requires explanation is Farm and Garden-Based Education (FGBE) as it incorporates the terminology above. FGBE is a form of food, nutrition, health, environmental, experiential (Dewey, 1938), and place-based education (Sobel, 2004; Woodhouse & Knapp, 2000) that occurs on farms and in gardens (Farm-Based Education Network, 2013). FGBE connects people to farms, and

teaches them about our agrifood systems, and natural and cultivated environments. FGBE is hands-on learning that aims to build individual and collective responsibility while fostering sustainable stewardship of the planet. These experiences promote life values by relating to the social, moral, cognitive, and emotional aspects of human experience. FGBE, similar to service learning (Furco, 1996), is a pedagogical tool that emphasizes physical work related to agriculture and gardening. FGBE is often practical, but it can be theoretical. It enhances and reinforces learning that occurs in schools by teaching aspects of physics, chemistry, biology, ecology, mathematics, English, social sciences, and the humanities. FGBE, like farms and gardens, comes in a wide variety of sizes and structures. It can be formal and informal, and serves all ages from infants, K to 12 grades, to university students and adults (Capps, 2011; Farm-Based Education Network, 2013).

FGBE is also related to place-based, outdoor, and environmental education. FGBE provides many benefits for participants, such as time spent outdoors, increased mental aptitudes, behavior, and social skills (DeMarco, Relk, & McDaniel, 1999; Kahn, 2002; Sheffield, 1992). Research indicates that time spent in gardens improves ecological consciousness and strengthens environmental ethics (Kahn, 2002; Orr, 2002; Skelly & Zajicek, 1998.) Other studies suggest that gardens positively affect student achievement scores (Klemmer, Waliczek, & Zajicek, 2005), attitudes towards science (Skelly & Bradley, 2007) and improve nutrition (Lineberger & Zajicek, 2000; Morris & Zidenberg, 2002). These are the obvious benefits of FGBE, yet there are other advantages, such as teaching about food systems ecology (Blair, 2009), and exposure to experiential, and inquiry-based pedagogical approaches (Rahm, 2002).

Resources. This final set of definitions explains the different types of resources and capitals that impact educational opportunities for participants within CSA organizations. These definitions are based on the work of Bourdieu (1986; 2008) and more specifically Roland and Landua (2009), as they apply eight forms of capital to the farm and gardening setting using a permacultural lens. Financial capital refers to money; social capital to personal influence, favors, and network connections; intellectual capital is knowledge acquired both through formal education and work experience; cultural capital describes the shared internal and external processes and interests of a community like art, theater, and a harvest celebration, which is tied to place in a village, a city, a bioregion, or nation; human capital is a combination of intellectual (experiential) and social capital, which includes labor; material capital is non-living things like stone, metal, timber, and manufactured combinations like buildings, water lines, and tools; living capital (aka natural capital) is soil, plants, animals, land and ecosystems, such as a farm itself, or a herd of cattle; and finally, spiritual capital is one's awareness and connection to the great chain of being, the great mystery, which is usually understood through different religious and faith systems (Roland & Landua, 2009). Having reviewed the relevant research, my rational, and defined the important terms, we can now discuss my systems approach to theoretical frames.

Chapter 2: A System of Theoretical Frames

This study draws from two main theoretical traditions and frames. Foremost, I approached this research from a Freirian (1970, 1973, 1993, 1998, 2004) and dialogical point of view, relying heavily on the traditions of critical theory and pedagogy. From this foundation I have created my own theory, *The AgroEcological Educator* (AEE) (Wight, 2013), which combines Freirian concepts and themes with ecology and community development. The second, more learning-specific frame is that of Situated Learning (SL) and Legitimate Peripheral Participation (LPP). As a theory, SL and LPP are about how people learn through situated social interactions (Lave & Wenger, 1991). In this chapter I use the concept of *bricolage* (Lévi-Strauss, 1966) to discuss these two theories along with several other important frames used in studying the intersection of CSAs and education.

Table 1

Theoretical Frames by Level and Domain

Theory	Level	Domain
Bioregionalism/Ecology	Meta	Planetary, Biosphere, Ecological
Social Movements	Macro	Transformation of Human Societies
Critical Theory	Macro	Transformation of Human Societies
Critical Pedagogy	Meso+	Educational & Dialogic Approach to Social Change
AgroEcological Educator	Meso	Educational & Dialogical Approach to Food Based Community Development
Situated Learning & LPP	Micro+	Group Learning & Apprenticeships in Communities of Practice
Experiential Education	Micro+	Personal Growth through Apprenticeships & Educative Experiences
Transformative Learning	Micro	Individual Learning
Tactile Space	Micro	Pre-Cognitive, Non-Conceptual, Individual Learning

According to Denzin and Lincoln (2003) the theoretical bricoleur is knowledgeable about many interpretative paradigms (i.e. feminism, Marxism, cultural studies, constructivism, queer theory), and draws from each accordingly. Table 1 (above) and Figure 2 at end of the chapter display the theories and situate their important intersections regarding levels of application and domains as they apply to this study and address the research questions. In this chapter I examine these frames in relation to one another and present them as a systems approach to theorizing about CSAs and education. My grounding in and synthesis of these various frameworks creates a montage approach to studying education within the CSA context.

Developing A Theoretical Frame

The first major piece of this theoretical system is that of the AEE, which came from working with the Cincinnati alternative agriculture community and simultaneously reading the work of Freire, critical pedagogues, food-movement, and environmental education scholars. As I explored these literatures, worked in the garden and talked with others about developing alternative food-systems, it became apparent that many of our public health and civic agricultural strategies could benefit from an inclusive framework. There is the need to engage people of all socioeconomic and cultural backgrounds in conversations about the implications of our modern agrifood systems. The AEE frame is based on these real-world experiences and larger philosophical conversations with the literature. Parts of this theoretical and practical approach have been around for decades, yet only recently has a new wave of concern about food raised public consciousness (see Chapter 1), providing fertile ground for a community development and food-justice movement synthesis. The AEE translates Freirian ideas into the context of contemporary US culture.

Critical Theory and Pedagogy

The foundation of the AEE is critical theory, and it is rooted in Marxist traditions and based on the work of the Frankfurt School,⁷ the Situationist International (SI),⁸ Paulo Freire, Ivan Illich, Ernesto Guevara, and the work of other revolutionaries (Darder, Baltodano & Torres, 2003). Critical theory aims to transform our unequal and unjust ways of living into a democratic, equitable, and humane society. Historically, critical theory has emphasized a dialectical approach to understanding hegemony and inequality. These early critiques (circa 1950s–70s) focused on orthodox Marxism, Fascism, political economy, class, culture, and our reliance on rationality and logical positivism. Giroux (2003) states, “Rather than proclaiming a positive notion of neutrality, critical theory openly takes sides in the interest of struggling for a better world” (p. 37).

Many neo-Marxist scholars (including the Situationists) were aware of capitalism’s assault on nature (Knabb, 1981), but were more interested in understanding why Marxism had given way to Stalinism in the East, and how capitalism had strengthened its ideological hold in the West (Giroux, 2003). In 1972, at the end of the Situationist movement, its members began to examine capitalism from an ecological point of view. One of the Situationists’ major contributions to critical theory was their assessment and re-framing of the commodity and conspicuous consumption (Debord, 1967). With the advent of planned obsolescence after WWII and the expansion of western capitalism, the commodity itself began to be seen as a new form of pollution. This was a groundbreaking understanding of

⁷ Major theorists include Max Horkheimer, Theodor Adorno, Walter Benjamin, Leo Loewenthal, Erich Fromm, Herbert Marcuse, and Jurgen Habermas (Darder, Baltodano & Torres, 2003).

⁸ The SI was originally composed of avant-garde artists, but in 1962 under the direction of Guy Debord and Raoul Vaneigem, the movement became much more politicized. Debord (1967) wrote *The Society of the Spectacle*, and the movement eventually influenced the revolutionary movements that swept the Western world in May 1968 (Knabb, 1981).

our production–consumption system. We have produced so many things that commodities are the very pollution defiling the biosphere. In addition to the many landfills dotting the countryside, one of the most salient examples of commodities turned pollution are the plastic islands of trash that have formed in the Pacific Ocean (Hoshaw, 2009).

It is from these roots that critical pedagogy (CP) and ecopedagogy were derived (Giroux, 2003; Kahn, 2010; McLaren, 2003). Modern educational philosophers expanded the Marxist analysis to include race, gender, sexuality, language, technology, and the natural environment (Bowers, 2001; Darder et al., 2003; Kahn, 2010). Critical pedagogues reject explanations often put forth by functionalism and logical positivism that emphasize predictability, verifiability, transferability, and operationalism (Darder et al., 2003). They understand that formalized, compulsory education encompasses 16–18+ years (K – College) of our socialization and has a tremendous influence over the future directions of our society. Ivan Illich’s (1973) *Deschooling Society* describes schools as total institutions, similar to Goffman’s (1991) analysis of asylums and Weber’s assessment of bureaucracies (Gerth & Mills, 1946). Modern schooling emphasizes standardization, hierarchy, and technocratic expertise (Illich, 1970). CP recognizes that schools are sites of cultural reproduction, where values, norms, societal practices, language, and world-views are taught to students (McLaren, 2003). CP practitioners strive to teach a different view of history by examining the assumptions of the oppressors. In the words of Giroux (2003) critical theory points educators “toward a mode of analysis that stress the breaks, discontinuities, and tensions in history, all of which become valuable in that they highlight the centrality of human agency and struggle,” while “simultaneously revealing the gap between society as it presently exists and society as it might be” (p. 51).

Critical Pedagogy is not a program or a recipe to be followed; it is an ever-evolving theory that has spawned new approaches to learning, schooling, teaching, and formal and informal education. Important aspects of CP are that it emphasizes critical questioning, thinking, and analysis, and it strives to achieve *emancipatory* outcomes. Why are there discrepancies in school funding, field-trip opportunities, and college acceptance rates across districts? Why don't students learn the history of First Americans or Africans from a non-European view? How does capitalism view our natural resources and what are the consequences of commodification? McLaren (2003) explains, "critical pedagogy is a way of thinking about, negotiating, and transforming the relationship among classroom teaching, the production of knowledge, the institutional structures of the school, and the social and material relations of the wider community, society, and nature" (p. 160).

Unfortunately, these approaches and questions are deemed politically controversial for classrooms. Some principals, administrators, and teachers do not want their students engaging with such ideas. Thus, CP has been marginalized within K – 12 schools. Even at the college level this critical approach has become "completely psychologized, so liberally humanized, so technologized, and so conceptually postmodernized that its current relationship to the broader liberation struggle seems severely attenuated if not fatally terminated" (McLaren, 2003, p. 66). McLaren's assessment may be harsh, but we should keep in mind that critical theory and pedagogy are proven to be and continue to be valuable tools in the fight for equality, social and ecological justice (Bowers, 2001; Gruenewald, 2003). Thus, it is necessary for critical pedagogues to work outside the structures of schools, and engage with the public.

As part of its emancipatory emphasis, CP works to help set people free—first in their minds and then in their material relations with others and the broader society. In the words of Carspecken (1996), those who call themselves “criticalists” share a value orientation, are “concerned about social inequalities,” “direct their work toward positive social change,” and focus on “the nature of social structure, power, culture, and human agency” (p. 3). According to Kincheloe and McLaren (1994), critical theorists believe that research and pedagogy should support social change, oppose inequality (race, class, gender, environmental, etc.), and uncover the hidden curriculums and agendas that enforce oppression. Criticalists focus on enlightening others regarding issues of power and privilege, work to reject economic determinism, and create new understandings of empowerment (Kincheloe & McLaren, 2002). Instead of accepting current injustices, critical pedagogues take on an activist persona and do not separate theory from practice. Rather than being sympathetic to a social movement cause, they engage in “legal battles, rent strikes, and other various political actions” (Foley, 2002, p. 470).

Another valuable contribution of CP is found in its reflexive practice. Critical Pedagogy draws heavily from the postmodern, poststructural, phenomenological, hermeneutical, ethnographical and feminist traditions (Foley, 2002). Anderson (1989) points out that being reflexive involves a dialectical process among the researcher’s/teacher’s constructs, the student/participant’s commonsense constructs, the data, the researcher’s/teacher’s ideological biases, and influential structural and historical forces. No longer do practitioners ignore their own positionality, but rather treat it as a strength, and connection to people and issues. Critical pedagogues engage in reflexive epistemological deconstruction to better understand the intersections of their life fields, the larger society,

and the co-construction of reality. Being reflexive helps educators view others as co-participants, and this raises the value of their personal contributions (Angues, 1986). CP is built on the ideas of the co-generation and the practical application of knowledge.

Paulo Freire and the AgroEcological Educator

The work of Paulo Freire provides the cornerstones for my AEE theory. Freire's work is a foundation of CP (Darder et al., 2003) and Action Research (Reason & Bradbury, 2006). Freire's contributions to these fields and the study of education as whole continue to influence disciplines, classrooms, and the social, political, and economic circumstances of people and governments across the world. His numerous works synthesize Christian Liberation Theology, Marxist, and Fanonian approaches with culture and language theories (Freire, 1970; 1973; 1985; 1993; 1998; 2004). Freire has developed an entire set of concepts, such as the *Banking Method of Education*, *conscientization*, the *Agronomist-Educator*, *cultural circles*, *praxis*, *citizenship schools*, and *cultural invasion* among others. Here I weave together the ideas that underpin the AEE (Wight, 2013).⁹

In *Education for a Critical Consciousness*, Freire (1973) describes the *Agronomist-Educator* (AE) as person or group of people who enters into dialogue with others about the political, economic, and social state of their community and the world as it relates to them. These change-agents focus on the act of *conscientization*, which involves helping others to increase their own awareness and agency of the world around them (Freire, 1973). A main goal of the AE is to create new cultural knowledge that is the basis for "developing a new agrarian society" (Freire, 1973, p. 87) where illiteracy, poverty, and oppression do not

⁹ This section has been drawn from and expands up my *AgroEcological Educator: food-based community development* article (Wight, 2013).

exist. Freire's AE model was created while working with impoverished rural farmers in South America during the 1950s-60s. The AE was advanced in conjunction with *cultural circles*, group settings where people learned to read, write, *name* the world, become aware of their own agency, and take active steps towards building a more equitable and just society (Freire, 1970). These farmers lived in a highly stratified social system where rich landowners controlled most of the continent's wealth (i.e. latifundos or large land holdings) not unlike US society today (Kerbo, 2014). Thus, the population was confined to wage labor in the cities or to working on large plantations. Cultural circles were so successful that the Brazilian government approved the large-scale implementation of these methods in the early 60s, but in 1964 Freire was forced to leave the country after a military coup.

There are three main aspects I pull from Freire's work (1970; 1973; 1985; 1993; 1998; 2004) that describe the mindset and practices of his AE and thus my AEE. The first is *love*. If one does not love the world, one does not love life nor others. Without love it can be difficult to enter into humanizing dialogue (Freire, 1970). According to Freire (1970, 1973, 2004), love for others and life is a prerequisite for being a change agent and discussing everyday issues. People may not agree on politics, religion, worldviews, or diets, yet, if we do not approach others with an open heart and mind, then how will we learn from them and talk with them? Chonchol (1968) states, "The agronomist-educator cannot bring about change of peasant attitudes in regard to a particular aspect of life unless he knows their world view and confronts it in its totality" (p. 88). Love enables us to better understand others and see the world from their point of view.

The second aspect of the AE and AEE is *dialogical communication*. According to Freire (1973), when dialoguing, one needs to be genuine, committed, and not manipulative

or interested in slogans or propaganda. Chonchol (1968) points out that Freire first had to meet communities where they were at, to understand “peasant attitudes towards phenomena like planting, harvesting, erosion, and reforestation [which] are related to their attitudes toward nature, their religious beliefs, their values, and so forth” (p. 88). Dialogue is about listening and casting aside assumptions that people’s worldviews are deficient in some way. This approach focuses people away from fatalism and towards *conscientization*. Dialogical communication seeks to enlighten, to help others understand that they are *of* the world and not simply *in* the world (Freire, 1970). As a part of this method, dialogue is about talking *with* people rather than *to* people (Freire, 1973). Dialogical communication is a starting point in working towards positive equalizing social change, where communities themselves become empowered to organize and lead their own agrifood initiatives.

The third aspect of the AE and AEE is a commitment to *praxis*. Freire (1970) defines praxis as “The action and reflection of men upon their world in order to transform it” (p. 66). Praxis is a process, a cyclical method of thinking and planning, action and reflection that relies on love and dialogical communication. The process of praxis focuses on constant evaluation and improvement (Freire, 1970). Praxis is an ongoing dialectical relationship between reality and vision, where the creative tension between the two is used to transform the world. Freire (1970) describes praxis as part of a liberationist pedagogy where the veil is lifted and the oppressed see the world for what it is. Once people grasp that they *of* the world, and not simply *in* the world, their reality is transformed and this process expands outward, becoming intertwined with community development practices. Praxis is a revolutionary approach to the world. It is from these conceptual foundations that my AEE theory emerges.

In addition to the *AE*, *cultural circles*, *love*, *dialogue*, and *praxis*, there are three larger Freirian themes (*cultural invasion*, *dreaming*, and *citizen schools*) that inform the AEE theory (Gadotti & Torres, 2009). First, Freire (1973) worked with others to help uncover the cultural invasion and hegemony that is woven into education and popular culture messages. My work orients the conversation to address food issues as modern society has convinced us that growing food is not a worthwhile activity. Our education system orients us towards industrial specialization and away from agriculture, which has resulted in a general decrease of bioregional and ecological knowledge (Berry, 1978, 2003; Mayer & Mayer, 1974; Orr, 1994;). The AEE engages in conversations with the goal of raising food consciousness, “the degree to which an individual possesses an awareness or cognizance of decisions and actions related to food” (Giandomenico, 2000, p. 129). Rather than focusing on traditional cultural invasion such as European and American imperialism, the AEE strives to build a *critical food lens* (Wight, 2013), a hyper-analytic schema used to deconstruct our modern agrifood systems. The AEE poses questions to help stimulate dialogue about food, such as:

- (1) Where was this food grown?
- (2) How far has it traveled to get to me, and which energy sources were used?
- (3) Which food items are the most popular and make the most money for the producer?
- (4) What are the main ingredients in most of the foods?
- (5) What are the health benefits or implications associated with consumption?
- (6) Does this food contain genetically modified organisms?
- (7) Was this food grown using organic or conventional agricultural methods?
- (8) Were chemicals, hormones or antibiotics used to produce the food?

- (9) How much are the workers paid who grew, harvested, processed, and sold the food?
- (10) What messages does the food space convey?
- (11) What are the similarities and differences between the people who supply, prepare, and serve the food compared to those who purchase it? (Wight, 2013, p.3)

Dreaming is the second Freirian theme the AEE draws from to assist others in realizing the implications of the industrial food system. The AEE promotes positive and utopian visions of what the human–food–earth relationship should be. Freire (2004) states, “In reality, the world transformation that dreams aspire to is a political act, and it would be naive of anyone not to recognize that dreams also have counter dreams” (p. 32). Food choice and consumption are political, and the more we uncover the truth about how food is produced, the greater the need for dreams of alternative food paradigms. Dreaming moves participants past the false logic of markets and towards the creative tensions needed to transform reality.

The idea of *citizen schools* (*escola cidadã*) is the third theme that informs the AEE. Citizen schools are eco-political, pedagogical, and eminently ethical projects that focus on public learning environments, with the goal of constructing meaning through being connected to the world (Gadotti & Torres, 2009). The AEE applies these methods of autonomous civic-knowledge-creation to farm and food-based education in the modern context of US culture. Drawing from existing programs and networks such as Farm-Based and Ecovillage Education and the UK Soil Association, the AEE assists citizens in overcoming obstacles such as a lack of high-quality, nutrient-rich, non-toxic soil. Other important considerations include addressing seed and water availability; sunlight restrictions; access to tools and training; community acceptance; seed saving; and food

preparation and preservation (Ghimire, 2008). Similar to the Landless Peasant Movement with which Freire worked, there will be issues of land availability and ownership. It is through innovative contexts such as food hubs, CSAs, food action teams, and policy groups, that agroecological knowledge is generated and disseminated.

Agronomy, Ecology, Community Development, and Popular Culture

In addition to Freire's concepts and themes, the AEE theory incorporates the important topics of *agronomy*, *ecology*, *community development*, and *popular culture*. These knowledge regimes update and translate Freire's work, making it more applicable to people today. The AEE theory is rooted in agronomy. Food is our species' primary energetic relationship to the planet. To paraphrase Shiva (2005), the web of food is the web of life, as every living organism eventually becomes food for another and there is no waste in nature, just cycles of matter and energy. The human population relies on the successful cultivation of soil to provide its food, and the importance of healthy, fertile, nutrient-rich soil cannot be overstated. Agronomy is central to the AEE theory because it is the basis of civilization (i.e. agri/soil culture) (Hillel, 1991). We must re-learn how to take care of, create, and build fertile soil—not just in our rural farming areas—but also in our cities and suburban communities. The type of agronomy discussed here is rooted in Lyson's concept (2004) of *civic agriculture*, and firmly situated in the permaculture and biodynamic paradigms. This is agronomy by a community for that community.

The second modern emphasis of the AEE theory is *ecology*, the knowledge and science of the relationship between organisms and the larger world (McIntosh, 1985). At the planetary level, ecological thinking encompasses Fuller's (1969) *Spaceship Earth* and Lovelock's (1979) *Gaia Hypothesis*. The AEE theory emphasizes knowledge about both the

natural processes of energy and matter transformations and the impacts that industrialized humans have on the Earth's systems, nutrient flows, and climate (Schlesinger, 1997). Ecology is necessary when thinking about community food production, plant species selection, and building healthy soil. At the human and bioregional scale, this theory encompasses the kind of relational ecology discussed by Bronfenbrenner's (1979) *Ecological Systems Theory*, with an emphasis on the interactions between human behavior, learning, and health. These various levels of ecological thinking inform the AEE and emphasize enhancing biodiversity while building community-owned agrifood systems.

With agroecology situated front and center, we can now explore the *community-oriented* mindset of the AEE. The AEE takes a non-violent approach. There is a pressing need for humans to learn how to get along with each other as we struggle to improve our relationships with the rest of the earth's species and cultures. Thus, the AEE relies on love, communication, and praxis, and stresses participatory, inclusive, and democratic relationships (citizenship schools) to help people identify and define the important food-related issues (cultural invasion) affecting their communities (Alinsky, 1971; Christens, 2010). The AEE works everywhere, with everyone, from the illiterate, impoverished, and politically disenfranchised, to the educated, middle class, wealthy, and politically connected in order to envision (dream) new forms of agrifood production and consumption.

Given the range of people, communities, organizations, and food grievances in play here, it is advantageous to understand that no matter where one begins in their assumptions and expectations, they are insufficient (Zhao, Wight, & Dick, 2011). The best approaches recognize that there is no universally applicable model, and each community, situation, and conversation is different. From an AR perspective, the AEE does not claim a

monopoly on knowledge, and accepts all ways of knowing and conflicting truths, even when they cause dissonance (Reason & Bradbury, 2006). The AEE, like AR, thrives on multiple perspectives and is enriched by lay, non-credentialed, traditional, non-western, propositional, quantum-physical, metaphysical, spiritual, women's, contextual and other extended epistemologies (Coghlan, 2005; Heron & Reason, 2006; Reason & Bradbury, 2006). Accepting different ways of knowing is important for the AEE, as alternative agricultural practices such as biodynamics and permaculture have not been accepted by mainstream agriculturalists. Working with different paradigms speaks directly to Freire's (1973) point about how to enact social change without imposing one's beliefs.

The AEE also understands that community members may view issues of violence employment, community safety, drug use, teenage pregnancy, health care, sexually transmitted infections, transportation, shelter, schooling, and other concerns as more important than food. The AEE is aware that communities are already working with social workers, planners, welfare administrators, organizers, political militants, and others who are trying to improve living conditions (Goulet, 1973). It takes time and patience to truly understand a community, its motivations, resources, and assets when mobilizing. In working towards positive social change, it is beneficial to identify a community of practice, a group of like-minded-people who are dedicated to food-justice. This helps the AEE build capacity and coalitions, strengthen existing programs and alternative agrifood networks.

Finally, the AEE is aware that modern *popular culture* has convinced us that agriculture is not a worthwhile pursuit (Berry, 2003; Mayer & Mayer 1974). The majority of our population has been educated and socialized away from bioregional and agroecological knowledge (Orr, 1994). The AEE, related organizations, and CSA growers/

educators should have a good understanding of our industrial food system, the major players (see Howard, 2013), and be able to discuss the costs and benefits regarding ecology, economics, community, and human health. As people become empowered and desire to reconnect with their food (dreaming about a new food systems), the AEE should provide alternative agrifood solutions, similar to what many of the organizations in this report offer. This is the key to bridging the gap between rhetoric and reality around healthy food access. Once the initial dialogue about agroecology, biodynamics, permaculture, do-it-yourself gardening, CSAs, and our industrial food system has occurred, the AEE can provide guidance on developing community food systems.

In confronting these inequalities, citizens and communities are encouraged to move beyond these oppressive structures by living outside them and by challenging the political machine and agro-industrial complex responsible for these injustices. A lasting piece of advice comes from Freire's (2004) third pedagogical letter,

I do not believe in loving among women and men, among human beings, if we do not become capable of loving the world. Ecology has gained tremendous importance at the end of this century. It must be present in any educational practice of a radical, critical, and liberating nature. (p. 47)

It is this sentiment about our relationship with the earth that emphasizes the 'ecological' in the mission of the AEE and justifies the need for food-based community development. Next I introduce the learning specific theory.

Situated Learning and Legitimate Peripheral Practice

The second major frame of my theoretical montage and system is Lave and Wenger's (1991) Situated Learning (SL) and Legitimate Peripheral Practice (LPP). The AEE theory speaks to many aspects of the food movement, yet it does not examine how learning occurs within organizations or small groups. The AEE frame is complemented by the interactional details and concepts provided by SL and LPP. Together these frames constitute the meso and micro+ levels of my theoretical approach to understanding CSAs as contexts for education.

The SL and LPP theory was developed out of a reading group that focused on activity theory, critical psychology, and learning in the workplace, which occurred at the Institute for Research on Learning in Palo Alto, California in 1988. This groundbreaking treatise is not based on formal schooling, as the authors believe schools decontextualize knowledge and are ineffective settings for knowledge acquisition and application. Moreover, this novel learning perspective breaks with traditional psychological theories, claiming they have left out the rich interconnections of activity, activity systems, communities, culture, and political economy. The authors loosely based their ideas on Vygotsky's Zone of Proximal Development, actor network-theory, and praxis.

Therefore, this theory is an appropriate lens for analyzing how learning happens within CSAs because this context emphasizes the doing of activities, in informal settings, and organizational communities that have their own subculture. Lave and Wenger (1991) draw from the experiences of midwives, tailors, Navy quartermasters, butchers, and Alcoholics Anonymous members to provide concrete examples of their ideas. To further

explain the theory I have identified four important areas related to my work, the concepts of *context*, *community of practice* (CoP), *participation*, and *apprenticeship*.

Lave and Wenger (1991) believe that all learning takes place within a *context* and occurs as people are exposed to different meanings of language and witness the application of these ideas relative to different “actional contexts” (Hanks, 1991, p. 15). It is the “Everyday situations in which people co-participate to a limited extent, thereby gaining access to modes of behaviors not otherwise available to them, eventually developing skills and certain kinds of performance” (Hanks, 1991, p. 18). Lave and Wenger (1991) view the context (including people and the environment) as providing the concepts (language) and the associated behaviors accompanying these concepts. It is the performance of certain tasks by the participants within the setting that leads to learning. The context is a bridge between the social setting and the cognitive activities of the participants. Learning occurs through interactions with others in specific social settings. Unlike other theories of learning, the focus is not on the individual, but rather on how the participants interact with each other and the context to reproduce their CoP.

These social interactions are defined by and occur within a *community of practice*. Accordingly, learning is a situated activity, a process called legitimate peripheral participation. To further explain the LPP concept, Lave and Wenger (1991) point out that “learners inevitably participate in communities of practitioners” and “the mastery of knowledge and skill requires newcomers to move towards full participation in the sociocultural practices of a community” (p. 29). In discussing a CoP and how knowledge is produced, the authors make the distinction between “newcomers” and “old-timers,” and speak in terms of “activities,” “identities,” and “artifacts.” One of the primary concerns of

the theory is how a CoP trains future practitioners and reproduces itself. It is through participation in the “activities” of the community that the “newcomers” “identities” are transformed as they learn to use the “artifacts” in ways similar to those of the “old-timers.”

In working with and observing old-timers, apprentices gain an understanding of:

What they [masters] do; what everyday life is like; how masters talk, walk, work, and generally conduct their lives; how people who are not part of the community of practice interact with it; what other learners are doing and what learners need to learn to become full practitioners. It includes an increasing understanding of how, when, and about what the old-timers collaborate, collude, and collide, and what they enjoy, dislike, respect and admire. (Lave & Wenger, 1991, p 95)

As part of the CoP, newcomers learn the process, language, jokes, history, motivations, and what the old-timers consider to be a finished product.

Another important point about CoP is that they are not static. LPP “is a reciprocal relationship between persons and practice” and takes place in an ever-changing context, which means, “the practice itself is in motion” (Lave & Wenger, 1991, p. 116). As newcomers learn the language and tools of the trade they also change the CoP and make it their own over time. Learning within a CoP is not unidirectional, but rather implies multiple points of view. Legitimate participation means newcomers’ occasional contributions will “be taken into account . . . insofar as this continual interaction of new perspectives is sanctioned” (Lave & Wenger, 1991, p. 117). This is a de-centered approach to learning, where the emphasis is shifted away from the individual, since the “mastery

resides not in the master, but in the organization of the community of practice of which the master is part” (Lave & Wenger, 1991, p. 94).

The third main concept is *participation*. Lave and Wenger (1991) state, “participation in the lived-in world” is “the key unit of analysis [in their] theory of social practice (which includes learning)” (p. 121). To fully understand what it means to be participant in a CoP, the authors point out that apprentices and to some extent even the masters are on the *periphery*. The periphery is “empowering” and “positive”; it is a place from “which one moves toward more intensive participation” (Lave & Wenger, 1991, p. 36). The authors contrast this against “centripetal participation,” which denotes the center of the community and is associated with a “linear notion of skill acquisition” (p. 36). In their discussion of tailors and Alcoholic Anonymous, they declare, “it is not the relationship [to the masters], but rather the apprentice’s relations to other apprentices and even to other masters that organize opportunities to learn” (Lave & Wenger, 1991, p. 92). As members interact, they change positions, gain other perspectives, develop different learning trajectories and thus come to understand various identities within the community. Like the CoP, LPP is a dynamic concept. “In this sense, peripherality, when it is enabled, suggests an opening, a way of gaining access to sources of understanding through growing involvement” (Lave & Wenger, 1991, p. 36).

Participation in a CoP is tied to the notion of *apprenticeship*, the fourth major concept needed to grasp the theory. One of the reasons behind developing this theory is that the authors wanted to rescue the idea of apprenticeship. Lave and Wenger (1991) draw the distinction between historical forms of apprenticeship and how they conceptualize it relating to “situated learning” (p. 31). They frame apprenticeship as a

central piece in their theory of learning. An apprentice is a member of a CoP who, as one of many newcomers, takes on different roles simultaneously: for example, a learning practitioner, an aspiring expert who perfects the desired performance, and an active member in reproducing the community itself. To be an apprentice means that one is constantly engaged with the changing social world, because apprentices interpret and re-interpret the language, meaning, and activities of a CoP.

Hanks (1991) provides a further explanation of what it means to be an apprentice. “The apprentices’ ability to understand the masters’ performance depends not on their possessing the same representation of it, or of the objects it entails, but rather on their engaging in the performance in congruent ways” (p. 21). The emphasis is on the apprentice’s doing of the activity in a similar fashion to that of the master’s. Apprenticeship is performative, not necessarily cognitive or even linguistic. That being said, Lave and Wenger (1991) spend a considerable amount of time discussing the role of language and the relationship between language and the performing of an activity. Language becomes part of the context and is a situating factor in the learning process for any apprentice. More so, it should also be noted that language has a special place in the reproduction of the CoP, because it is through language that stories and the history of the group are passed on, as apprentices move toward becoming masters and assuming the leadership roles.

The main concepts of *context*, *CoP*, *participation*, and *apprenticeship* lay the foundation for the theory of SL and LPP. But how exactly do Lave and Wenger (1991) explain SL and LPP? Lave and Wenger (1991) view SL as a “transitory concept,” a connection or bridge between a view of learning where “cognitive processes (and thus learning) are primary and a view according to which social practice is the primary,

generative phenomenon, and learning as one of its characteristics” (p. 34). SL is a general theoretical perspective about the relational character of knowledge and learning, the negotiated character of meaning, and engaged, dilemma-driven nature of learning. For Lave and Wenger (1991) there is no activity that is not situated. The SL approach rejects what Freire (1970, 1973) calls the Banking Method of education and is about the participant’s activities in and with the world, as we are all agents performing activities and mutually constituting reality with each other. SL is the broad framework for this theory, while LPP provides the details on how learning actually occurs.

Hanks (1991) describes LLP as more than a simple participation structure in which the apprentice occupies a particular role at the edge of a larger process. LPP is about learning and coming into a certain way of being and acting in the social world, and gaining experience with a CoP. Lave and Wenger (1991) state, “Legitimate Peripheral Participation provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artifacts, and communities of knowledge and practice” (p. 29). LLP is about the interplay of these aforementioned concepts, and the “sustained character of development cycles of communities of practice, the gradual process of fashioning relations of identity as a full practitioner, and the enduring strains inherent in the continuity–displacement contradiction”; it is about “embracing the richness of human experience” (Lave & Wenger, 1991, p. 121). LLP is not an educational strategy or a teaching technique; it is an analytical viewpoint of learning, a way of understanding how learning occurs between people and groups in a given context. With this deeper understanding, we can better grasp why it is such a good fit for the study of learning and education within CSAs.

One of the major conclusions Ambach (2002) drew from his thesis was that the SL and LPP is the most appropriate framework for understanding learning within CSAs. This is because CSAs are a community of practice (CoP), where participation in the activity system creates a collective understanding regarding what shareholders are doing and what this means to them and their communities. In weighing the pros and cons of different theoretical frames, Ambach (2002) determines that LPP highlights the “emancipatory dimensions” of CSA shareholders’ learning because not all knowledge comes from an individual expert’s prescription, but rather through the interactions that people have with their environment (p. 97). Ambach (2002) concludes that rather than asking, ‘how do farm sharers learn,’ we ask ‘how does the farm membership learn?’” (p. 97). Thus, the focus is not the individual, but the CoP itself. For my study, this framework helps me to approach learning from different points of view and levels, such as that of a small group (i.e. a single CSA organization) and a larger CoP (i.e. a networked community).

Additional Theoretical Frameworks

Taken together, the AEE along with SL and LPP provide the main frameworks for this project. The AEE is a broader framework operating at the meso (middle) level within my theoretical system, with SL and LPP at the top end of the micro levels and speaking directly to how people learn in social settings. There are, however, four other relevant frames that have been successfully used in the study of CSAs and education: bioregionalism, social movements, and the learning perspectives of experiential education and tactile space. Of these frames, the social movement perspectives have the most depth—in that they are commonly applied across the social science disciplines and have been widely drawn upon by activists and scholars alike to study the food movement(s). The

bioregional perspective is important as it includes the influential concepts of a *foodshed* (Kloppenburg, Hendrickson, & Stevenson, 1996), variations on the theme of *localism* (Abate, 2008), and is an ecologically based frame. The learning frames provide additional points of view on how people acquire knowledge, incorporate new information, and change their behavior. In exploring these frames, I draw from the educational theories that best describe the possibilities for how learning happens in CSAs, both through formal and informal, conceptual (cognitive) and non-conceptual (embodied) methods. These additional frames overlap and fill in gaps within this system of theories.

Bioregionalism. The first additional frame to be incorporated is that of bioregionalism, an ecologically based theory operating at the broadest (meta) level of theorizing. The basic idea is that all human activities need to be grounded and understood as occurring within a given geographic area that has distinct biological and ecological characteristics (Sale, 2000). The bioregional frame is a foundation for place-based and FGBE (Diffenderfer & Earle, 1997; Gruenewald, 2003) and is used widely within environmental education curricula (Woodhouse & Knapp, 2000). The richness and power of the bioregional frame is that it is based in ecological principles, which means it is holistic in its orientation and considers the connections of systems (Gruenewald, 2003; Schlesinger, 1997). The bioregional/ecological frame is a good fit in the study of CSAs and other sustainable agriculture projects as these programs seek to reestablish regional economies and reconnect people to their food's sources. Furthermore, a bioregional/ecological approach fits with the AEE's emphasis on agroecology.

Several scholars have used aspects of bioregional/ecological frameworks or similar concepts in their study of CSAs and alternative agrifood systems. Kloppenburg et al. (1996)

describe a *foodshed*, and by replacing the word "water" with "food" this concept connects the social and cultural aspects of food to the natural boundaries as defined in a "shed" or a geographical area. The term foodshed is a unifying and organizing metaphor for new conceptual development regarding food and the unity of place and people in nature and society (Klopenburg et al, 1996). Other concepts within the bioregional/ecological frame that have gained particular popularity are *local*, *localism*, and *locavore* (Abate, 2008; Delind, 2002; Nestle, 2009). Similar to a foodshed, these localist concepts are about purchasing and eating food that was grown and processed within 50–100 miles of its consumption, thus keeping dollars in the immediate economy and limiting the distance food travels. These terms speak to the idea of *food miles*, which asks people to consider the distance their food has traveled from farm to plate (Weber & Matthews, 2008).

Most of the studies and theoretical papers on CSAs, civic agriculture, and parts of the food movement situate their work within the bioregional/ecological frame and draw on one or more of the concepts outlined above. Fenster (1997) discusses regional food systems, seasonal diets, and self-reliance. Ambach (2002) concluded that the bioregional frame is a relevant approach because CSAs are ultimately connected to a farm or garden in a given place. Okumura (2004) focused on how to improve local *food security*, another important concept that fits within the bioregional approach. Allen et al. (2003) explored emerging local agrifood alternatives in California and determined that most initiatives oppose the global by reconstructing the local and reconnecting farmers and consumers through farmers' markets, CSAs, and the reinvigoration of small family farms. Wendell Berry (1978) also firmly grounds his argument against industrial agriculture and specialization in terms of reconnecting communities with the land, the soil, the water, and

the biological processes that make food production possible. These authors believe that farms, CSAs, and gardening programs are ideal contexts for achieving these reconnections and teaching the public about the ecological systems that we all rely upon for survival.

Social Movements. The second additional frame woven into this system is that of social movements, which operates at the macro level and has been applied in other studies to CSAs and food movement(s) in general. The main models include Resource Mobilization Theory (RMT) and new social movements (NSM), which include culture theory (O’Leary, 2010; Ostrom, 1997). RMT argues actors are rational and adaptive, use cost/benefit analysis and form movement goals through conflicts with societal institutions; grievances are ever present; mass mobilizations depends on resources, organizations, and opportunities; that centralized formal organizations are most effective at mobilizing resources; and that success is largely determined by engaging in the political processes (Jenkins, 198). RMT has been successful because it takes a broad approach, accounting for changes in individual grievances and the inner workings of social movement organizations (SMO) as they engage with larger political and economic opportunities (McAdams, 1994). This being said, RMT is criticized for being broad and ignoring cultural and ideological factors (Buechler, 1993). However, many newer social movement theories incorporate aspects from RMT into their analysis.

The theory of New Social Movements (NSM) is less concerned with directly engaging the political apparatus of the state, and more focused on changing civil society and individual life styles to create solutions to perceived problems (Melucci, 1980). Yet, NSM do work to change legal structures and focus on rights and less on material injustices (Buechler, 2000). Benford and Snow (2000) identify popular frames within NSM, including

rights, choice, injustice, cultural pluralism, oppositionalism, and environmental justice to highlight the diversity of their application. In general, NSM frames provide a shared understanding of grievances, define what needs to be changed, help identify who is to blame, and urge others to act in concert to effect change (Benford & Snow, 2000).

In her study Ostrom (1997) concluded that while RMT and NSM theory provided a starting point for understanding CSAs, neither was sufficient to account for the growing interest and participation in the sustainable agriculture movement because neither theory adequately explains the relationship among “ideological factors, organizational structures, and social movement participation” (Ostrom, 1997, p. 47). Yet, Ostrom (1997) did validate Eyerman and Jamison’s (1991) approach to social movements regarding the production of knowledge. It is through movement activities that the “creation, articulation, and formulation of new thoughts and ideas—new knowledge” (Eyerman & Jamison as quoted in Ostrom, 1997, p. 56) is shared with other participants and leaders.

O’Leary (2010) also examined CSAs from a social movement frame and argued that as a form of protest activity they do not fit with previous theories as espoused by RMT scholars (e.g. McAdam, Tarrow & Tilly 2003; McCarthy & Zald 2001). O’Leary (2010) instead relied on Teske and Tetreault’s (2000) definition: “a set of people with a common problem, grievance, or hope [who] become conscious of their shared fate, build organizations, create social movements for the pursuit of their aims” and who are “interested not simply in furthering their self-interest but also in defining themselves as a community and thus agreeing that they share interests” (Tetreault & Teske, 2000, p. 9). An important take away is that O’Leary (2010) used Lyson’s (2004) civic agriculture paradigm and views CSAs as not directly challenging conventional agriculture, but rather

developing parallel conceptual and practical structures and solutions alongside it. I agree with O’Leary’s point of view, but also see CSAs and other food movement initiatives as exemplars from which conventional agriculture can model their future systems after.

Experiential Education. John Dewey’s (1938) renowned work on experience as the medium through which we learn is relevant to CSAs because the relationships among members, staff, volunteers, and farmers in training can resemble the apprenticeship model of education. Dewey’s theory of experience (1938) is concerned with *continuity* and *interaction*. Dewey advocates for vocational experiences that lead to personal growth (physically, developmentally, and morally). For Dewey (1938), *continuity* in one’s experiences “both takes up something from those which have gone before and modifies in some way the quality of those which come after” (p. 35). That is, the past and present experiences of the masters and apprentices will shape the future experiences of both parties. Dewey’s *interaction* criterion is about the external (the objective world of people and the environment) and the internal (our subjective interpretations and reflections). “Continuity and interaction in their active union with each other provide the measure of the educative significance and value of an experience” (p. 44). Thus, according to Dewey, we must emphasize and seek out those experiences that foster curiosity, critical thinking, and personal growth—both for the benefit of the individual and the broader society.

In postulating that CSA organizations are teaching people about ecologically sustainable agriculture and health, we see a return to the vocational and apprenticeship models of education, which fit within Dewey’s conception of worthwhile experiences (Roberts, 2006). CSA growers and shareholders have different points of view, motivations, access to resources, and past experiences (continuity) with the food system(s). The grower

and shareholder interactions become situated, context-bound, and grounded within the current CSA experience. Dewey's ideas that educative experiences happen in a wide variety of situations (such as a farm or garden) complement the AEE and LPP approaches discussed above.

Several CSA and garden-based studies discuss aspects of experiential learning (Ambach, 2002; Blair, 2009; Capps, 2012; Donahue, 1994; Earles, 2007; Iwaki, 2013; King, 2012) but do not firmly ground their respective theoretical frames in Dewey's work. However, the intersection of experiential education and sustainable agriculture has been explored by agricultural extension educators (Knobloch, 2003; Parr & Van Horn, 2006). This body of literature supports Dewey's theory (1910, 1916, 1938) as a valid lens through which to understand how participants make sense of conceptual ideas, experiences, reflections, and experimentation in the learning process (Parr & Van Horn, 2006).

Tactile Space. The second learning theory to be incorporated into my system of frames is that of Tactile Space (Carolan, 2007). This frame is notable because it encompasses both cognitive and embodied (non-cognitive) aspects of learning. Hayden and Buck (2012) expand Carolan's (2007) frame and state, "Tactile space is a means to make apparent the interconnections between people/people and people/nature by engaging all of the senses" as it "enriches our grasp of these relationships through its emphasis on the coalescence of representational understandings and non-representational experiences of the world" (p. 333). This approach is similar to the Reggio Emilia idea of the "3rd teacher," where the setting is viewed as an agent of education (Strong-Wilson & Ellis, 2007).

The important theoretical advance of this frame is the incorporation of the non-conceptual or the "pre-cognitive" aspects of learning that occur as people interact with the

natural world. Tactical space is concerned with “the space of more-than-human affective fields, with bodies and practice” and considers that it is “in *doing* that the spaces of pre-cognitive *becoming* are opened up to elicit responses in bodies first and only (perhaps) in thought afterwards” (Hayden & Buck, 2012, p. 334, italics in original). Plus, this theory focuses on ecology and sustainability, two aspects of CSAs in their ideal form. Hayden and Buck (2012) state, “Active engagement in sensuous tactile space over time can reduce the epistemic distance wrought by modernity’s overemphasis on representational knowledge, thereby enabling holistic understandings that foster social and environmental commitments that in turn encourage sustainable lifestyles” (p. 334). Thus, tactile space incorporates aspects of bioregionalism as it is about engaging in and with the Earth.

Hayden and Buck (2012) concluded that the most powerful forms of learning occurred when members’ experiences consisted of both non-representational and representational ways of knowing. The three CSA activities that produced the most measurable effects were participation on the farm, at distribution, and at the shareholders’ homes when they prepared the food. At distribution, the hands-on activities of setting up the farm stand, sorting the produce, and tasting the food resulted in visceral and embodied experiences. Members who dug potatoes, picked berries, and weeded peppers reported that these activities influenced their environmental outlook. This kind of participation,

Raises their attunement to environmental issues, instills a greater appreciation for food and its cultivation and encourages a greater commitment to sourcing food that is raised locally and sustainably. Members also reported a greater awareness of the interconnections between their actions and environmental consequences and the environment’s (and

farmer's) consequences for their food supply. (Hayden & Buck, 2012, p. 339)

Finally, at home the shareholders remarked that the act of “doing the cooking,” of “carefully” and “mindfully” washing, cleaning, trimming, cutting, and preparing the vegetables to eat provided a direct link between nature and their bodies (Hayden & Buck, 2012, p. 339). The use of tactile space to understand how and what members learn is a valuable contribution to understanding education within CSAs.

A Systems Approach to Education in a CSA Context

The theories discussed above provide varying points of view on how CSAs can be understood and how learning and education can be framed. Here I thread together the details of this systems approach to education within CSAs, setting up the interpretive lenses for the findings chapters. I map how these different theories intersect and identify their levels of application and overlapping domains (see table 1). Broffebrenner's Ecological Systems Theory Model (1979) provides a template in this discussion of meta, macro, meso, and micro layers as applied to theorizing. While each level of theory has its own merits, not all frames are equal in how they situate CSAs and conceptualize learning, and not all conceptualizations of learning are applicable to the informal, garden-based, and situated social settings of CSAs. Each theory taken individually contributes a piece or several possibilities of conceptualizing these phenomena, but when taken together (as a mosaic) offers us many complementary points of entry in this exploration. Importantly, the boundaries within this system are fluid and some theories span multiple levels.

Bioregionalism/ecology occupies the meta level of theorizing as it is concerned with the regional and planetary scale (Figure 2). This approach includes the natural and human systems, as well as their interactions and synergistic effects (Schlesinger, 1997). Critical

Level of Theory

Meta

Macro

Meso

Micro+

Micro

Micro+

Meso

Macro

Meta

Figure 2: A Systems Approach to Theorizing about Education in a CSA Context

theory and social movements are concerned primarily with improving the functioning of human social systems, from the regional to the nation-state and at times planetary level, depending on the goals of the particular movement. Variations of these two macro frameworks also focus on human–earth interactions (i.e. ecopedagogy and environmental movements). Broadly, these two theories differ in that critical theory is more abstract and social movements are more applied. Historically, critical theory has impacted how scholars

frame and understand social movements themselves, despite disagreements in the primacy of Marxian dialects and economic determinism (Escobar, 1992). For my purposes, both the critical theory and social movement frames fall under the bioregional approach, although aspects of these frames are similar in their levels of theorizing.

The AEE frame is a variation of CP, and as such I have identified CP as being slightly broader in scope (Meso+). Yet both of these frames operate at the middle or intermediate levels of my theoretical system in comparison to the other frameworks. These two approaches are applicable within the social movement and SMO contexts. The dialogical methods of AEE and CP are geared towards positive community and social change, specifically in the realm of civic agricultural. As mid-level theories, these frames provide a bridge and a space where the ideas of ecology and bioregionalism intersect with small groups and CoPs as they facilitate new forms of knowledge. The AEE theory is a guide for individual change agents and organizations, as well as a conceptual and even an evaluative frame, as it provides the critical food lens questions (Wight, 2012). Both of these theories help to situate how educational activities should be set up and facilitated within CSAs.

The next grouping of theories speaks directly to how learning occurs within group and organizational settings. At the micro+ level, SL, LPP, and experiential education deal with apprenticeships and vocational styles of learning that aim to create educative experiences for the individual and community. These learning-centered theories are a good fit in the study of CSAs and education as they can be applied to informal, out-of-school settings. Although Dewey was interested in transforming what he called traditional schooling methods with his progressive and pragmatic approaches, the experiential aspects of his ideas can be used to understand public or adult education not occurring within

formal settings. SL and LPP also focus on experiences outside of school and within a CoP, and view learning as relational, as a mentor–mentee activity where they apprentice gains an understanding through doing.

Finally, the micro theory of tactile space speaks to the embodied experiences and activities that fall into the “pre-cognitive” realm of learning and are applicable to farming contexts. Volunteers and shareholders can learn from the non-human actors on the farm—the compost pile, the soil, the watering of plants, the pruning of tomatoes, etc. It is about touching and interacting with the space itself, observing how the plants react to human care—noticing the difference after they have been watered. There is an important nexus between SL and LPP and tactile space, as Hayden and Bucks’ (2012) theory expands Lave and Wenger’s (1991) frame—incorporating the embodied aspects of apprenticeship. SL and LPP address the importance of context and with the addition of the non-representational, we can further theorize how apprentices learn from non-human mentors, from the rain, trees, insects, from nature herself. Thus, the CoP as a setting is widened to include the bio-ecological communities that interact with members as they garden.

Summary

The systems diagram above provides a graphic illustration of how these theories work together to frame the many dimensions and domains of CSAs and learning within the farm context. A comparison to this synthesis of frames is Broffebrenner’s Ecological Systems Theory Model (1979), which distinguishes between how different levels and institutions in society affect student learning. For my purposes, the micro and micro+ levels provide the learning theories, from the embodiedness of tactile space and the experiential aspects of interacting with nature and other participants, to the larger CoP as described by

SL and LPP. Then the CP and AEE level describes the ideal goals of various agrifood and community development initiatives, providing a bridge to the social movement and critical theories. All of these activities and frames are encompassed by the bioregion and the larger ecological systems of the earth.

It is from these various theoretical perspectives that I approach CSAs and education within the CSA context. What one theoretical frame may lack in its conceptualization of these topics, the others provide. Thus, we can gain insights into education and learning at the social movement, regional, organizational, community of practice, and individual levels, as well as the connections among them. These frames enable me to cast a wide net and draw from several complementary methodologies and methods in my collection and analysis of data. Finally, this systems approach sets up the interpretive lens for the findings chapters.

Chapter 3: Methodology and Methods

This chapter explores the methodologies and methods I used for this research project to gain both a broad and detailed understanding of the educational phenomena and activities taking place within CSA programs and organizations in Ohio, Kentucky, and Indiana. First, I outline Action Research and Critical Ethnography as my overarching philosophies and methodologies. Second, I discuss my multi-phase, mixed methods approach. Third, I talk about my positionality and the background story (phase one) to this project. Fourth, I explain the primary research questions and variables. Then, I discuss the use of case studies for the second phase of the project. Sixth, I detail the methods used to collect data for the case studies. Next, I discuss the sample selection, recruitment techniques and present the body of data for the case studies and explain how it was analyzed using (a) biographical narratives, (b) a thematic analysis to investigate the educational themes and identify emergent ones, and (c) a network/situational analysis of the CSA CoP. Finally, I describe the third phase of the project, a regional survey administered to CSA managers, and the population criteria, the sample, data, and analysis.

Methodologies: Action Research and Critical Ethnography

Action Research. AR is not just a methodology but a total framework and orientation for inquiry that guides the entire research process from developing partnerships, research questions, seeking funding, planning, and taking action, to evaluation, dissemination, and further action (Reason & Bradbury, 2006; Brydon-Miller, 2011). AR grew out of critical theory and, according to Nielsen and Nielsen (2006) is indebted to the ideas of Popper (1945), Adorno and Horkheimer (1947), Lewin (1946),

Skjervheim (1957), and Freire (1970, 1973), as well as other critical theorists who question the positivist scientific tradition and the role of the state and industry in deciding research agendas. For my purposes, this criticism applies to the agricultural research and technological developments funded by USDA, FDA, agribusiness, Land Grant Universities and agricultural extension offices (Magdoff & Tokar, 2010). This being said, it is important to recognize that the USDA, Land Grant Universities, and their extension offices are often of two minds. While there are major issues with these institutions and some of the research and technological developments they pursue, there are also many people and programs within these institutions that are working on developing sustainable agroecological solutions to the problems outlined in the introduction. Examples of these programs are discussed in chapters seven and eight.

Figure 3: Action Research Cycles (Riel, 2010)

One of the hallmarks of AR is the use of iterative cycles to investigate and explore an area of interest (Reason & Bradbury, 2006). Figure 3 above presents one possible interpretation of these cycles, where members of a community participate in the planning and background study of phenomena, conduct the research, collect and analyze the data, and then reflect and evaluate the process. The findings from one cycle are then used in the planning and implementation of the next round of research.

There are many different variations of AR methodologies and methods, including participatory action research (PAR) (Burgess, 2006; Hall, 2002), community-based participatory research (CBPR) (Minkler & Wallerstein, 2002), action learning (Revans, 1982), action science (Argyris, 1995), citizen science (Silverton, 2009), photovoice (Wang & Burris, 1997), self-reflective inquiry (Hall, 1996), appreciative inquiry (Cooperrider, Whitney, & Stavros, 2003), and first, second, and third person AR (Grant, 2007; Gustaven, 2003). I approached this study from a PAR perspective. Brydon-Miller (2008) outlines PAR from a shared values standpoint, emphasizing democratic processes, improvement of human life, and engagement in morally committed action within the research process.

PAR is a form of AR and both emphasize Lewin's (1946) cyclical approach to planning, acting, observing, and evaluating (McTaggart, 1991). Yet, PAR emerged from work with oppressed people's in developing parts of the world, such as Latin and South America, Africa, and Asia and in recent decades has been applied to a variety of projects in the developed world (Brown & Tandon, 1983; Freire, 1970). PAR differs from AR in that the subject of research and the goal of the project come from the members of the community, is focused on structural transformation to improve the lives of the community

members, concentrates on helping people identify their assets, resources, and own abilities to mobilize for a cause (Hall, 1991).

In fact, PAR and CSAs have already been explored as comparable concepts and practices from the point of view that CSAs are a marginalized form of agricultural production and communal organization. Charles (2011) makes that case that PAR is a key process within the creation and operation of some CSAs. These two concepts exemplify a “caring practice” and an “ethics of care” within their separate domains of research and agricultural activities. Moreover, PAR and CSAs are both rooted in a community of practice, and draw from a set of shared values that guide their day-to-day actions.

Critical Ethnography. The second guiding methodology I draw from is that of ethnography, specifically critical ethnography (CE). In line with my AR approach and theoretical positions of the AEE and LPP, CE is natural fit for collecting data. Unlike earlier versions of ethnography, CE emphasizes emancipation, and works to change the unequal social and economic conditions affecting marginalized populations (Carspecken, 1996; Foley, 2002) Critical ethnographers “work against oppression by revealing and critiquing it,” by exposing how “knowledge itself is a social practice interpenetrated with power,” while “explicitly considering how the acts of studying and representing people and situations are acts of domination” (Noblit et al., 2004, p. 5). CE like AR, is a political project that provides the marginalized with a voice. As Sikka (2006) points out, Western philosophy does not consider knowledge that lies beyond its logocentric point of view.

Foley (2002) offers us a summary of the philosophical and epistemological assumptions of CE. First, all cultural groups produce an inter-subjective reality, one that is inherited (socially) and constantly reproduced through practice and socialization.

Secondly, the reflexive investigator can only experience the historical, socially constructed reality in a *partial* way by, unless the researcher is truly from that culture and/or has spent an extraordinary amounts of time with living that way of life. Finally, when CE is applied to a PAR setting, it can help reduce researcher biases, as the CoP is involved in many aspects of interpretation and the telling of its own story. Critical ethnographers do not claim validity in a traditional scientific sense; similar to Geertz's (1973) *near-experience*, they "aim to generate insights, explain events, and to seek understanding" that is beneficial to the community itself (Anderson, 1989, p. 253).

PAR and CE are useful and valid methodologies for studying CSA because our modern industrialized agricultural system and some of its Land Grant-affiliated institutions do not consider alternative practices such as Steiner's (2004) biodynamics as legitimate. CE as a methodology fits with the study given that biodynamics is a foundation for many CSAs. This study showcases stories of several alternative agricultural practices that are not deemed credible by mainstream agricultural researchers.

Multiple Phases and Methods. To gain an in-depth understanding of the kinds of education happening within CSA organizations this study was conducted in three phases. The first phase consists of my introduction to the local CSA community and includes the narrowing down of my research topic and questions. This is discussed in my positionality statement below. The second phase was conducted using a cluster of case studies, which provided the majority of data for this dissertation. The third phase was a regional survey to CSA growers in Ohio, Kentucky, and Indiana. Conducting the research in phases helped me verify the educational themes and thematic coding over time and across measures. Using

multiple phases also worked well with the CE and PAR approaches as new ideas, information, and questions could be incorporated into the study as I progressed.

For the second and third phases of the study, I used several methods to collect the data, including interviews, participant observation, documents and artifacts, and surveys. There are benefits to using a mixed-methods approach (Creswell, 2013; Greene, Caracelli, & Graham, 1989). First, combining qualitative and quantitative approaches increases the validity of the inquiry by offsetting the limitations and assumptions inherent in any single research method (Gerring, 2003). Second, mixed methods draw upon the idea of *multiplism* (Greene, Caracelli, & Graham, 1989) by providing a range of perspectives to understanding different phenomena. Cook (1985) explains that *multiplism* helps to establish relationships across many different but conceptually related ways of knowing. Finally, multiphase mixed-methods allowed me to include data from different levels of experience. Together, these provide rich details regarding the types of education happening in and around CSAs.

Positionality: From Outsider to Insider

I am a White upper-middle-class male who spent the first ten years of my life in the Appalachian region of Pennsylvania. I learned to love nature and the outdoors. Over the next 10 years my family moved to Belleville, Ontario, in Canada and eventually Cincinnati, Ohio as we followed my father's career in the paper and plastics industry. As an undergraduate student at Ohio University I read Daniel Quinn's (1995) *Ishmael*, and this book helped me to think differently about the human-earth relationship. I further pursued these environmental interests for my Sociology master's thesis in 2006-2008, as I worked

with ecovillagers¹⁰. It was during this time that I realized conventional food production was a major contributor to our ecological crisis and became interested in agriculture.

The first phase of this study began in March 2011, I began volunteering at Gorman Heritage Farm (GHF) in Evendale, OH, a 501(c)3 educational non-profit. After a month of volunteering 10 hours a week and building relationships I was offered the assistant market-gardener position. I stayed in this part-time seasonal position for three years, until the fall of 2013, when I returned to volunteer status to focus on completing this project. From 2011-2014 I was involved in multiple projects that served as an introduction to the local CSA alternative-agriculture CoP. These experiences defined the goals of this study. In hindsight, there were five specific cycles (Figure 3) that set the stage for this project.

First, in 2012, GHF head gardener John Hemmerle and I, with the support of the staff, launched a CSA program. This was my first encounter and introduction to the CSA model, as both a shareholder and grower. During the next two seasons, I gained firsthand insights into what it takes to run a CSA program. My wife and I also learned how to adapt our shopping and eating habits to successfully use the produce. My experience with the program made the topic of CSAs familiar and a good choice for this study.

The second cycle also began in 2012 when John and I teamed up with geology Professor Townsend-Small, a geology graduate student, Andrew Schneider, and Professor Brydon-Miller from the University of Cincinnati. Together, we studied the effects of biochar¹¹ and organic (non-synthetic) fertilizer on the greenhouse gas emissions from GHF's garden soil. We worked with GHF staff and volunteers in an educational manner

¹⁰ In its ideal form, an ecovillage (EV) is a human-scale, full-featured settlement in which human activities are harmlessly integrated into the natural world in a way that is supportive of healthy human development for the indefinite future (Gilman, 1991).

¹¹ Biochar is a form of charcoal that can be used to amend soils (Lehmann & Joseph, 2009).

similar to citizen science, where members of the community work in conjunction with experts to conduct research (Bäckstrand, 2003). To evaluate the educational impacts of the project I surveyed our team and volunteers about what they learned through participation.

Next, in 2012, I met Sam Dunlap (roommates with John Hemmerle) who works at Civic Garden Center of Greater Cincinnati¹² (CGC) and we began working with Ellen Vera (a United Food and Commercial Workers International Union organizer, employee of the Cincinnati Union Cooperative Initiative, Our Harvest Cooperative CEO) and a team of others to begin plans for a food hub¹³. From April to July 2012, I helped this group design a buyers' survey, which was completed in November. This experience provided me with insights into the local-food movement, connected me with key players within the community, and reaffirmed that I was on the right track for selecting a dissertation topic.

The fourth and fifth cycles preceding this project were my regular attendance at the Green Umbrella¹⁴ Food Action Team (GUFAT) meetings and an exploratory study with five members of the broader Cincinnati alternative agriculture community. It was at the GUFAT meetings that I met other like-minded individuals involved with food, nutrition, gardening,

¹² The CGC is a major player in helping communities and schools start and manage their own garden plots by offering grants and staff support (Civic Garden Center, 2014).

¹³ A food hub is a place where smaller growers can combine their production, aggregation, distribution, and marketing services, thus helping them to gain entry into new and additional markets that would be difficult or impossible to access on their own.

¹⁴ The Green Umbrella (GU) is a non-profit organization working to improve the economic vitality and quality of life in the region around Cincinnati by maximizing the collective impact of individuals and organizations dedicated to environmental sustainability. As a partner of Vision 2015 in Northern Kentucky and Agenda 360 in Southwestern Ohio, GU facilitates collaboration among over 200 area non-profits, businesses, educational institutions and governmental entities focused on the environmental aspects of sustainability. Green Umbrella is the "backbone organization" that helps member organizations work together to promote a more environmentally sustainable region. GU operates in teams, which meet monthly to share best practices, exchange information, and implement strategies to promote sustainability in their field. Teams include Energy Conservation, Renewable Energy, Waste Reduction, Transportation, Land Management, Water, Local Food, and Outdoor Recreation/Nature Awareness (Meet Me Outdoors!) www.greenumbrella.org/

community health, and sustainability efforts. As I learned about these initiatives, I struggled to nail down a specific research topic. Professor Brydon-Miller suggested I speak with other stakeholders to learn more about the community's needs. In 2013 I interviewed John Hemmerle of GHF; Mike Roman, Education Director at GHF; Tevis Foreman, from the City of Cincinnati's Office of Environmental Quality; Madeline Dorger, the Youth Education Coordinator for the CGC; and Braden Trauth, founder of OM Valley Permaculture and This Land, two alternative agricultural organizations (AAOs). These interviews steered me away from working with any one organization and oriented me towards a broader programmatic assessment. In hindsight, my time with GUFAT and the interviews convinced me that I needed to identify an underlying commonality. Educational activities taking place within CSAs became that commonality for my research.

The different cycles of this first phase are a major part of my positionality and situated identity as they have impacted the questions and the analysis of this study. In effect, my involvement became a form of collaborative inquiry in which all the participants (including me) helped to make sense of the data, learn new things about CSAs and their organization, the potentials for FGBE, and how to apply these new understandings to distinct organizational circumstances. Therefore, this study is to be understood as taking place within several cycles and years of iterative, Action Research processes.

Research Questions and Case Study Design

Questions. Based on the gaps in the literature, my interests, and the desire of the Cincinnati alternative agriculture CoP to promote local-food production and consumption, there are four primary research questions to this study, which are applied to the different levels of theorizing. My exploration into the workings of CSAs is also guided by the food

movement's practical and theoretical developments over the past 30 years. These categories and variables are the foundation for many of the codes used in the analysis. The questions are centered on three broad categories: (A) types of education, (B) organizational characteristics and resources, and (C) shareholder and grower motivation for joining, participating, and operating CSAs. These three categories and their variables are further detailed in Table 2 (also see interview and survey guides in Appendix A, B, & C).

The categories and variables listed in Table 2 below are operationalized through the specific research questions:

RQ1: What types of farm and garden-based education (FGBE) are happening within community-supported agriculture (CSA) organizations?

RQ2: How, where, when, and through whom does this learning occur within CSA contexts?

RQ3: What kinds of organizational resources and characteristics influence CSA education programs?

RQ4: What are the shareholders' and growers' motivations for joining, operating, and participating in CSAs (including educational activities)?

Category (A) is about education and relates to RQ1 and RQ2. The definitions and explanations of these different types of education were discussed in detail at the end of Chapter 1. If education is occurring, is it in a formal or informal setting, what kinds of topics are being discussed, and what activities are being done? Category (B) is specifically about the organizational resources and characteristics and relates to RQ3. How long has the CSA been functioning, are they a non-profit, and do they have access to outside capital to help fund the operation? Category (C) presents the major codes for grower and shareholder motivations and is directly related to RQ4. Are growers pursuing the CSA model for economic, local food, educational, health, ecological or other reasons? Are the shareholders

joining because they want access to clean food, produce that costs less, to support local farms, learn about food production, or because they are worried about the health and ecological implications of the food system and know that buying locally grown, non-sprayed, non-GMO foods is better for both?

Table 2

Variables by Category

<u>A. Type of Education:</u>	<u>B. Organizational Characteristics & Resources:</u>
<ul style="list-style-type: none"> a. Informal education – what members learn while working to fulfill their CSA hours, attending potlucks or other social events related to the CSA (referring to unstructured learning environments) b. Formal education – orientation & training programs; guest speakers, classes, etc. (referring to structured learning environments) c. Conceptual vs. Non-Conceptual learning i. Information being learned through CSA participation: health & nutrition; agricultural (seeding, transplanting, harvesting, watering, pruning); food related - cooking & preservation techniques; environmental; agricultural philosophies (permaculture, biodynamics), agricultural politics, etc. ii. Where is education occurring? Inside, garden, farm yard, during the sorting & boxing of products, social events, etc. iii. How is learning occurring? What kinds of tasks are being done where learning is occurring? Direct instruction, demonstration, trial and error, etc. 	<ul style="list-style-type: none"> d. Age of CSA/Organization (social capital) e. Land (number of acres & greenhouse land under cultivation) (living capital) f. Labor (number of employees, interns, shareholders, their hours, and shareholder labor hours required per season (human capital) g. Location (state, urban, rural, suburban, hardiness zone) (cultural capital) h. Use of government, private foundation grant monies (financial capital) i. Type of CSA products (vegetables, fruits, grain, meat) j. Type of CSA Organization (Limited Liability Corporation, non-profit, coop) k. Types of programs and events (classes, camps, farmer training, etc.) (intellectual capital).
	<u>C. CSA Shareholder and Grower Motivations:</u>
	<ul style="list-style-type: none"> l. Economic m. Local Food n. Educational o. Personal/Shareholder Health p. Ecologically Sustainable Agricultural Practices q. Other

Case Study Design. For the second phase of this dissertation I conducted a cluster of ten qualitative case studies in the Cincinnati area. Case studies are a method of choice for anthropological, educational, and organizational research, as they provide ethnographic and holistic insights into the phenomena of interest (Creswell, 2013; De Vaus, 2001; Yin 1984). Given the questions driving this study and the fact that it is both organizational and educational in nature, a case study design is a good fit. Furthermore, past research into CSAs as a context for education have also successfully used case-study designs (Cox, Holloway, Venn, Dowler, Hein, Kneafsey & Tuomainen, 2008; Donahune, 1994; Hayden & Buck, 2012; Mouillesseaux-Kunzman, 2005; Ostrom, 1997; Worden 2004).

A case-study design enabled me to collect data on multiple units of analysis, including individuals, organizations, and the CoP as a whole. These different, yet related sources and levels of data provided concrete examples of what, where, when, and how learning was happening within CSAs from a variety of perspectives, including the growers, shareholders, and active volunteer members and staff who operate different CSA organizational programs. Acquiring multiple pieces of data about the inner workings of CSAs reveals the ongoing, dynamic processes and interactions between people and organizations. It is during these interactions that participants engage in producing new meaning, interpreting information, and then sharing it with others (Ostrom, 1997).

Each CSA organization is its own case study and can be understood in isolation, however, when considered collectively, this body of data paints a vivid picture of the kinds and numbers of FGBE programs and phenomena that are occurring within the Cincinnati region. A parallel (or cluster) case-study design allowed me to make within and across-case comparisons between the CSAs along the variables of age, organizational type, educational

programs, and mission (Gerring, 2001; Worden, 2004). Finally, the case studies helped confirm the educational questions for the regional survey (phase 3 of the study) (De Vaus, 2001; Gerring, 2001; Yin, 1984).

Case Study Methods: Interviews, Participant Observation, Artifacts, and a Journal

Interviews. First I conducted in-depth, semi-structured interviews with growers and shareholders. The semi-structured format provides a focused means of collecting high-quality information that allows participants to discuss other relevant topics, while permitting our conversation to proceed in the desired direction (Fontana & Frey, 2003; McCracken 1988). Given the fluidity of what constitutes education and learning, how it happens, and what topics are being covered, the open-ended questions provided the chance for clarification on both sides. Plus, in-depth interviews helped me understand the psychological underpinnings, beliefs and opinions of the respondents far better than simply using close-ended survey questions (Weiss, 1995).

For the purposes of this project, it was important to interview both shareholders and growers, as each group brings unique perspectives on the topic of learning and education. Prior CSA research validates this need (Hayden & Buck 2012). The growers know more about the resources and organizational characteristics, their reasons and motivations for operating a CSA, and any formal educational activities happening on site. Plus, Ambach (2002) and other researchers have concluded that growers are often the ones driving this movement. Both interview guides were designed to investigate the types of education and information that is being co-generated and shared by participants in these organizations and the community. The primary unit of analysis here is the individual, but several of the questions reveal the characteristics and resources of the organization and the

CoP. Some questions for the managers and shareholders are very similar, if not the same, and using two interview measures helped with external validity and triangulating the data.

All interview questions were open-ended, but there was a considerable number of CSA-grower questions that asked for specific details, such as the age of the organization and the CSA, the duration of the CSA in weeks, the number of paid employees, the number of full and half-shares, the number of hours working shareholders are required to give, the acreage under cultivation, and the number of shareholders and working shareholders during the first and current (2013) years of the program. Thus, there were questions like ones above that approached a survey style, albeit none of them were designed with predetermined, close-ended responses.

The interview guides were pre-tested with several close friends within the gardening community, and minor changes were made as I went through the research process, ultimately ending up with four manager and two shareholder iterations. As Herr and Anderson (2005) describe, changes are expected in the AR dissertation process because “There is the assumption of the research spiral, this premise of an evolving methodology is a virtual given... the next step may be to broaden the scope of data gathering, something not previously anticipated by the researcher” (p. 76). As I moved through my data-collection, I did end up broadening the inquiry to include information about the organizations and CoP itself. The study evolved from simply exploring CSAs as a context for education to incorporating all of the CSA organizations’ educational offerings because I realized that the CSA context had to take into account other educational programs and aspects of the organizations, such as classes, tours, and apprenticeships.

Participant Observation. Participant observation is a form of ethnographic immersion where the researcher works along side members of a community or subculture. This method entails a certain degree of “resocialization,” as the researcher shares aspects of the participants “everyday life” and learns to see the world from their point of view (Emerons, Fretz, & Shaw, 1995, pg 2). Drawing specifically upon Geertz’s (1973) idea of *thick description*, which explains behavior within a given context, participant observation allowed me to gain a deeper perspective into the inner workings of CSA organizations. In keeping with the ethos of PAR and CE I also drew upon self-reflection, praxis, collaboration, and democratic participation throughout my immersion (Greenwood & Levin, 2007). Other researchers who have investigated CSAs used participant observation as a method because it provides several advantages (Cone & Myhre 2000; McNab, 2012).

First, participant observation enabled me to experience the farm and garden space from a visceral and imbedded standpoint. I was able to participate in shareholder and grower interactions and create my own relationships within the different CSA programs. As Hayden and Buck (2012) point out from their study, “Working with members, staff and a host of non-human participants allowed for an embodied engagement and understanding that would not have been possible through other methods” (p. 335). It is through imbedded observation that I gained a sense of the participant’s interactions with the garden with others as they experienced aspects of the CSA process by using their hands, feet, knees, and entire bodies. These experiences nurture different types of intelligences (Gardner, 1999) and behaviors by the participants. Thus, by being part of the CSA community, helping to grow food, and learning with them, I gained a situated understanding of the living, tactile, space. Details about the data are provided further below.

Organizational Documents and Cultural Artifacts. The third kind of data I collected was cultural artifacts, including organizational documents, records, photographs, and other forms of material culture. *Artifacts* are physical things, such as garden tools, clothes, and books, and are a lens for understanding the activities of people (Hodder, 2003). *Documents* and written materials are a specific kind of cultural artifacts. Lincoln and Guba (1985) distinguish between *documents* that are personal communications such as diaries and memos, and *records*, which are more formalized such as professional organizational emails, contracts, and flyers. Documents, records, and artifacts are not passive, but dynamic and expressive, and are part of the context that helps researchers make sense of actions and words.

These artifacts, such as garden tools, relate to education as shareholders learn their names and how to use them properly in the garden setting. The farm/garden context is a unique environment when it comes to cultural artifacts and documents because agriculture is the basis for civilization. In the process of cultivating the earth, humans have transformed the planet's ecosystems through farming technologies (old and new), such as earth sculpting tools and machines (tilling, mounding, etc.), water storage, diversion, and irrigation, and plant cultivation. Thus, agricultural activities (soil culture) represent an incredible body of archeological and phenomenological data because it tells us how we treat the earth (Goodman & DuPuis, 2002; Pfaffenberger, 1992). To narrow it down for the CSA, examples of material culture include a worn path across the garden, raised beds, shovels, "T" posts, tomato clips, trellises, hats, gloves, wooden baskets, high tunnels, compost piles, hoop houses, tractors, cultivators, combines, soil amendments, and various other objects and tangible impressions upon the earth. These materials and the farm/CSA

context have much to say about how CSA growers and shareholders think food should be grown, stored, prepared, preserved, and eaten (Goodman & DuPuis, 2002).

Research Journal. The final method I used to gather data for the case studies was a research journal. Journaling helped me explore the less apparent aspects of the research process and was a creative space for dialoguing with the literature and the data (Newberry, 2001). My journal refers to the literature, my notes on the literature, and field notes, drawing connections between them, while documenting the entire data-collection process. The journal tracks the project prior to IRB approval through the completion of the data collection, and the writing of these chapters. It provides a space for reflection, where I could sit with the data, generate ideas on how to graphically represent the information, identify emergent themes, and outline the chapters (Ortlipp, 2008). The journal and field notes helped me triangulate and confirm preliminary findings. Plus, in re-reading this record, I recognized important patterns that did explicitly show up in the other forms of data (Denzin & Lincoln, 2003). The journal also mentions events that occurred during this project, such as the birth of my daughter and near death of my father.

Case Study Sample and Recruitment

Sample Criteria. First, I selected programs within a 40-mile radius of the Cincinnati central business district (the Ohio, Kentucky, and Indiana tri-state region) for ease of traveling to the research sites. This meant the case study CSAs fall under the USDA's 6a and 6b hardiness zones and are similar climatic restrictions for growing food (Appendix D). Second, the programs needed to offer shareholders and/or volunteers work opportunities. This is an important stipulation because many CSAs do not offer working-shares or volunteer opportunities to the public. This criterion is necessary given that the study looks

at the types of education (especially experiential) that are happening within these contexts. Third, to better understand the diversity of programs, I include organizations that vary in type (non-profits, limited liability corporations (LLC), and cooperatives), size (numbers of shares), mission (educational, for-profit, social justice considerations, etc.), and location (urban, suburban, or rural) (see Figure 4).

Given these criteria, this was a purposeful sample and not random. Specifically, Patton (2003) refers to this method as intensity sampling, where the researcher selects cases that are most likely to yield large amounts of information related to the phenomena of study. I identified approximately 40 potential CSAs in the region using existing databases (details discussed below in the survey section). I chose the following ten programs: EarthShares, Turner Farm, Gravel Knoll, Greensleeves, Carriage House Farm, Enright Ridge Urban Ecovillage, Our Harvest Cooperative, Gorman Heritage Farm, Urban Greens, and Permaganic. These programs were selected based on the conditions above, my own networking, and the likelihood that these organizations were exemplars in educating the public about agriculture and food.

Recruitment. I used several strategies to recruit participants. First, I emailed several CSA growers to explain who I am and to provide contact information, the purpose of the study, the benefits of participation, as well as ethical considerations. I included a sample questionnaire, the estimated time needed to conduct the interview, possible locations to meet, and other important IRB requirements. I offered to volunteer my time at their CSA in exchange for a sit-down interview. This trade for volunteering served as an invitation for participant observation. The growers were aware of my intent to help them

out, while simultaneously observing. If I did not hear back from an organization (which only happened once) I followed up with a telephone call and visit to the farm.

Figure 4: Map of Case Study CSA Locations in the Cincinnati OH Tri-State Region

Given my previous involvement in the local food-movement community it was not difficult to arrange interviews. At the end of each grower interview, I used the snowball sampling technique (Biernacki & Waldorf, 1981) to obtain the names of shareholders, and then contacted them to set up further interviews. Of note, I already knew growers and shareholders at Gorman; one of the Urban Greens' growers, whom I met at a GUFAT meetings; three EarthShares members whom I met through Quaker Meetings; the current

growers at Permaganic; two of the members at Enright, whom I knew from my thesis work and the Quaker Meeting; a grower at EarthShares, whom I also met through my thesis work; and another shareholder at Turner, whom I knew from the local swimming community. Out of 31 total participants, I knew 17 of them before the project began.

Case Study Data

I conducted 28 interviews with a total of 31 participants. Three interviews were done in pairs. Twenty-five were face-to-face meetings, two were carried out over email, and one was a telephone conversation. Of these 31 participants, 16 were shareholders, and 15 were growers. The face-to-face interviews occurred at farm offices, participants' homes, and the Action Research Center at the University of Cincinnati. All of the interviews were audio recorded using a Casio Exilim digital camera and were completed between January and March of 2014. They lasted between 75 and 90 minutes, except one shareholder interview that was completed in 52 minutes, and one grower interview lasted 107 minutes. All digital files were uploaded to a secure hard drive and stored in my office.

Throughout the spring, summer, and fall of 2014, I participated in a wide range of CSA related events, including: shareholder and staff trainings, orientation sessions, farm tours, regular shareholder farm-work days, apprentice, internship, and student work sessions, the weighing and boxing of produce, the picking up of shares, board member and committee meetings, one-on-one informal discussions, and variety of social gatherings, such as Greensleeves' Garlic Festival, Gorman's Savor the Season, Our Harvest's CSA kickoff, and Urban Green's Solstice Party fundraiser. I also attended two conventions during the 2014 winter where many CSA growers and key community members were present: A Small Farms conference in Danville, Indiana; and the Ohio Ecological Food and Farms Association

(OEFAA) conference in Granville, Ohio. I participated in 100 hours of observations, spending about 10-15 hours at eight of the ten organizations.

Following the practices of Anderson (1989), Carspecken (2013), and Foley (2002), after each participant observation, I immediately recorded notes. At first, I waited until I returned home or went to my office. There were a few occasions during farm tours and meetings where I was able to take shorthand notes, but the most of the time I was either in the garden working or participating in tasks that did not provide this opportunity. After two weeks of this practice, I began recording video notes as soon in my car (but before traveling). These video annotations lasted between five and 15 minutes and were excellent prompts that improved my recordkeeping once back at a computer. The length and details of the notes increase considerably as the videos aided my recall.

I collected a variety of cultural artifacts for this project as I had access to a massive amount of CSA records—including all the information and links within the organizations' websites, such as programmatic explanations and their photographs showing members working in the gardens. I signed up and received the CSA and organizational email blasts that provided photographs, updates about the gardens, included recipes, cooking and preservation suggestions, produce for sale, schedules for upcoming events, planned workdays, histories about staff and the organizations, and links to outside news articles featuring the organizations. I gathered informational pamphlets and flyers from the sites and related locations, such as anti-fracking and Farm Bill literature, conference programs, small-farming periodicals, and restaurant menus featuring produce from these farms.

Case Study Data Analysis

I analyzed the case studies using the complementary techniques of biographies, thematic analysis, situational maps, and member checking. Starting in late January and continuing through mid-May, I transcribed all the interviews after they were completed, usually within a month of the conversation. I used Dragon Dictate software, a program that allowed me to listen to the interviews and then speak the conversation into a microphone, transcribing the audio into text. This was my first listen through the interview data. I then re-read the text and listened again to the recording to correct any errors. Next, I sent the transcripts back to the participants so they could check for accuracy. Several participants followed up and provided clarification and edits. Next, I read the transcripts for a third time and pulled out the relevant information needed to answer the questions about the organizations, CSA programs, and growing practices. I scanned the organizational websites and emails to confirm these details. During this mining of the transcriptions, I created an Excel sheet and produced a handful of tables and charts to visually display the information.

These initial steps in my analysis process follow Creswell's (1998) and Denzin's (1989) suggestions for making sense of qualitative data by using a biographical approach. In my case, I produced organizational and CSA programmatic biographies, which are brief sketches outlining the chronologies of these organizations, individually and as a larger CoP (see Chapter 4). In the production of these narratives, I obtained very specific information from the interviews, organizational records and documents to address the research questions in an organized manner. This systematizing of the data was my first step in identifying larger patterns, emergent themes, and network connections.

Once these stories were written, I returned to the interviews, organizational

documents, field notes and research journal, and conducted an embedded thematic analysis targeting educational phenomena (Stake, 1995). Many of the findings presented below are from the interviews, with the organizational documents, field notes and research journal data providing supplementary and confirming results. This triangulation is necessary due to the fact that interview data can have issues with internal validity, and researchers need other sources to confirm or disconfirm what the participants are saying (Fontana & Frey, 2003; McCracken 1988). In collecting different orders of data, my participant observations and the organizational documents served as additional lenses, from which to assess the participants and their programs (Patton, 2003). My participant observations and organizational documents also serve as primary data sources for describing the case study educational offerings in chapter 5.

In analyzing the interviews, I specifically focused on the questions and portions of the interviews that investigated the educational phenomena and offerings within each organization. First, I created a two-column document for each interview and read them for a fourth time, pulling out the quotes pertaining to education and learning. I looked for insights and instances in the respondents' narratives that qualify for what Stringer (2004) calls "epiphanies and significant events" related to learning (p. 103). Then I coded the quotes according to the educational categories (Table 2). This intra-case examination aggregated the relevant interview data so I could compare the educational themes across cases (Merriam, 1988). To do so, I combined the shareholder and grower quotes by organization. Next, I tallied the frequency of the codes and identified key quotes that illustrate the main educational themes. I then went back to the organizational documents, field notes, and research journal to search for corroborating or disconfirming evidence.

In coding the grower interviews I initially came up with 40 categories before collapsing them into similar groups. For example I combined 12 quotes about comparing CSA models with 35 quotes about learning from and with other farmers/friends. Another example is the collapsing of the permaculture and biodynamics categories (20 quotes) with 10 quotes about alternative agriculture versus conventional agriculture and 6 quotes about not using chemicals and applying for organic certification for a total of 36 quotes. During this cleaning process I deleted categories that did not fit with the goals of the study or that only had 1 quote. I decreased the total number of categories to 27. I then collapsed the codes a third time. For example I combed 58 quotes about growers' teaching shareholders how to harvest produce with another category (15 quotes) about shareholders learning gardening tasks for a total of 73 quotes (the highest category). This third round of collapsing codes resulted in a total of 14 ranked categories according to frequency.

The coding of the shareholder interviews followed a similar pattern. The initial coding resulted in 39 categories. In the first round of collapsing I combined learning about plants and plant identification (14 quotes) with learning about plant diseases for a total of 17 quotes. I then combined the quotes about insect identification with the 17 quotes about plant identification for a total of 23 quotes. Here I also deleted categories that did not fit the goals of the study or only had 1 quote. This first round reduced the categories from 39 to 21. During the final round of collapsing categories I combined the 23 quotes of learning about plants and insects with the 27 quotes on learning about soil, to create the second highest category in the shareholder interviews with a total of 50. This third round decreased the number of codes from 21 to 15. I discuss these results in chapter 5.

An Emergent Theme. In addition to the thematic coding of the interviews, it became apparent early in the data collection process that there is a rich and dynamic network underpinning many of these CSAs. The first clue came on January 20th, when I interviewed Kevin Fitzgerald and Lauren Wulker from Urban Greens (UG). They talked about the relationships between Charles Griffith, Enright Ecovillage, the Ohio State University (OSU) South Side Extension, and OHC, as well as UG's connections with the City's Urban Agriculture program and the Civic Garden Center. Then, when I interviewed Megan Gambrill and Melinda O'Briant from Turner, they explained how Turner had borrowed the CSA idea from Grailville. Examples of a network were a reoccurring theme. Given my theoretical frame of LPP, it made sense to explore and analyze these connections further.

To do so, I created several network tables and diagrams to more fully explore the LPP within this CoP. I made follow-up telephone calls to key participants to ask additional questions about these relationships. I also went back to the literature and incorporated aspects of more formalized network and situational analysis (Borgatti, 2005; Clark, 2003; Cross, Borgatti & Parker, 2002). I then read through the transcripts, field notes, organizational documents, and my research journal a fifth time and coded for social network connections. Specifically, using Clarke's (2003) situational analysis I mapped the flow of ideas, people, and money between the organization in the study and the broader community. These findings are presented in Chapter 5.

Member Checking. Finally, to make sure I correctly interpreted what is happening within CSAs from the standpoint of the participants, and was drawing valid conclusions, I employed member-checking by sending interviews, organizational descriptions, and findings chapters back to the participants. I conducted follow up telephone calls to ask

additional questions and to seek clarifications. Member-checking ensures credibility because the data are “played back” to the participant (Cho & Trent, 2006, p. 322). This playback helped to reinforce, reconfirm or disconfirm the participants’ view, and helped me with triangulation as it reassured the accuracy of my analysis and double checked specific facts collected across data sources (Cho & Trent, 2006).

Participating in a research study that uses member-checking also helps to promote catalytic validity, the extent to which the participants are genuinely empowered or gain the ability to raise their consciousness through the research process (Lather, 1986). This is because in reviewing their responses, participants can be reoriented and reenergized to fulfill their action claims and work towards the broader goals of the social cause (Boog, 2003). When community members read their transcript and the findings from a study in which they participated in the research process itself, this act serves as a reminder, as an additional stimulus or catalyst for further action.

CSA Regional Grower Survey: Population, Recruitment, and Data Collection

The third phase of the study was a regional survey of CSA managers/growers, administered by telephone. These data provide a broader snapshot of CSA organizations and programs by describing their key characteristics, motivations, and educational programs within the study area. The survey addresses all the research questions regarding motivations, characteristics, and resources, and the educational opportunities. Importantly this phase provides evidence for the growth or decline in the number of CSA programs and shares over time. These data speaks to the organizational, programmatic, and individual-grower levels, and when aggregated provides an understanding of CSAs and education at the regional and social movement level. Furthermore, the case study and survey data

inform one another because the cases identified specific types of learning that are occurring and suggest the types of education that are happening at the regional level.

For this last phase of the study, several growers from phase 2 were administered the regional survey and provided feedback on the clarity of the questions. This served to test the survey questions for internal validity and also helped to ensure conformity between survey response categories and the interview responses from the phase 2 growers. This in turn helped to streamline the analysis between different levels of data. The questions were designed to generate interval and/or ratio data in the form of the ages (in years) of the organizations and CSA programs, the numbers of acres under cultivation, full- and part-time employees, shareholders, and work hours required per share, and the prices per share. Ordinal data was collected in the rankings of motivations for the CSA model. These categories can also be analyzed as nominal data, without the assumption of inherent categorical rankings. Nominal data was collected regarding formal and informal educational programs, conceptual and non-conceptual learning, types of CSA products (produce, fruit, meat, etc.), the types of information being shared, how the education is occurring, types of social events, and other data that cannot be ranked.

Population. The survey population was defined as all the CSAs in Ohio, Kentucky, and Indiana. To generate a comprehensive list of programs in the study area, I mined national and regional CSA databases, including Local Harvest, The Robyn Van En Center at Wilson College, The National Sustainable Agriculture Information Service, the USDA's Alternative Farming Systems Information Center, Ecovain, and the Central Ohio River Valley Guide. Using separate databases provided access to a larger population of CSAs than if I had only relied on one source. Some of the databases rely on CSAs to self-registrar,

while others actively seek out new programs to be added to their records. It is difficult to calculate the total number of CSAs in my study region or the country for that matter (see Galt, 2011) as new programs are starting and others are going out of business. Plus, some programs choose not to be identified or affiliated with any organizations or databases.

Criteria. The CSAs needed to be located in Ohio, Kentucky, or Indiana. These states were chosen because of their geographical proximity to Cincinnati, Ohio, my home. Another reason to study the Midwest is that the literature indicates the East and West Coasts are more saturated with CSAs than the middle of the continent (Lass et al., 2003; Schnell, 2007; Tegtmeier & Duffy 2005). Thus, the question arises: to what extent have CSAs established themselves in the heart of conventional farming country? The population is further defined the USDA's Hardiness Zone map (Appendix D) and includes zones 6a, 6b, and 5b. This defined the bioregion for the population and ensured that the growing season was relatively equal across programs. Thus, I can compare CSAs with similar climatic restrictions, despite being located in three states.

Recruitment and Data Collection. The regional survey was completed over the telephone. My own CSA database was created in Excel on March 18th, 2014. I made about 30 – 40 calls a week, dividing my time equally among the three states. By May 20th I had made 270 calls, just over the halfway point. As June approached, my call frequency dropped. In a final push, I made the remaining 259 calls during the week of June 2nd – 6th, devoting over 90% of my workdays to this task. I left messages with all the phone numbers and people I could, which took about 1 – 2 minutes per phone call. When I did reach a willing CSA manager, most of the calls took between 12 – 15 minutes to collect the data, although there were the occasional 20-minute conversations. I continued to collect data

into mid-June as a handful of CSA growers called me back.

Survey Data Analysis. After the survey data was collected, I cleaned it and removed all the CSAs that did not respond, including those with telephone numbers that were disconnected and the programs that are no longer operating (even if I spoke with a previous manager). Then I cleaned each variable to ensure that data could be analyzed systematically. Here, I coded and recoded several variables, such as the grower's primary motivation, and all the categories pertaining to educational opportunities. These open-ended responses were narrowed down and coded to more precise answers. Next, I recoded these key educational and motivational variables so they could be analyzed descriptively using SPSS. Then, I analyzed the data to understand which CSAs offer what kinds of educational programs and which ones did not. In addition to frequencies, I also analyzed the data using cross tabulations. I created several frequency tables and figures to display this information. Finally, I also calculated the growth of CSAs and shares for the sample.

Having discussed the theories and methods we can now turn to the findings. Chapter 4 presents the findings from the regional survey. Chapter 5 introduces the CSA in the case studies and presents the findings on their organizational characteristics, educational opportunities, and the network of the CoP. Chapter 6 presents the interview themes regarding what is being learned and shareholder and grower motivations. Chapter 7 is the discussion where I address the research questions in turn. Finally, in Chapter 8 I conclude the dissertation with a reflection on this project, and suggested practical steps for creating and improving CSA based education.

Chapter 4 Findings: Regional Numbers and CSA Characteristics

This first findings chapter presents the regional level data from the survey administered to Ohio, Kentucky, and Indiana growers. First I present data on the numbers of CSAs and estimate how many programs in the study region are in operation. Next, I discuss the age, the number of shares, the number of people in each state who are engaged in CSAs, and the number of working shares offered by these programs. Here I examine the changes in these statistics over the years. Third, I present data on the types of organizations, their growing practices, and additional CSA characteristics. Next, I explore the educational opportunities offered by these organizations, such as classes, farm tours, and recipes, etc. Fifth, I present the grower motivations for operating the CSA model and finally, I analyze the relationships between some of these characteristics. The data and demographics presented here provide an initial starting point for understanding the breadth and diversity of CSA organizations, programs, and their educational offerings in this region of the Midwest United States.

Regional Numbers of CSA Programs and Shares

It is important to begin with CSA numbers because FGBE and learning opportunities depend on the existence and the size of programs. Some of the ongoing questions within the CSA and broader agricultural literature and is how many are there, is that number growing or declining, and how many total shares are available to the population? Table 4 below presents the details regarding my survey responses. I conducted a total of 140 surveys, for a 26.4% response rate. Disconnected numbers accounted for 11% or 62/529

phone calls, and only 8 of managers refused to participate. Of the 140 responses, only 111 of those programs are operational.

Table 4

Regional Survey Responses

	Ohio	Kentucky	Indiana	Total
CSAs Catalogued	251	137	141	529
Disconnected Numbers	25	20	17	62
Active Programs Response	60	26	25	111
Non-Active Programs Response	9	9	9	27
Total Responses	69	35	34	140
Response Rate	26.6%	26.2%	24.8%	26.4%
Rejected Invitation	4	1	3	8
CSAs in Phase 1	9	1	0	10

Galt's (2011) research and the Locavore Index (2014) provide the best up to date estimates of CSAs by state as these studies used several databases in their calculations of active programs. Table 5 presents a comparison of these studies' numbers to my regional data and includes my estimates of how many CSA programs are still in business based on my response rate, disconnected numbers, and communications with programs that are no longer in operation. To estimate the number of operational CSA programs within OH, KY and IN, I devised the following calculation based on my responses. First, I subtracted the amount of disconnected phone numbers from the state totals, and then multiplied that number by the percentage of non-active/active programs (including rejected invitations), and subtracted it from the adjusted population number. For example, I found 251 listed CSAs in OH, subtract 25 (disconnected numbers) = 226, multiplied that by the number of non-active/active programs in Ohio ($9/73 = 12.3\%$). Thus, $226 \times .123 = 27.7$ or 28 programs

out of the 226 that might not be in business anymore, giving me an estimate of 198 operational CSAs in OH. I then repeated this calculation for KY and IN.

Table 5

CSA Programs by Dataset and State

	2007 USDA Census	LH 2009	2014 Locavore Index*	Wight 2013 Dataset	Wight 2013 Estimate	Percent Change of Wight 2013 Estimate to LH 2009 data
Indiana	273	52	118	141	84	+61%
Kentucky	544	50	100	137	78	+56%
Ohio	424	107	199	251	198	+85%
Total	1241	209	417	529	360	+72%

*Based on 2013 Local Harvest Data

Galt (2011) concluded that the 2007 USDA Census numbers were too high due to how the questions were formulated about what constitutes a CSA. The 2009 LH numbers are self-reported and there are likely more CSAs in existence than have chosen to register with LH, despite the advertising advantage. Based on my estimates and in comparison to the LH 2009 numbers I show an increase in programs for each state over the last 4 years (IN + 32, KY +28, OH +91), with a suggested total increase of 72% from 2009 - 2013, an incredible rate of growth given the 30-year history of CSAs in the US (see percent change column). The most up to date comparison to my estimates comes from the 2013 Locavore Index (with the CSA numbers based on 2013 LH data). My estimates are low and conservative for IN (-34) and KY (-59), but right on for OH (-1) as compared to 2013 LH data. If we compare the 2009 and 2013 LH data we see a larger percent increase by state, with 126% in OH, 100% in KY, and 85% in IN, and a total of 99.5% over all.

Age. The age of the CSAs in the survey sample provides another way to understand the growth of the movement over time. Figure 5 breaks down the data into three categories

based on age distribution by state. Just over half, 55.8% of CSAs began their programs since 2009. About 1/3rd, 29.7% of the CSAs are 6-10 years old, and started between 2003-2008. Only 16 CSAs, 14.4% are older than 11 years. Thus, according to my data the CSA movement or the number of CSAs in this region of the Midwest has grown considerably over the last decade, adding 95 new programs since 2003. This being said, regardless of the age of CSA programs, they do not always survive. Of the 140 programs that responded to the survey, 27 or 19.2% are no longer in operation. The growers in the survey cited the following reasons for discontinuing their CSA: insufficient income, grower burnout, lack of demand, and a change in career.

Figure 5: CSA Age Distribution by State and Total

Number of Shares. Table 6 displays the number of shares (includes half and full shares) per state according to each program's first year of operation (which varies) and

their number of shares for the 2013 season. All three states show growth in the number of shares being offered in 2013 as compared to the first year of each program, with Ohio leading the way with 2254, Indiana with 1017, and Kentucky with 615 new shares. Ohio has two different share number estimates, with the Ohio* and Total* categories including four extremely large CSA programs (outliers in the data) that are either 3rd Party CSAs or Multi Farms¹⁵, each offering between 1000-3000 shares. When included these programs add an additional 5923 shares to Ohio, for a total of 9399, which is an increase of 7878 shares since year 1 for these programs. It is interesting that these larger CSA models do not show up in IN or KY survey data. The largest vegetable based program in KY offered 185 and the largest in IN 162 shares in 2013. Researchers and farmers alike question the ability of these larger programs to adhere to social and ecological justice goals of the food movement, as these kinds of business may buy produce from further away to fill their member's baskets, and may use conventional production methods. Larger programs tend to approach a subscription model rather than a shareholder model, and there may be more of a disconnection between the average shareholder and the farmer. None-the-less, these large-scale aggregation CSA models mean more people are obtaining food through alternative methods, and not the grocery store.

Percent of Population Participating in CSAs. Finally, based on these numbers, I can estimate the number of people being fed through CSAs and compare this to the states' populations. On the high end, I assume a share will feed 4 people; on the low end a share will feed 2 people. Given the wide range of what constitutes a share (amount of produce) it can be difficult to calculate the impact of CSAs on the modern food system. Based on the

¹⁵ These types of CSA programs work with multiple farmers, buying their produce, and aggregating it for large-scale distribution.

regional sample, the number of people in each state participating in CSAs about a 10th of a percent. Even if I include the large CSAs in Ohio*, the number of people only approach a 3rd of a percent of the population. According to this data and despite the growth of CSAs over the last decade, they are not serving many people. A caveat is that this data on CSAs does not include other alternative food procurement methods such as DIY backyard, community, and school gardens, farmer's markets, food hubs and coops, and farm-to-school programs. Stroll's Locavore Index (2014) compares states on their numbers of farmer markets, CSAs, Food Hubs, and ranks Kentucky 16th, Indiana 33rd, and Ohio 36th overall.

Table 6

Changes in CSA Shares Numbers Over Time by State

	State Population	Year 1 Shares	2013 Shares	Change since Y1	People Fed (4) per Share 2013	Percentage of Population Participating in CSAs
Indiana	6,570,902	589	1606	1017	6424	.097%
Kentucky	4,395,295	459	1074	615	4296	.097%
Ohio	11,570,808	1225	3479	2254	13916	.12%
Ohio*	11,570,808	1225	9399	8174	37596	.32%
Total	22,537,005	2273	5489	3216	21956	.097%
Total*	22,537,005	2273	12079	9806	48316	.21%

*Included in these calculations are four large CSA programs each with 1000-3000 shares.

Working Shares. According to the survey data Ohio has 20 programs that provide 32 working shares (from 11 programs, as 9 programs did not provide a number), Kentucky has 8 programs with 16 working shares (from 5 programs, as 3 programs did not provide a number) and Indiana has 8 programs total with 50 working shares (from 6 programs, as 2 programs did not provide number, and one programs is an outlier that requires work from all 26 members). These numbers of are very small in comparison to the total number of shares offered within each state. Yet, they are probably higher in reality given that some

programs in the survey sample did not indicate how many working shares they offer.

According to the regional sample, only 1.1% in Ohio, .4% in Kentucky, and 3.1% of sharers in Indiana participate in working shares.

The regional growers cited several reasons for not offering working shares: 1. Members are not interested or they tried it out and did sign up for this option the next season, 2. Insurance and liability cost too much, 3. It is not worth the grower's time and energy given the high incidence of shareholder mistakes (even with training). These numbers do not support the idea that sharers are engaging in FGBE or CSA based experiential learning through work shares.

CSA Characteristics

Organizational Type and Growing Practices. According to the regional data (N=111) the majority (53) of the CSAs are sole proprietors (family owned farms), followed by 39 Limited Liability Corporations (LLCs), nine non-profits, five cooperatives, three partnerships, and one missing. There are benefits to each type of organization, but the large amount of LLCs speaks to the legal advantages of incorporating farm operations. While the process can be time consuming, require a lawyer, and a bit of financial capital, there are several important benefits. First, an LLC provides legal protection to the farmer's personal assets if they are sued for damages. This is important when volunteers and/or shareholders are involved in farm labor and operations. Second, LLC's offer a wide range of tax deductions from travel and automobile, to entertainment, and even 401 K retirement plans. Finally, LLCs are also able to tap into additional avenues for raising capital funds, issuing legal shares of the corporation, promissory notes, bonds, and can perform real

estate transactions that are not always available to sole proprietors (Beginning Farmers.org, 2015).

Regarding agricultural practices, 75 or 67% of the organizations follow USDA organic standards, yet are not USDA certified. This category also includes those organizations that may use biodynamic, permacultural, and CNG approaches. The next largest groups are certified organic (12), followed by alternative practices mixed with conventional practices (7), and certified naturally grown (5). Six CSAs that raise livestock use grass fed and pasture practices, followed by five that are conventional, and one with no answer. Interestingly, in using Local Harvest.org for the construction of my own database, the vast majority (~90%) self-selected as certified naturally grown (CNG) on the website, which also helps growers satisfy consumers' desires for clean food, and avoids the time and money required for USDA certification. Yet, few growers in my survey identified their operations as CNG, but rather as following organic or alternative methods. I attribute this to how I asked the question and the fact that CNG fits under the broad definition of organic.

Another variable that can be related to agricultural practices is a CSA grower's relationship with university extension agents. In Ohio (32/60, with 2 missing), Kentucky (17/26), and Indiana (15/25) growers said that use the extension in some way for information. Of these growers, four indicated they do not work with their local agents, but have cultivated a relationship with an agent outside of their county. In Indiana and Ohio two of the extension agents belong to CSAs. In total, just over half, 64/111 of the growers rely on the extension for help. Some growers develop close partnerships with extension agents, hosting workshops and tours, conducting research, and volunteering their time at extension sponsored events. Others spoke about relying on their agent's entomology

expertise for beekeeping and training certification for good agricultural practices (GAP). Thus, some growers view their extension agents as supporters of alternative agriculture, local economies, and the values underlying the CSA model.

When I asked the growers who indicated they do not work with extension agents why, common answers included: they do not support the CSA idea, alternative practices, or are too tied to agribusiness. One respondent told me their agent is too pushy about using chemical sprays. Another said their agent does not understand what CSAs are about. Yet, the fact that 57% of the growers rely on extension agents speaks to the dual nature of the USDA, Land-Grant Universities, and their county agricultural services. There are people and programs within these institutions that are helping to propel CSAs and other alternative agrifood initiatives forward.

In addition there are several other CSA program statistics worth mentioning that help us understand the broader characteristics of this model (see Appendix E). Regarding the average price per full share, Kentucky leads with \$585, followed by Ohio at \$550, and Indiana at \$499. The average number of full shares offered per program in OH is 67 (not including the three outlier programs mentioned above), followed by IN at 64, and KY at 36. Indiana's CSAs run for an average of 28 weeks per year, followed by KY at 26 and OH at 25. Ohio CSAs offer an average of 3.4 pick up locations per program, with IN at 2.4 and KY at 2.2. Finally, while the vast majority of CSA boxes are made up of vegetables, there is a fair amount of diversity regarding the types of products offered. For example, over half of all the programs (OH 34/60; KY 14/25; IN 14/26) provide eggs and/or dairy options (cheese, cream, yogurt, and milk of both the goat and bovine variety). In OH, 34 CSAs offer meat (chicken, beef, pork, lamb, and/or venison), followed by 14 in both KY and IN. A smaller

percent of CSAs (28% of the sample) provide value added options such as bread, jams, salsas, soap, flowers, coffee, and dried beans and herbs. Also 25% of CSAs offer honey and maple syrup as popular add-ons or supplemental items. The next set of characteristics deal specifically with education.

Educational Programs and Opportunities. Table 7 below displays the educational opportunities by state. I coded the three open ended survey questions into the following categories: Apprentice/Internships (includes student workers); Children's Camps; Classes (cooking, preservation, gardening, and other); Farm Tours; Conversations (at market or on the farm about food issues, products, nutrition, health, growing methods, soil, animals, etc.); Newsletters and social media (paper and electronic, use of Facebook, blogs, website, etc.); Partnerships (with churches, businesses, civic organizations, schools, home schooling groups, correctional facilities, universities, etc.); Public Speaking (at off-the-farm events in the community, at Churches, to civic organizations, etc.); Recipes (distribution of cooking and preservation tips); Research (both in house and partnerships with other institutions); Service Learning/Volunteering; and Social Events (potlucks, festivals, etc.). Keep in mind that some organizations offer many programs while others do not offer any. For example, the class category indicates that 49 organizations offer them, yet there are 92 total classes in the sample because some organizations provide up to four different kinds.

In order of frequency, the offering of farm tours (55) at the regional level is the most popular educational opportunity. This is not surprising as farm tours are an easy introduction to the farm context, the CSA idea, and helps acquaint the public with additional educational and programmatic opportunities within these organizations

(classes, volunteering, CSA, etc.). The data here does not tell us if the tours are self-guided or conducted by farm staff, which can impact learning and education.

Table 7

Regional CSA Organization Educational Opportunities by State

Educational Opportunities	Ohio	Kentucky	Indiana	Total	Rank
Apprenticeships	5	3	4	12	10
Camps	4	3	3	10	11
Classes	26	10	13	49	2
Conversations	12	4	4	20	7
Farm Tours	33	10	12	55	1
Newsletters & Social Media	22	9	13	44	4
Partnerships	15	10	13	38	5
Public Speaking	8	6	3	17	9
Recipes	27	8	10	45	3
Research	7	2	2	11	12
Service Learning & Volunteering	10	4	5	19	8
Social Events	10	3	9	22	6
Orientations	11	5	6	22	6
Totals	204	77	108		

The second largest educational offering is that of classes (49). This is noteworthy because classes are typically formalized and represent a structured approach to learning, with a facilitator and pre-selected topic. The main types of classes offered are cooking (18), preservation (18) (including canning, dehydrating; pickling, and fermenting), and gardening (10). Depending on the farm, other types of classes offered include butchering, pruning, grafting seminars, composting, cover cropping, and bee keeping.

Recipes (with 45 counts) are the third most popular offering and are related to helping members learn how to eat CSA food. This information is typically shared via newsletters and social media, and is an easy way to spread information about food. Some CSAs include the history of the plants, preparation and storage, and nutritional information along with cooking instructions.

Newsletters and Social Media (44) are the fourth most frequent educational opportunity, with 40% of the regional CSAs engaging in these practices. These types of organizational communications keep members up to date about farm events, social gatherings, changes in pick up times, what members can expect in their baskets, volunteering and service learning opportunities, and other educational offerings through paper and electronic communications. The more organized CSAs send updates weekly, with others sending letters once a month, which is about 3-4 times during the entire CSA summer season. Regarding social media, many CSAs use Facebook and Mail Chimp and have their own websites. Blogs are popular vehicles as well, and one CSA has their own YouTube Channel for marketing, public relations, and communications.

The fifth largest category is that of community outreach and partnerships (38), which provides insight into CSA networks and can translate into educational opportunities such as service learning and volunteering, public speaking, social events, and tours. Examples of partnerships include school groups, civic groups, universities and colleges, other food related organizations such as food banks. Detailed examples of these partnerships will be examined in Chapter 5 and the discussion section (Chapter 7).

The next set of educational opportunities includes social events and orientations (both at 22), and conversations (20). Approximately 20% of organizations offer social events, which can present informal learning opportunities. Common examples are potluck lunches and dinners, seasonal festivals and celebrations. Most events are social, but some are educational. Orientations are different from farm tours, but can include a farm tour. Orientations tend to be specific to a certain task or set of tasks and can encompass other organizational programs beyond the farm or the garden, such as learning how to run the

front desk, the market stand, or lead farm tours and other educational events. The conversations category pertains to on the farm, face to face communication and is quite broad, but usually centers on food and the farm products.

Service learning (19) and public speaking (17) rank eighth and ninth overall. Volunteer and service learning opportunities are one of the main vehicles for educating the public within both formal and informal settings. The regional data indicates that 17% of the organizations provide these types of programs. The next highest category is public speaking (17), where a grower or staff member engages with the public off the farm, usually in a more formalized setting with a preselected topic and presentation.

The final three categories with the least frequent educational offerings at the regional level are farmer apprenticeships (12), camps (10), and research (7). While these categories are not well represented in the regional survey data, they are some of the more formalized opportunities for learning and education. Examples of training programs, research, and camps are explored fully at the community level through the case study data.

Regional Grower Motivations. Out of the 111 participants, the highest reported primary reason for operating the CSA model is economic (26%). Followed by desires to provide others with locally grown food (22.5%), community building and relationships (11.7%), and the ability to move more produce (10.8%). Moving produce can be viewed as an economic reason. The least reported motivations include health (personal and community) and a love of gardening (both 8.1%), environmental (4.5%), educational and no answer (both 3.6%). The second most cited reason, local food, is also related to economic, health, and environmental reasons. Teasing these motivations apart can be difficult given the connections between them. While health, environment, and education

are the least reported primary reasons, many of the growers in the survey mentioned these motivations in addition to economics, local food, and community building.

Figure 6: Regional Grower Motivations

Relationships Between CSA Characteristics and Educational Opportunities

This final section analyzes the relationships between organizational type, motivations, growing practices, and educational opportunities for the survey data. Figure 7 displays agricultural practice according to organizational type. It is not surprising that the majority of farms (68%) chose to “follow organic,” as to capitalize on consumer desires while not needing the USDA organic certification. Sole proprietors and LLC’s lead the way in being certified organic. The low number of conventional farms speaks to the biodynamic and alternative roots of CSAs (developed in reaction to industrial agriculture).

Figure 7: Agricultural Practice by Organizational Type

Figure 8: Motivation by Organizational Type

The second relationship explored here is motivation by organizational type (Figure 8). For this graph I have collapsed the moving produce into the economic category. Most LLCs and sole proprietors chose economic, local food, and community building as their

primary motivations. Seven sole proprietors' reported they operate CSAs because of a love to garden. None of the non-profits in the sample indicated community building, but rather they chose the economic, local food, and health motivations as primary. The idea that non-profits focus on education and environment as primary motivations is not supported here.

Figure 9: Educational Opportunities by Organizational Type

The third set of relationships to be considered is that of the educational opportunities by organizational type. Based on numbers alone, sole proprietors and LLCs lead the way in due to their representation in the sample (Figure 9). LLCs have established double the number of partnerships than any other type of organization and also offer the most apprenticeships, social events, and farm tours. Establishing apprenticeship programs are good for business as growers can receive labor in exchange for offering training, at times with no or low wage compensation. Sole proprietors provide the most classes, recipes,

newsletters/social media, public speaking, service learning, and conversations. Non-profits lead in camps and research and the numbers for non-profits offering camps, classes, and service learning options are high given their lower (n=9) representation in the sample.

Another way to analyze educational offerings is to break down the specific categories, such as class offerings by organizational type. Table 8 highlights which types of organizations offer multiple classes. LLC's lead in offering one and three classes, while sole proprietors lead in offering two classes, and non-profits and sole proprietors tie for offering up to four classes. Cooking and preservation classes make sense to CSAs as one of the major challenges is getting members to shift eating habits and teaching them new food preparation and preservation skills.

Table 8

Number of Classes by Organizational Type at the Regional Level

Number of Classes Offered	Sole Proprietor	LLC	Non Profit	Coop	Partnership	Missing	Total
0	35	17	2	3	3	1	61
1	6	9	2	1	0	0	18
2	6	3	0	0	0	0	9
3	1	4	2	1	0	0	8
4	3	2	3	0	0	0	8

Table 9 displays the different types of partnerships by CSA organization. Overall, school groups (13) and other food organizations (13) are most prominent (such as food hubs, foodshed projects, and food banks), followed by colleges and universities (10), and civic organizations (i.e. boys and girls clubs, women immigrant and senior citizen groups,

etc.). The relationships with universities and schools can also translate into service learning and research opportunities. Examples are discussed in Chapter 5.

Table 9

Regional Partnerships by Organizational Type

Partnering Organizations	Sole Proprietor	LLC	Non Profit	Coop	Partnership	Total
Church Group	1	1	1	0	0	3
Civic Organization	2	6	1	0	0	9
College/University	3	3	2	1	1	10
Food & Business Organizations	4	8	1	0	0	13
Home School Group	0	4	1	0	0	5
School Group	5	5	3	0	0	13

Figure 10: Educational Opportunities by Motivation

In looking at educational opportunities by motivation, economics and local food dominate most categories (Figure 10). Those programs motivated by economics lead in classes, tours, newsletters/social media, and recipes. The local food motivation is highest for partnerships, service learning, social events, conversations, and apprenticeships. Many

of the other educational opportunities do not align with any one motivation, but rather are spread out between them.

Chapter 4 Summary

This first findings chapter presented the survey data and provides a regional description of CSAs. In summary there are several prominent themes. First, the majority (85.5%) of CSA organizations began their programs in the last decade, follow alternative agriculture practices, are either sole proprietorships or LLCs, and over half have a relationship with an extension agent. Second, there is evidence of learning and educational opportunities, but many of them are informal and unstructured. Camps, classes, newsletters, social media posts, public speaking events, apprenticeships, and research projects have the most structure to them, and thus may have the greatest impact educationally on their participants. Although several of the of more formalized opportunities such as apprenticeships, camps, and research are not as frequent as others. Farm tours, partnerships, service learning, and working shares are a mix of formal and informal education, and occur more frequently than most other offerings. Finally, conversations and social events are informal learning atmospheres, which tend to be in the middle regarding their how many programs provide these opportunities. A more in-depth discussion of these findings as they related to education occurs in Chapter 7.

The next two chapters report the case study findings and narrow down the level of analysis to that of the Cincinnati area CoP. A much different picture of CSAs and educational opportunities emerges from these details. Next I explore the backgrounds of the case study CSA organizations and present the findings on their organizational characteristics and educational opportunities.

Chapter 5: Findings for Educational Opportunities within Case Study CSAs

This chapter introduces the CSA organizations and programs that comprise the case studies and discusses the social landscape surrounding these alternative agricultural organizations (AAOs). Each organization is described in terms of its origins, mission, founding and contributing members and growers. In learning about these organizations, we get a sense of the broader initiatives that have created farmer-training programs, provided urban land for growing food, and raised the financial support that funds some of these AAOs. This chronological narrative reveals the processes of *legitimate peripheral participation*, situating the apprentices, masters, and participants in relation to the larger CoP (Lave & Wenger, 1991). This chapter also reports on the organizations' characteristics and resources as we learn about the people and processes responsible for generating and disseminating alternative agrifood knowledge within the CoP and to the public in general.

This chapter is laid out into three main sections. The first part explores the ten CSA organizations in three separate waves, from 1990 to the early 2000s, then those that began in 2008 and 2009, and finally the newest batch that began in 2012 and 2013. The second section reports on the CSA organizational characteristics regarding growing practices and their educational opportunities, such as the types of camps, classes, community outreach, tours, social events, volunteers, farmer apprentice/ internship training programs, research projects, and shareholder orientations. The final section presents the findings about learning and education at the community level through a series of situational diagrams that reveal the networks of people, ideas, and money flowing throughout this CoP.

Part 1: Introducing the CSA Organizations

Grailville/EarthShares. The first CSA in the Cincinnati area was born at Grailville (GV), in Loveland, OH, 20 miles northeast of downtown. GV is part of the Grail, an international women's movement that began in the Netherlands in the 1920s. Created in the 1940s, GV has roots in the Christian tradition and is committed to spiritual searching, social transformation, ecological sustainability, and the release of women's creative energies throughout the world. GV is a 300-acre retreat center that offers programs and workshops, such as Local Fest, Farm to Fork Dinners; Zen Retreats; and rental space for events (Grailville Website, 2014).

The idea for the GV CSA program came in 1994 from Wendy Carpenter and Mary Hogan, two GV members who were active in local-food initiatives. At the time, Mrs. Carpenter was helping to coordinate a food coop in Northside, OH and was interested in expanding local-food offerings. During the first few years of the GV CSA, the majority of the shareholders came from the food coop. The CSA started off small, with 15 shares, but within 10 years grew to 125. This CSA did not offer working shares, but GV did operate an internship program with the goal of training future farmers. However, at the end of the 2004 season, the GV CSA and its associated internship program were not doing well financially, and the decision was made to discontinue the program in 2005.

EarthShare's CSA Corporation. Upon hearing this news, a core group from the GV CSA decided to create the EarthShares (ES) CSA, which eventually became a non-profit corporation within the state of Ohio (EarthShares, 2014). This group worked with GV to lease land, water, equipment, and a building so that they could continue farming and operating this new CSA at the same location. The ES group hired Steve Edwards of Gorman

Heritage Farm as their grower in 2006 and filled 25 shares that first year. One of the main reasons why ES wanted to continue farming at GV was because the land had been organically certified by Ohio Ecological Food and Farm Association (OEFFA)¹⁶ for years. From the beginning ES was designed as a democratic organization with a board of directors composed of members, including a president, treasurer, and work share coordinator.

At this point in time, when the ES CSA began operating, Turner Farm had also established its own CSA, borrowing the idea from GV in the early 90s and employing two women, Karen Amelia Arnett and Saralynne Thoresen, who had lived at GV and gone through its farmer-training program under the guidance of MaryLu Lageman. Turner had already begun experimenting with the work shares model and, after an exchange of ideas, practices, and people that has come to characterize the AAO CoP in Cincinnati; ES borrowed the work share idea from Turner and improved upon its own model. In considering how the ES corporation operates with the work share model it can be viewed as a hybrid cooperative, where members are investors, owners, and part-time workers.

Over the years the ES board has wrestled with two somewhat contradictory objectives: how to simultaneously provide a fair price to its shareholders and a livable wage to their farmers, Steve and Karen (a former Turner Farm intern). One way is to limit the number of working shares and shareholders who are paying a lower price (in 2014 there are 85 full-paying members out of 115). Over time, the price and work-share labor

¹⁶ OEFFA was founded in 1979 and is a grassroots coalition of farmers, backyard gardeners, consumers, retailers, educators, researchers, and others who share the desire to build a healthy food system that brings prosperity to family farmers, meets the growing consumer demand for local food, creates economic opportunities for rural communities, and safeguards the environment. OEFFA hosts an annual conference, as well as farm tours and workshops. It is the oldest organic-certification body in the nation. It also provides funding to small farmers and works on agricultural policy at the state level (<http://www.oeffa.org>).

hours have increased relative to the share size, while the amount of produce in the one-size share has decreased. Yet these changes have not deterred members from signing up and there is usually a waiting list. It is important to view these modifications in light of the social and communal justice goals of the CSA, and the increased interest and demand for non-conventional, alternatively grown local food. For the 2014 season, a non-working share costs \$440, and a working share costs \$315 with 25 hours of labor.

Turner Farm. The second oldest and longest continual running CSA in the Cincinnati area is Turner Farm, located in Indian Hill, OH. Turner is the brainchild of Bonnie Mitsui, a lover of nature and good clean food. She started Turner in 1994 after returning from California and created a place that promotes connections between people of all ages and care for the land that feeds them, in body, mind, and spirit. Bonnie believed experiential education is necessary to nurture a deeper understanding of our place in the world. She built an organization that promotes personal responsibility and stewardship. Turner is a place where people can learn the wisdom and rural heritage of farming and help build a future where local, low-impact, alternative food production contributes to healthy communities and ecosystems (Turner's Mission Statement, 2014). In 2006, Turner became a nonprofit, which helped to solidify it as an educational organization.

Upon returning to Cincinnati from California, Bonnie was not a trained farmer. She took inspiration from Fukuoka's *The One Straw Revolution* (1978), which questions tilling, rejects synthetic fertilizers and pruning, and yet uses methods as fruitful as industrial methods. With these core values and a fierce determination, Bonnie changed the face of alternative agriculture in the tri-state region. According to Karen Kahle (2013) of *Findlay Market*, who has written for *Edible Ohio*, Bonnie single-handedly created the current

sustainable farming revolution in southwest Ohio as she supported and guided small-scale farmers who now provide clean food for the area. Sadly, Bonnie passed away in 2013, but her legacy remains.

Turner Farm CSA. GV inspired Turner's CSA and Bonnie liked the idea because work shares would reconnect people to their food supply. During the first few seasons (1995–96), the share numbers were low, about seven and 15 respectively, as Bonnie searched for the right gardener to lead the operation. The program stabilized and grew once Melinda O'Bryant took it over in 1998. Then in 2012, Megan Gambrill took over the CSA. Megan completed Turner's farmer apprentice program and the Cultivating a Healthy Environment for Farmers (CHEF) program¹⁷ simultaneously in 2010. From the beginning, the CSA required members to give two hours of labor a week (44 over the 22-week season). Today shareholders are still expected to work two hours a week in addition to paying \$500 per share. In 1999, Turner started the first winter-produce CSA in the area, serving twelve members at \$250 each one with one hour of labor for 20 weeks between December and March. In 2007, the farm also began offering a year-round, labor-based meat CSA that supplies thirteen shares. These CSA shareholders feed and water the animals. Of note, the GV and Turner CSA programs were featured in a report by DeLind (1999a), *The Many Faces of Community Supported Agriculture: A Guide to CSAs in Indiana, Michigan, and Ohio*.

¹⁷ The Corporation for Findlay Market (CFFM), a 501(c)3 non-profit in Cincinnati, received a Community Food Projects Competitive Grant award in 2009 from the United States Department of Agriculture (USDA) for \$57,109. This money funded the Cultivating Healthy Environment and Farmers (CHEF) project, which recruited, trained, and provided start-up resources for new farmers to grow produce on vacant urban lots and sell at the Findlay Market. The program also created a composting system to recycle food wastes from the market using the compost to fertilize locally-grown fresh produce (CFFM, 2009).

Gravel Knoll. The third-oldest CSA featured here is Gravel Knoll (GK). GK is located in West Chester OH, owned by the Rosselot family, and operated by Jim and Linda Rosselot, who met in Colorado, and returned to Ohio to work the family's land in 1983. They also operate the Feed Barn, a retail store specializing in alternative garden, yard, pet, and livestock solutions. GK created a niche for itself by establishing the West Chester Farmer's Market. In addition to vegetables and their CSA, GK also offers ungraded eggs, lamb, pork, and poultry. Jim and Linda emphasize the nutritional superiority of their produce, citing that modern farming methods are nutritionally depleting our food and impacting people's health. The Rosselots' place their family, the health of the land, and the quality of their produce above profits (Gravel Knoll Website, 2014).

Gravel Knoll CSA. The GK CSA started in 1998 by offering 13 shares. For the next six years, all shareholders were required to give about four hours per week in addition to paying \$250 for the season. As the CSA grew in numbers, the work requirement was dropped, only a single-size share was offered, and the share price increased to \$350. By the late 2000s, GK was offering close to 140 shares. To help with labor, Linda hired high school and college students, and offered a few dedicated sharers the option of working for free food or a reduced share price. She also operated a blog, sending out farm and Feed Barn updates, recipes, and stories about growing organically (Gravel Knoll Blog, 2013).

2013 was the last season of the GK CSA, the farm operation, and the Feed Barn, because Jim Rosselot passed away, leaving the farm to his family. Linda has since returned to school, but continues gardening part-time at Gorman Heritage Farm, helping them with their CSA operation. The Rosselot Farm story has a familiar ending, as Jim's siblings have sold the property to developers. In one of her final blog posts, Linda referred interested

CSA customers to *5 Oaks Organics* in Oxford, *Just Farming* in Liberty Township, and *Finn Meadow* in Montgomery.

The Second Wave.

Greensleeves. Gretchen Vaughen began Greensleeves (GS) in 2007 and started her CSA in 2008. GS is a homestead farm that sits high in the rolling hills of Alexandria, Kentucky, 30 minutes from Cincinnati. She sells at the Ft. Thomas Farmers Market and hosts WWOOFers (Worldwide Opportunities on Organic Farms)¹⁸. Gretchen, a former college theater professor, became serious about farming after September 11th, 2001 and turned her energies towards food production and helping people connect with the earth. She envisions a society of creators, not just consumers, where people grow food for the larger community, work to alleviate hunger and poverty, and learn to share and cooperate in peaceful and constructive ways.

Greensleeves CSA. As a single woman farmer, Gretchen saw the CSA work share model as one of the answers to addressing the question of adequate labor and financing. Prior to launching the CSA, Gretchen researched existing programs in the area, specifically ES and Turner Farm. Gretchen admits, “I am a Turner wannabe!” (February 13th, 2014). Similar to Turner, GS only offers working shares where each member puts in two hours a week. After years of experimentation, the total number of shares has been capped at 20, a more reasonable number given the farm size, available labor, and other produce commitments to local restaurants Metropole and Boutique. Gretchen now offers three sizes

¹⁸ Worldwide Opportunities on Organic Farms, USA is part of a global effort to link visitors with organic farmers, promote an educational exchange, and build a global community conscious of ecological farming practices. The WWOOF program started in the United Kingdom in 1971 by Sue Coppard, a London secretary. Since the establishment of WWOOF in the U.K., the program has expanded and is now in more than 50 countries around the world, with a wide range of farm-stay opportunities. <http://www.woofusa.org/>

of shares, a large (\$30), medium (\$20), and mini (\$10) per week. She continues to 'tweak' these options, and realizes that the mini working-shares are the most profitable, because the labor requirement stays the same regardless of share size.

Carriage House Farm. Nestled in the Miami River valley outside the village of North Bend, OH, Carriage House Farm (CHF) has been worked by six generations of family since 1855. What was once a small 90-acre homestead today includes more than 300 acres of fertile, mostly river-bottom land and woods. CHF is dedicated to engaging with the public about agricultural and ecological issues including urban sprawl, knowing where food comes from, soil health, and reconnecting people with nature. CHF specializes in honey, chemical-free fruits and vegetables, and non-GMO corn, beans, and grains. (www.carriagehousefarmllc.com).

CHF received an infusion of energy and purpose when Richard Stewart, now the head farmer, returned in 2002 to help his father build the stables. Over the years Richard developed relationships with several downtown restaurants in Cincinnati. With the help of Kate Cook, the head market gardener, CHF sells to a wide range of local retailers and restaurants, such as Green BEAN Delivery, The Bistro, Local 127, Whole Foods, Biggs & Remke Markets, the Orchids At The Hilton, Savor Catering and Events, Picnic & Pantry, Park + Vine, and Bridgetown Finer Meats. Kate Cook came to CHF in 2010 after a career in the mortgage loan industry. That year she completed the CHEF training program, and at end of the season she was invited to take over the garden operation as a full-time employee based on how much demand there was Carriage House's products.

Carriage House Farm CSA: The All-Volunteer Model. CHF began their CSA in 2009, one year before Kate began volunteering. Unlike the other CSAs, CHF has adopted an all-

volunteer model because it needs labor, given the demand for their products. The CSA started with six shareholders in 2008-2010, attracting mostly family friends and neighbors. Then, in 2011, the CSA hit a high of 20 members, but shrank to ten for the 2012-2013 seasons. In addition to receiving produce each time a shareholder works, he or she also gets five pounds of non-GMO corn meal and one pound of honey at the end of the season.

In adopting this volunteer model, Kate acknowledges the pros and cons as compared to the more traditional CSAs. The benefits are that shareholders do not have to pay any money and they get the invaluable experience of learning about growing food firsthand. There is more flexibility for sharers to go on vacation and not worry about what to do with their produce, and CHF benefits by not having to employ too many paid labors. The challenges are that either Richard or Kate must be in the garden when the sharers work to ensure safety, proper execution of the tasks, and liability issues. It can be difficult for sharers to meet the times and dates as dictated by the farm staff. Another challenge, one seen across work share programs, is that new sharers do not understand how much time and labor can be involved. Thus shareholder retention is an issue and to help alleviate this concern, Karen Haidel was added to the staff in 2013 as a part-time assistant gardener.

Imago and Enright Ridge Urban Ecovillage The history of the Enright Ridge Urban Ecovillage (ERUEV) goes back 30 years to the creation of Imago, a grassroots, environmental education organization located on Enright Avenue in Price Hill, Cincinnati, OH. Created by Jim and Eileen Schenk, and good friend Joyce Quinlan, Imago offers programs, demonstrations, and events that teach people how to live in concert with the natural world. In 2004, the Schenks, along with a core group of supporters, began the process of creating the ERUEV. Although organizationally separate from Imago, the ERUEV

can be viewed as a practical expression of Imago's mission. The ecovillage puts on potlucks, chili cook-offs, backyard concerts, and nature walks. One member, Deborah Jordan, produces the *Central Ohio River Valley Guide*¹⁹ and helps to organize the Hilltop Buying Club for purchases of bulk food. Given the ecological impact that food production has on the planet, it was logical for Enright to develop a CSA.

Enright Ridge Ecovillage Farm Project (aka their CSA). In February 2009, the ERUEV, in collaboration with Imago and the Huber Foundation, purchased the former Heavenly Havens florist's greenhouse in the 800 block of Enright Avenue and started their own CSA program (Enright CSA Website, 2014). In the communal spirit, the Enright CSA, along with ES, is one of the most democratic models featured in this study. First, there are about nine production plots scattered throughout the neighborhood, in people's backyards, the greenhouse lot, and an occasional larger garden located offsite. Secondly, the CSA functions by committee, with a steering group that includes the hired gardeners. The third democratic aspect is that most of the members participate in work shares, which have historically been organized into task-specific teams, such as communications, seed propagation, watering, weeding, harvesting, and pack-out.

The ERUEV CSA members either pay either \$600 for a nonworking share or \$450 in addition to working 40 hours during the season. Each year, several dedicated members work enough hours to earn a free share. The steering committee hires part-time farmers to

¹⁹ The CORV guide was created to educate people, connect eaters and growers, and promote a vibrant, ecologically friendly, and sustainable local-food economy in the Central Ohio River Valley. The guide originated in 2007 at the Imago Earth Center, as a group of concerned individuals met to talk about the environment and discuss local-food resources. Several of these eaters of local foods saw the need for an all-inclusive directory of resources, and thus the idea for the guide was born. The CORV guide is published annually, and is in its 7th year. (www.eatlocalcorv.org).

lead and coordinate the growing operation. Since 2009, Enright has employed three different head farmers, including Charles Griffin (formally of Michaela Farm, IN), Jeri Nakamura and Trudy Chambers (formally of Green Acres, OH), and Allison Ruf. Suellyn Shupe, a resident and CSA organizer, manages their food forest²⁰.

Over the years, this CSA has had offered 30 - 70 shares, with both working and non-working options. Only 50 shares were offered in 2014 because some of the garden plots needed to be cover-cropped to improve soil health. Also in 2014, the CSA was re-organized into site-based teams, where a group of shareholders oversee one particular garden plot. From an educational point of view, this increases the amount of growing-knowledge and gardening activities that each member will perform. Rather than being a specialized team, members now participate in the entire growing process.

For those who live in the neighborhood, one benefit of the ERUEV CSA model is that they can walk or ride their bikes to the weekly food pick-up, and have easy access to the growing plots, team meetings, nature trails and social events. The working shares provide a chance to learn from others about urban agriculture. The challenges are that committee meetings take time and coordination, member and farmer personalities do not always mesh, and the work requirement ends up being too much for some people. Given the neighborhood nine plot set up, there are logistical problems with transporting finished compost, getting tools and water, and amending the soil after five years of continual production. The recent high rate of grower turnover also presents issues. To address work-share labor issues an application has been instituted to help deter the less committed.

²⁰ A food forest is a tiered orchard system composed of perennial fruit- and nut-trees and bushes.

The Third Wave of CSAs: Recent Arrivals

Gorman Heritage Farm. Gorman Heritage Farm (GHF) is one of the oldest continuously operating family farms in Cincinnati. Settled in 1835, GHF remained in the same Brown/Gorman family until 1996 when siblings Jim and Dorothy Gorman donated their land to the Cincinnati Nature Center. After a few years of operating GHF, the Nature Center gave the farm to the local municipality, the Village of Evendale. Soon after Sandra Murphy and a core group of volunteers established the Gorman Heritage Farm Foundation (GHFF), an educational 501(c)3 non-profit organization, in 2003.

The mission of the GHFF is to provide people the opportunity to explore and learn the history, values and methods of a working, family farm in a natural setting. The GHFF is dedicated to connecting people to the land and teaching them the fundamentals of sustainable agriculture in order to build healthy futures (Gorman Website, 2014). GHF has a full-time staff year round and hires part-time camp counselor interns and workers during the summer and growing seasons. As a non-profit, GHF relies on a cadre of volunteers (570), who in 2013 gave approximately 16,731 hours. In addition, GHF has a working relationship with the Boy Scouts of America (located on an adjacent property), who regularly complete Eagle Scout projects on the farm (GHF Annual Report, 2013). In 2012, GHF was named to the National Register of Historic Places in America. Since the farm began offering educational programs (including tours), it has hosted 18,000 school children.

Gorman Heritage Farm CSA. In 2012, GHF successfully launched a CSA with ten shares. According to John Hemmerle, the head gardener at the time, the decision to implement the CSA program was two-fold. First, the on-the-farm market cart was not selling the produce. The CSA took care of this inventory issue. Secondly, the program

guaranteed a more robust revenue stream that has continued to grow since then. Similar to other programs, GHF's CSA is always evolving, adapting to the needs of the farm, the growers, and the members. In 2013, the CSA doubled its shares to 20 and offered a work share option. In 2014, they added 15 more shares to bring their total to 35 members. Based on member feedback and the time and labor required to prepare the CSA, GHF decided to offer one share size for 2014, valued at \$15 a week and costing \$440 for 28 weeks. Twenty-six members are enrolled in the working share and eight pay the full price of \$590.

When members provide labor, they have the luxury of choosing from the entire farm. GHF volunteers manage the front-desk, lead school groups, help out in the farmyard, maintain walking trails and equipment, mow the grass, and help prepare for festivals and events. When members *do* work in the garden, they typically work alongside one of the gardeners. The benefit of the GHF CSA labor model is that anyone (regardless of physical ability or desire to work in the garden) can participate in a working share. The challenge is that the labor does not all go into the garden, where it is most needed for the CSA.

Our Harvest Cooperative. The second organization to implement a CSA in 2012 was the Our Harvest Cooperative (OHC), which is based on the Mondragon Corporation model²¹ from the Basque region of Spain. In 2009 Mondragon teamed up with the United Steelworkers, North America's largest industrial union, to form unionized worker-owner cooperatives. This partnership, called the Cincinnati Union Cooperative Initiative (CUCI), was created to sponsor worker-owner enterprises capable of providing family-supporting jobs and improving the local economy in Cincinnati (OHC Website, 2014).

²¹ Started in 1956, Mondragon is now one of the world's largest federations of worker-owner cooperatives. They value participation and solidarity, and operate a wide variety of businesses and services within industry, retail, finance, and education (Mondragon Corporation, 2014).

The OHC is one of nine different co-ops in Cincinnati that are at various stages of forming with help from CUCI. The OHC sells produce to restaurants, grocery stores, and institutions, as well as a CSA. The OHC is also developing a food hub, which will offer aggregation, distribution, and eventually processing for small-to-middle-sized farms. The food hub will help smaller growers by pooling produce and permitting them to compete in the larger marketplace in both pricing and meeting demand. According to Kristin Gangwer, the food hub manager, OHC was the first co-op started by CUCI and is the furthest along in the development process. In 2012, the OHC hired Charles Griffin (formerly of the ERUEV CSA) to be their farm manager and head up production and farmer training.

Our Harvest Cooperative CSA. The OHC CSA is the fastest growing in the region, offering 60 shares in 2012, 200 shares during the 2013 summer season and 85 during the winter. They reached 350+ shares by the end of the 2014 season. While the OHC does not offer working shares, they have 11 different pickup locations around town, and three different box sizes. To meet demand for the CSA and their other produce sales channels, the OHC employs three year-round and as many as four seasonal fulltime growers at three locations. Charles has also designed and built several mechanized implements for the workers that increase the efficiency of their planting, weeding, and harvesting tasks.

The OHC is veering away from the traditional CSA payment model (pay in the spring). They have renamed their CSA a “Weekly Harvest Box” and now offer weekly payments through their online system, which means more subscribers from lower socioeconomic backgrounds can afford the chance to participate in a CSA. OHC offers three sizes (\$25 for a large, \$17 for a medium, and \$11 for a small) and weekly and monthly add-ons such as beans, beef, bread, cheese, chickens, coffee, cookies, eggs, honey, jam, pasta, and

more. These modifications reflect the dynamism of the CSA model and are important given that many food movement scholars have criticized CSA for not being able to include citizens from a wide variety of income levels (Macais, 2008). Plus, given the wide range of add-ons, the OHC CSA is emerging as a real alternative to food procurement.

Urban Greens. Fifteen families on the east side of Cincinnati founded urban Greens (UG) in 2010. Ryan Doan, one of the founders, partnered with Kevin Fitzgerald in 2010 to start UG. Kevin and his partner, Lauren Wulker, received a grant from the Civic Garden Center (CGC) to start a garden plot in the East End. That first year members focused on building soil and erecting fences. In 2011, UG began production and operated as a community garden, where families grew produce and harvested what they wanted.

According to Kevin, the grant money to start the East End garden was part of Obama's Stimulus package from the Department of Energy (DoE), which was given to the City of Cincinnati's Office of Environmental Quality, and then to the CGC. The land for the garden is managed by the city's Urban Agriculture Program,²² which was created in 2011 to re-zone land for neighborhood improvement, growing food, farmer training, education, and other economic activities (Urban Agriculture in Cincinnati Quality of Life Committee Meeting, 2011). With over \$6000 in grant money, the CGC installed a water line and

²² In 2009, the City of Cincinnati, as part of the Green Cincinnati Plan, launched the Urban Gardening Pilot program. The program rents parcels of City-owned land to neighborhood stakeholders to create a garden, increase energy efficiency, and reduce carbon emissions in Cincinnati by growing fruits and vegetables for local consumption, thus reducing transportation emissions. In 2010, the program expanded with funding from the US Department of Energy, which was provided by the Energy Efficiency Conservation Block stimulus package. By 2011, there were 59 gardeners and 11 plots of land in production. The Urban Agriculture program, as it was called, brought together the Civic Garden Center, Cincinnati State, Permaganic, Enright Ridge Urban Ecovillage Farm Project, The Corporation for Findlay Market, Gabriel's Place, Keystone Floral, the Nutrition Council, the Hamilton County Ohio State University Extension, and the Cincinnati Health Department (Urban Agriculture in Cincinnati, 2011).

provided truckloads of topsoil. The UG garden operations were so successful that members expand the program and employ two part-time farmers and sell the extra produce. Kevin and Lauren, who had interned at a CSA in Batesville, IN, suggested the model.

Urban Greens CSA. In 2012 UG launched its CSA program and provided food for 25 members for 25 weeks. That year Kevin and Ryan worked as part-time paid employees of UG and improved their gardening skills through Permaculture classes with Braden Trauth of This Land²³. The CSA had 15 working shares where members gave 50 hours of labor over the season. The working share cost \$250 and the non-working share cost \$500. Along with the CSA, UG developed restaurant relationships with Brew River Gastro Pub, the Bon Bonnerie, and Coffee Emporium. UG also began to run private farmers' markets at select corporate locations selling to the employees of DunHumby and Burke.

UG has expanded its growing operations by acquiring access to land at the Turpin Farm in New Town, OH, and a quarter of an acre in Hamilton, OH, and have added a traditional farmers' market in Oxford, OH. UG offers eggs and value-added options such as Fab Ferments (sauerkraut, kimchi, and beet kvass), goat-milk soap (from Schwartz Family Farm), Whirlybird Granola and Grateful Grams (graham crackers) a la carte. At the end of the 2013 season, Kevin retired from his paid agricultural activities and accepted a position at Miami University in Oxford, OH. During 2013 – 2014, UG hired Isaiah Waston, Robert Williams (formally interns at Permaganic--discussed next), and Josh Jones (of OTR

²³ This Land was created by Braden Trauth in 2009 with the mission of creating educational opportunities in permaculture, green building, and sustainable living. This Land serves as a parent organization for a network of urban farms, urban gardens, Permaculture demonstration sites, educational workshop providers, and local entrepreneurial enterprises involved in promoting Permaculture principles, green building-technologies, and sustainable development. The network includes organizations such as [Cincinnati Permaculture Guild](#), [TreeYo Permaculture](#), [Grailville, Greensleeves](#), [Enright Urban Ecovillage](#) and [OM Valley Permaculture](#) (www.this-land.org).

Homegrown²⁴), and also lined up four non-paid interns through the University of Cincinnati's Biology Department. Doan continues to network and is helping Taft Marsh to grow food at the UG Hamilton site for a smaller, eight-member CSA in Oxford, OH.

Permaganic. The final organization discussed and the most recent one to develop a CSA is Permaganic, a non-profit 501c(3) dedicated to sharing agriculture and art with the public (Permaganic Website, 2014). Permaganic was founded by Luke and Angela Ebner in 2009 and, along with others (such as Braden Trauth of This Land), have created an urban permaculture paradise with fruit trees, native plants, berries, and vegetables less than a mile from the heart of downtown Cincinnati. While the organization is officially in its third year, Luke has been tending the space known as the Eco-Garden since 2003.

According to Luke, the Eco-Garden started in the 1980s and in 1998 came under the management of Impact Over-the-Rhine (OTR), an organization created by concerned citizens who wanted to get the neighborhood youth involved in environmentally oriented programs. At this time, Eric Powlawski, who is now the sustainable agriculture educator at OEFFA, ran the garden. In 2009, Luke and Angela left Impact and began Permaganic, which continues the tradition of the Eco-Garden by growing food with inner city youth and then selling it at nearby Findlay Market as part of their youth internship program. Permaganic also offers after-school programs, volunteer opportunities, and community dinners.

²⁴ OTR Homegrown is an organic urban farm that cultivates ecological stewardship and social welfare through sustainable practice. Started by Josh Jones, Tevis Foreman of the Office of Environmental Quality, and Mark Stegman in 2010, OTR Homegrown uses land given from the city's Urban Agriculture program. The organization provides education about healthy, sustainable living through community involvement, investment, and partnerships that foster good citizenship and inter-group tolerance. The organization also provides local access to healthy, local foods for the Greater Cincinnati area (www.otrhomegrown.com, 2014).

In 2013, Permaganic was invited to be part of *Green Acres: Artists Farming Fields, Greenhouses, and Abandoned Lots*, an exhibition at the Cincinnati Contemporary Art Center (CAC), which highlighted eco-conscious happenings around the city (CAC Website, 2014). This public promotion and recognition is needed because Permaganic relies on grants, volunteers, donations, and produce sales to fund their programs. Currently, the Eco-Garden is under pressure by the city and developers who want to build high-end condominiums on the site. Luke and Angela have organized a grassroots campaign to fight for their space and for the right to sit at the bargaining table with the developers. While some organizations can move, when a garden and soil are involved, the circumstances are different.

Permaganic CSA: The Donation Model. Permaganic started its CSA in 2013. In keeping with its ethos and mission, the CSA is set up as a donation, where one party pays and the other party receives the food each week. In 2013, they provided two shares to underserved populations. One share went to a daycare program in the West End that was operated out of a home. The food fed the family that lives there and the daycare children. The other share went to the Fairmont Women's shelter and the produce was incorporated into meals served to the program participants. Each share cost \$500 and includes food literature and coloring books and a Women's, Infant's and Children's (WIC) cookbook.

This concludes the introduction to the case study CSA organizations and the stories about their CSA programs. The next section of this chapter presents the findings on these CSA organizational characteristics and educational opportunities.

Part 2: Case Study CSA Characteristics and Educational Opportunities

Table 10 below displays a summary of the CSA organizations for the case studies. Half (5/10) of the CSAs are run by non-profits (four with 501(c)3 status), followed by three LLCs, one Sole Proprietor, and one Cooperative. Most of the farms are suburban (3-5) or rural (2-4), and only two qualify as urban. Five of the programs own their land or some of their land (i.e. UGs), four are under lease, and one has recently sold its property.

Table 10

CSA Program Characteristics for the Case Study Organizations

Organization	Type	Locations*	Land Tenure	Growing Practices
EarthShares	Non-Profit	Suburban (25)	Lease	Certified Organic
Turner	501c(3)	Suburban (15)	Own	Certified Organic
Gravel Knoll	LLC	Suburban (22)	Sold	Certified Naturally
Greensleeves	Sole Prop	Rural (19)	Own	Certified Naturally
Carriage House	LLC	Rural (18)	Own	Follow Organic
Enright EcoVillage	501c(3)	Urban (5)	Own	Follow Organic
Our Harvest	Cooperative	Suburban/Rural (10/43)	Lease	Follow Organic
Gorman	501c(3)	Suburban (15)	Owned	Follow Organic
Urban Greens	LLC	Urban/Suburban (5/10)	Own & Lease	Follow Organic
Permaganic	501c(3)	Urban (1)	Lease	Follow Organic

* The numbers in parenthesis denotes miles from the central business district (CBD) of Cincinnati. While the two programs classified as rural are closer to the CBD than several of the programs classified as suburban, these farms exist in less populated areas, east and west of the CBD, as most of the suburban sprawl lies to the north.

Growing Practices. Regarding agricultural practices, six gardeners follow organic standards (which include permaculture and biodynamics), two are certified organic and two are CNG. The following two quotes and examples provide insight into how and why some of the growers take the approach they do. Charles of OHC told me,

It is about developing a true relationship to the Earth, and not using extractive practices to create food. This means we are not spending 400 calories to create 40 calories of food, which is the epitome of unsustainability. Similar to the Rodale Institute, this is about working with nature and not to try to control or dominate nature. Biodynamics provides the insight to recognize your farm, your little piece of earth, as a living entity, and to relate to it. It is this relationship that I try to get across to new farmers and people interested in farming. This is also basic to Rudolf Steiner's Anthroposophy, which is about living in your senses and observing your relationship with the earth, and to the soils, and the plants, and so on.

(Charles, February 18th 2014)

I also asked Kevin at UGs about his methods, and he eloquently replied:

For me, agriculture is a very rational activity. Biodynamics, bio, life, dynamics, energy, we are talking about life's energy. When you look at a plant you can visualize how the energy cycle comes and leaves this plant, this is the meta to the micro of what biodynamics talks about, and this makes sense to me. You can see and feel the plants reaction to the sun, the moon, and to the rain. This brings spirituality and connection to the food. So I have a really well-rounded vision when I am with a plant. I talk to them, I can see them, I can almost feel their heartbeat. Permaculture is similar. These are very logical approaches; water runs down a hill, you build a swale to slow it down. People have been doing this for thousands of years. So when you are growing food and thinking about the land and the best way to do that, you can have

this conversation in lieu of biodynamics and permaculture, and just being aware of these concepts, of how do you keep balance. (January 20th, 2014)

These quotes reveal a deep appreciation for the natural world and farmer's desire to work with nature to produce food in ways that does not degrade ecosystems.

Another novel example of growing practices is seen at GS. The farm is a 12-acre ridge plot with two valleys on either side and is not suited for traditional agriculture. Gretchen has taken this as an opportunity to implement Sheppard's Restoration Agriculture techniques (2012), which is farm-scale permaculture. Using keyline water management methods, GSs' hills have been transformed and are now home to 300 fruit and nut trees. As a CNG farm, GS works to enhance ecosystem services while providing food. These examples speak to the range of alternative practices used by many CSAs.

Growth of Case Study CSA Shares. Similar to the regional findings, Table 11 below provides evidence of the recent growth in CSA share offerings. Six of the 10 CSAs, except for GHF, OHC, Permaganic, and UG (because they are still growing), at one point in time offered more shares than they do currently. Given GHF's staffing for the gardens, their share numbers will level out around 30-40. OHC and UG will continue to grow in share offerings as long as there is demand and they keep building partnerships, offering apprenticeships (labor for training and education) and dedicate staff to their operations. Both have added growing sites to their portfolios (Figure 4). ES, Turner, GK, CHF, and ERUEV have all pushed their share numbers higher in the past, but ultimately reduced their offerings due to quality control, labor, land and soil resources, funding, and storage/post-harvest handling space.

All of the case study organizations still in operation have increased total share numbers from their first year to 2013. ES, GK, and OHC have experienced the greatest

growth since they started, with OHC (+225) leading the way, followed by ES (+75) and GK (+63). For 2013, total share numbers for this sample was 670 and the total growth of share offerings from year 1 to 2013 was +476. Except for GK, all of the organizations added shares or stayed at their current offerings in 2014, with approximately 749 total shares offered. This growth is primarily due to the OHC, as it makes up for the closing of GK. This increase in the share numbers offered is also reflected in the regional survey data.

Table 11

Change in CSA Shares Over Time for Case Study Data

Organization	CSA Year 1	Shares Year 1	Shares 2013	Share Change Year 1- 2013	Projected Shares 2014
Turner	1995	16	45	+29	44
Gravel Knoll*	1998	13	83	+63	N/A
EarthShares	2006	25	100	+75	115
Greensleeves	2008	7	20	+13	20
Carriage House	2009	6	10	+4	20
Enright	2009	30	70	+40	50
Our Harvest	2012	60	285	+225	400
Gorman	2012	10	20	+10	29
Urban Greens	2012	25	35	+10	60
Permaganic	2013	2	2	N/A	N/A
Totals		194	670	476	749

*The data for Gravel Knoll is from 2012.

Growth in Case Study CSA Working Shares. All of the case studies (except OHC and Permaganic) offer members the option of working in exchange for a half or full share, a reduced price or free food, as is the case with CHF and some ERUEV shareholders. Table 12 displays the working shares and changes over time for each CSA. Out of the 670 shares offered by these organizations, 178 or 26.5% of them are working shares. Tuner, GS, and CHF are theoretically providing the most educational opportunities to their shareholders

because they require work, where the shareholders engage in performing farm and garden tasks. Turner and GS required their members to work 44 hours per season, or 2 hours per week, followed by Enright (40 hrs), GHF (30 hrs), ES (25 hrs) and UG (20 hrs).

Table 12

Working Shares by Case Study Organization Over Time

Organization	CSA Year 1	Work Shares Year 1	Work Shares 2013	Shares 2013	Wk Sh Hr Required 2013	Wk Sh Change Y1-2013	Wk Sh Percent 2013
EarthShares	2006	25	30	100	25	+5	30%
Turner	1995	16	45	45	44	+29	100%
Gravel Knoll*	1998	6	N/A	83	N/A	-6	N/A
Greensleeves	2008	7	14	20	44	+7	100%
Carriage House	2009	6	10	10	Varies	+4	100%
Enright	2009	25	50	70	40/20	+25	71%
Our Harvest	2012	N/A	N/A	285	N/A	N/A	N/A
Gorman	2012	N/A	14	20	30	+14	70%
Urban Greens	2012	15	25	35	20	+10	71%
Permaganic	2013	N/A	N/A	2	N/A	N/A	N/A
Totals		100	178	670		88	

*The data for Gravel Knoll is from 2012.

These requirements have shifted over time as the organizations weighed the pros and cons of working shares. The percentage of working shares out of the total number of shares offered can be misleading due to the large size of some CSAs. In looking at the raw numbers of working shares, the rankings were as follows for 2013: Enright (50), Turner (45), ES (30), UG (25), GHF (14), GS (14), and Carriage House (10). Turner (+29), Enright (+25), Gorman (+14) and UG (+10) have added the most working shares over the years. These numbers help us understand how many shareholders and how much (time) they have engaged in CSA activities and perhaps in learning something new.

Case Study CSA Educational Opportunities

This remainder of this section describes the educational opportunities for the case studies. In examining these findings, there is substantial overlap in the educational opportunities experienced by the growers and shareholders at these organizations because some participants are involved in coordinating programs beyond the CSA. What this means is that a shareholder might not learn anything through their CSA program, but rather learn through being a volunteer educator, a tour guide, or involved in another aspect of the organization. For the growers, the opportunities discussed here provide additional avenues and audiences for education. Table 13 lists the educational resources and opportunities for the case study organizations. These categories are similar to the ones used for the survey.

Table 13

Educational Opportunities by Case Study Organization

Organization	Summer Camps	Classes	Outreach, Events & Tours	Volunteer	Apprentice/ Internships	Research	Wk Shares / Orientations
EarthShares			X	X	X	X	X
Turner	X	X	X	X	X	X	X
Gravel Knoll			X				X
Greensleeves		X	X	X	X		X
Carriage House			X	X		X	X
Imago/Enright	X	X	X	X	X		X
Our Harvest		X	X	X	X	X	
Gorman	X	X	X	X	X	X	X
Urban Greens			X	X	X	X	X
Permaganic			X	X	X		

Camps. This is one of the categories that distinguish organizations from each other because these are formal educational opportunities for the public. Turner, Enright, and GHF offer children's summer camps that range in price from \$60 to \$225 per week. Turner offers a Farm Day Camp for ages 8 – 10, 10 – 12, and 11- 14. Campers milk cows, make ice cream with the milk, weed the herb beds, and ride a horse-drawn wagon, among other activities. Gorman's summer camps focus on farming activities and teaching children basic life science, such as what do plants need to grow. Gorman offers theme camps such as Art, Chef, Veterinarian, Science and Wilderness Explorers for teenagers, and also has a Sprouts and Seedlings camp for younger children. Finally, Imago (Enright) offers summer camps that focus more on nature and environmental themes, including Adventure Camp, Eco-Leaders, Tribal Roots, A Day in the Life Of... as well as a Farm and Homestead camp. Enright and especially Gorman hire junior and senior camp counselors, ages 14 – 24, to help run their camps (discussed further below).

Classes. The second educational offering that distinguishes one CSA organization from another is that of classes because they are also formalized and structured learning opportunities. Turner, GS, Enright/Imago, OHC, and GHF invite teenagers and adults to learn about gardening and farming, ecological sustainability and even spirituality. These courses range in price from \$15 to \$50. Examples of these offerings include composting, season-extension, tree-pruning, nutrition, canning, cooking, fermentation, bee-keeping, flower arranging, pre-school literacy, discovering a sense of place, and winter immune boosters. Nancy Sullivan, a longtime member of ERUEV organizes 'reskilling classes' for herbal tea making, woodworking, fruit- and nut-tree pruning, foraging, and basket making. Imago also offers Earth Institute Courses, which engage the public in service-learning

projects and build community awareness around water conservation, voluntary simplicity, sustainable living, deep ecology, and spiritual growth.

Community Outreach, Social Events, and Tours. The third and most popular grouping of educational offerings at the local level is tours, social events, and the development of community partnerships. All of the CSAs produce regular newsletters (electronic and paper) for the public. Several organizations are involved in innovative community-building programs and this theme ranked 6th in the shareholder and 9th in the grower interviews over all (see Chapter 6). Of note is the fact that Turner organizes a Freedom Gardens program, which educates participants about growing food using alternative agricultural methods. Along with One Small Garden, an organization specializing in container gardening, participants volunteer their time, learn how to grow food, and earn a 4 x 8 raised-garden box upon completion. Turner also provides support for the Cincinnati Waldorf School, offering horse-drawn wagon rides, pumpkin patch visits, and curriculum-based activities for the students.

Jamie Stoneham of GHF created a Mobile Kitchen Project with support from the Center for Clinical and Translational Science and Training (CCTST),²⁵ which has funding from the National Center for Research Resources and the National Center for Advancing Translational Sciences, part of the National Institutes of Health (NIH). The Mobile Kitchen project is a partnership between GHF, Price Hill Will, Good Samaritan Free Health Center, and the ERUEV CSA that put on two 4-week culinary programs for Price Hill residents. For each session, 8-10 participants learned basic cooking skills and techniques using fresh

²⁵ Established in 2005 as a collaborative effort among the University of Cincinnati, Cincinnati Children's Hospital Medical Center, UC Health and the Cincinnati Department of Veterans Affairs Medical Center, the CCTST is a research resource and "academic home" for clinical and translational scientists and program (<http://cctst.uc.edu/>)

ingredients (some from the CSAs) with the goal of building knowledge and confidence to cook healthy meals at home. These two examples illustrate connections and collaborations between various AAO, local hospitals, and Federal level programs like the NIH.

Photo 1: Greensleeves' Garlic Festival.

Gretchen relied on her shareholders as well as two interns to help with the garlic festival.

Social Events at the local level are similar to those described in the survey: potlucks, volunteer lunches, festivals, etc. All of the case study CSAs provide social events. Examples from my participant observations of possible education occurring happened during such events as GS's Garlic Festival where people learned about different varieties of garlic, and Mark Sheppard's Restoration Agriculture techniques (2012). At GHF's Savor the Season, people participated in building raised beds, cooking demos, and honey bee workshops. At UG's Summer Solstice Party, visitors received a tour from Ryan Doan, who spoke about raising chickens, the ratio of roosters to hens, the different edible parts of broccoli plants that we don't normally consume, bee colony collapse syndrome, and the fact that Cincinnati

has a 45% tree cover. At the OHC CSA kick-off, participants learned about the history of the Mondragon Federation, the partnership with CUCI, and the Bahr Farm's soil. Many of these programs, classes, outreach activities, and events have social and ecological justice components, challenging participants to rethink their role in society and change behaviors.

Photo 2: Tour at the Bahr Farm during the Our Harvest Coop CSA Kick Off

Ellen Vera, CEO and Board Chair for OHC, introduces CSA members to the Bahr Farm

Farm tours are offered by all ten of the local CSAs and span the educational spectrum as some organizations such as ES, Turner, GHF, and ERUEV have signage, which provides structured learning opportunities by introducing information about farm-related topics, organizational stories, and history, and helps to scaffold one's learning experience (Abbot, 2014). For example, in visiting ES and walking around the campus, you will encounter signage for their constructed wetland, which recycles wastewater. At ERUEV, visitors can read about ecological restoration, and at Permaganic and GHF many of the

plants, trees, and bushes are labeled. It is important to note that organizations with full-time staff and trained volunteers who know the histories, stories, proper names, and other facts about agriculture can greatly improve learning outcomes for visitors. Despite signage and other efforts to relay information and stimulate learning, one of the challenges of farm tours and other one-time visits to these organizations is that it is difficult to assess exactly what people learn, take away, and apply to their lives. Thus, visitors may not learn much on a tour, but tours serve as introductions to other available programs.

Volunteers. Volunteer and service-learning opportunities are offered by 9/10^{ths} of the local CSAs and are also related to community outreach and building partnerships. Volunteers play a vital role for all the non-profits in helping them run their operations. GHF, Permaganic, ERUEV, and Turner, specifically rely on the generous gifts of time, money, and expertise from community members. Volunteers in this capacity are different from working shareholders, including CHF's volunteer CSA model. These organizations coordinate large groups (20–50 people) to help with projects during service campaigns such as Go Cincinnati. These larger groups help to High Tunnels, build roof-rain catchment systems, paths and fences, clear honey suckle, plant trees, and harvest.

For example, Permaganic regularly hosts students from the Indian Hill, Rothenberg, and Clark Montessori schools, and other non-profit service-learning organizations such as Give Back Cincinnati, Starfire, U Give, and the University of Cincinnati's (UC) Peace Village. Permaganic has also cultivated relationships with Crossroads Church and a local Quaker Friends Meeting. GHF has built relationships with corporations such as 5/3rd Bank, General Electric, and Barnes Denning Accounting Firm, whose employees volunteer en masse two to three times a year. The Clark and Mercy Montessori school groups spend a week at GHF

for their service-learning inter-sessions. Plus, GHF hosts 100+ volunteers during the annual Give-Back Cincinnati campaign. Other organizations such as Turner regularly host Cincinnati Country Day and Mariemont school groups, and GS receives labor from the Permaculture group This Land. Also, through Imago, ERUEV hosts Xavier University (XU), Elder and Xavier High School groups. Plus, a UC English class conducted background research that helped Jim and Julie of Enright write a book titled *Starting Your Urban CSA* (Schenk & Hotchkiss, 2014).

Farmer Apprenticeship and Internships. At the local level 8/10 of the CSAs offer some type of training program. In coding the grower interviews, the topic of *farmer training programs* ranked 5th overall (see Chapter 6). Farmer training programs represent a special type of learning and education within the parameters of study because they are formalized, structured experiences, usually paid positions, which are dedicated to reproducing the agricultural profession and the CoP (Lave & Wenger, 1991).

There is a wide range of training programs offered through the local organizations. Here, I distinguish between farmer apprenticeships from internships based on the history of the program, the number of farmers trained per season, the mission of the organization, the variety of tasks being learned, the number of mentors (i.e. masters) per program, the amount of structured time spent in classrooms and field settings where mentees gain conceptual and hands on experience (the immersion aspect), the programs' relationship with academic institutions, and the financial and human resources available. To relate these two types of training models to Lave and Wenger's (1991) SL and LPP theory, an apprenticeship provides more in-depth training than an internship. Most of the

organizations fall into the internship category, with only a handful providing more formalized farming training, which approaches a traditional apprenticeship model.

Turner Farm. By far, Turner has the premier apprenticeship program in the region, followed by OHC, Permaganic, ERUEV, and GS. Turner has been training farmers for almost two decades. According to Melinda O'Bryant, the training program became more formalized in 2006, when there was a growing interest in local food, and a demand for farmers. With the addition of Megan Gambrell to the staff in 2010, the apprentice program really took off, as Megan, Melinda, and Bonnie shared the dream of building a larger farmer-training incubator program. Part of Turner's mission is to train new farmers and, because of this, its program stands out for several reasons.

Photo 3: Turner Farm Apprentices leaning how to assemble a mobile electric fence

First, they train approximately 4-6 farmers²⁶ for eight to nine months per year and the apprentices are paid a stipend through the Meshewa Farm foundation²⁷. Second, the apprentices are trained on a wide variety of farm-related activities including managing their own field, running the Madeira Farmers Market, and managing the farm's on-site market. The future farmers are instructed on how to operate equipment such as tractors, mechanized cultivators, and the horse team for plowing and cultivating. Third, the apprentices learn how to keep detailed records (required for USDA organic certification), plan for the entire season, and follow Good Agricultural Practices (GAP) and Good Handling Practices (GHP). The apprentices are taught all the basics, from starting seeds, laying drip tape, and building a mobile electric fence, to the best cultivation methods per plant type, harvesting techniques, post-harvest handling, and quality control.

Two other aspects of Turner's apprentice program that distinguish it from others are regular classroom sessions and visits to surrounding farms. In addition to learning through doing, the apprentices receive an hour of classroom instruction each week. Melinda notes the importance of these classes because many trainees arrive at Turner without agricultural or scientific background, usually with degrees from the humanities. In addition, the apprentices learn about food policy from Professor Dan Birdsong, a sharer who teaches Politics at the University of Dayton and leads a class on the topic. Finally, the interns take regular field trips to other farms and CSAs, such as ES, GS, and Running Creek

²⁶ Including Armed Forces Veterans, who have their own plot to grow for markets and, unlike the traditional apprentices, get to keep the money they earn from produce sales in addition to a receiving a stipend.

²⁷ The Meshewa Farm foundation is a non profit 501(c)3 sister organization to Turner Farm. Both Turner and Meshewa's land are held in agriculture conservation easements.

Farm. The field trips introduce the apprentices to other farmers, expanding their professional network, and exposing them to different practices in a variety of contexts.

Photo 4: Turner Interns visiting EarthShares CSA at Grailville

From right to left: Megan Hill, Mike, Karen Huseman, and Steve Edwards.

Evidence of Turner's success with their training program is seen in the number of apprentice farmers that have started their own operations or worked for other farms. Megan explains, "I am really proud of our alumni. Luke Ebner with Permaganic, Mark Luff with Fin Meadow, Stephen Dinger is at Our Harvest, and Eric Pawlowski, who is now in charge of education for OEFFA, he was here at one point" (February 12th, 2014). She continued to list additional names such as Matt Tomaszewski (also at OHC), and John Miller, who started a farm in Indiana; Elle Faulk, who is farming in New Zealand; Mark

Ferro, the farmer at Blue Oven bakery, and Kristen Guastafarro, its intern; plus Karen Huseman, who is now at Grailville. Turner has trained about 40 farmers since 2006.

Our Harvest Cooperative. The OHC has also developed a farmer-training program, first with the OSU South Center Extension in 2012 and then with Cincinnati State (CS) in 2013. The OSU partnership was a satellite program (one of several in OH), which included webinars and over 2000 hours of on-the-job training. The three local graduates from this program were already employed at nearby farms. Steve Dienger and Jules Brookbank were hired by OHC and Kevin Fitzgerald was employed at the UG. After the first year of the OSU apprenticeship program, OHC decided to create an additional farmer training and organizational partnership with CS to better serve their needs. Currently the OHC is not actively training any new apprentices under the OSU program.

The OHC and CS partnership is unique because OHC serves as a training site and lab school for students enrolled in CS's Sustainable Agriculture Management certificate program. Every Friday, Professor Heather Wiggins (program director) brings a class of 10-15 students to the Bahr Farm in College Hill. CS students learn from Charles Griffin and other OHC staff members about agriculture first-hand. Second, CS buys produce from OHC, which is then prepared by CS culinary students and served at their Overlook Cafeteria and Summit Restaurant on campus. CS also serves as a drop-off location for the OHC CSA. This partnership involves students at all levels of food production, from growing to harvesting, preparation, and serving of the food (*The Cincinnati Herald*, 2013). This collaboration is an excellent example of the connections between an AAO and other institutions, which enhance the educational opportunities for all parties involved, broadening the CoP, and increasing the resources available to OHC and CS.

Photo 5: Cincinnati State Students working at The Bahr Farm with OHC Farming Staff

The OHC and CS farmer-training program affords many educational benefits. First, students can earn a college certificate, which means they are receiving formalized education in soil, plant, and animal science, as well as broader liberal arts courses. They are also encouraged to attend conferences such as Professional LANandscape NETWORK (PLANET). Second, the students are exposed to the realities of working in sustainable agriculture, as they participate in a wide variety of tasks on the farm. During field observations, I worked with students as they pounded “T” posts for tomatoes, strung trellis lines, harvested, weeded, put together and decorated bee hives, and learned about USDA-approved organic sprays (such as Surround, an non-toxic spray made from clay). I observed Chase, one of the CS students eating and sharing lambs quarter (an edible weed often called wild kale), talking about its nutritional value, identifying plantain (another wild plant) for edible and medicinal purposes, and discussing Pollan’s *Botany of Desire* (2001), and Sheppard’s (2012) Restoration Agriculture techniques.

Permaganic. The rest of the farmer training programs featured here are more along the lines of internships. Of the remaining programs, Permaganic's is the most developed educationally. Luke, Angela, and their volunteers have been operating an urban youth internship for ages of 12-18 for a decade. Their intern job-training program runs from April to November and provides stipends for 10 hours of work a week with the goal of preparing the youth for careers related to agriculture. Permaganic has had as many as 15, but typically averages about 6 interns per season. Permaganic relies on their board members and volunteers to teach business lessons on bank accounts, credit cards, and financial literacy. Braden Trauth talks about permaculture design, Angela teaches art, and Luke facilitates the gardening activities.

As part of the youths' training, Angela developed a curriculum that focuses on art, science, business, and service learning using the PAR-D lesson format (Preparation, Action, Reflection, and Demonstration). The interns are exposed to topics such as climate change, permaculture design science, observational drawing, and how to organize and run a small business. Angela told me she improved upon an existing CGC curriculum to incorporate Gardner's (1985) educational theory of Multiple Intelligences and to make the lessons more interdisciplinary. As an educator, Angela wanted to make sure the youth could draw important connections between topics and she worked to make the lessons as engaging as possible. In teaching about gardening and microclimates, Angela emphasizes the positives, such as the fact that planting trees can help harvest water over time and affect the immediate climate of an area. Angela's goal is to empower and inspire the interns.

EarthShares, Enright, and Greensleeves. These organizations also offer(ed) farmer internships, but on a smaller scale. Prior to the ES CSA, Grailville ran a 3–6-month intern

program and for over eleven years trained approximately 60 interns, most of them staying for three months. The program was discontinued when the GV CSA ended in 2005. GS and ERUEV both have space for 1-2 interns per season. Enright has AmeriCorps interns for their CSA and Imago's educational programs. At times room and board are provided at no cost or a reduced rate, and stipends are typically available, although it depends on grants awarded. There is not as much structure regarding formalized curriculum, classroom time, or field trips associated with these programs as compared to the apprenticeships described above. The interns at these organizations learn similar tasks as those at Turner, OHC, and Permaganic although each program, head grower, and context provides unique learning opportunities. For example the interns at GS will learn about permaculture, how to run a farmer's market, or how to put on a social and educational event (i. e. a Garlic Festival).

Gorman and Urban Greens. GHF has an internship program to train their Farm Camp Counselors. The counselors are paid, work regular hours, and are offered a space to live for free at the farm. They do farm chores every day and work in the gardens when they can. These positions are educational as the counselors go through training and orientation to become familiar with GHF, the subject matter of the camps, and how to lead a group of young campers. The counselors have a two-week preparatory period before they are expected to teach when the summer camps begins. The senior counselors develop their own lessons and activities based on camp themes, thus providing another avenue for education, planning, leadership, and self-direction. These opportunities are different than Turner's, OHC's, and Permaganic's because the interns do not learn how to be production farmers, rather they learn how to facilitate children's camps.

Regarding training farmers, GHF and UGs have the least formalized internship programs, as these opportunities are more akin to service learning and volunteering. Funding is scarce or not available, the interns' hours vary, and there are no formalized educational components. Both organizations have interns from local universities such as XU and UC, usually from biology, environmental science, or horticulture programs. The students may be required to complete a certain number of experiential education or service learning hours on the farm for their programs. The college interns learn about farming and gardening, but in a piece-meal fashion, more akin to a dedicated volunteer. In terms of payment, Ryan at UG provides gas money and produce to the interns.

In looking more closely at the diversity of farmer apprenticeships, another important finding is the development of programs that are not affiliated with non-land grant institutions (i.e. state- and business-funded agricultural research schools, such as Ohio State). The case in point here is OHC and CS's partnership where students get practical experience in the garden with Charles and the OHC growing staff, in addition to classroom time that will lead to a credential. XU and the UC have also developed agriculture- and horticulture-related programs for their students, and both are seeking partnerships with local farms as cooperative placements for students. The implications of these new kinds of farmer-training programs are examined in the discussion section.

Research. The next educational opportunity that distinguishes some CSAs from others is that of research. The majority of these CSAs offer shareholder surveys at the end of the season to gather feedback about which vegetables they enjoyed the most or least, what should the CSA grow more or less of, how did the pickup days and times work, and how could the programs be improved, etc.? Six of the 10 local organizations engage in more

technical agricultural and social science research, both on the farm and with the community. Some projects follow strict protocols and use experimental designs, while others simply compare different methods anecdotally across seasons.

These research activities are undertaken for both practical and educational purposes. Research and education can be viewed as two sides of the same coin, and several of the examples below illustrate this connection between knowledge generation and teaching the public about the results. Conducting research broadens the kinds of learning that volunteers, apprentices, shareholders, growers and staff are exposed to, speaks to how and why learning occurs within these contexts, and provides additional resources. The category of *research and experimentation* ranked 13th in the grower interviews and the related category of *improving CSA processes* ranked 11th in the shareholder interviews.

Photo 6: Doug Seibert's Soil Mix vs. Ohio Earth Food's Plant ProPotting mix™

*Left = Ohio Earth Foods Plant Pro Potting

Right = Doug Seibert's own soil blend

EarthShares. Karen and Steve tested the difference in plant growth between two different potting soil blends for starting seeds. They compared Ohio Earth Food's Plant Pro Potting mix™ with vermiculate to a special proprietary soil blend developed by Doug Seibert of Peach Mountain Organics (Photo 6). Karen and Steve made sure that the broccoli starts received equal sun, water, and other growing conditions. Results indicate Seibert's soil blend provided a better growing medium for the broccoli starts. In addition to the ES community, the Turner interns learned about the results when they visited for a tour. Karen passed on the special seed-starting soil mix recipe to the Megan, Melinda, and the rest of Turner crew for them to use as well.

Turner Farm. In 2011, Turner received a Sustainable Agriculture Research and Education (SARE)²⁸ grant to investigate the effects of sheep's wool used as mulch around tomatoes, eggplant, and peppers. Samples of the plants' fruit and leaves from control and experimental plots were sent to OSU for a nutrient analysis. They concluded that the plants mulched with sheep's wool were more nutrient-dense and produced higher yields than those that did not receive the treatment. This information has since been disseminated to other farms in the area (GHF, Greensleeves, ES) and is also used by several Turner alumni.

Gorman. In 2012, John Hemmerle and I worked with two University of Cincinnati professors and a geology student to procure \$1,000 to build a metal biochar kiln. In this multi-phase project, we studied the effects of biochar and Ohio Earth Foods *Revita Pro 4-5-4* (non-synthetic fertilizer) on the GHG emissions from GHF's garden. We measured the difference in GHGs between biochar vs. non-biochar plots and a separate fertilized plot. I

²⁸ SARE is part of the USDA and was created in 1988 with the goals of advancing the whole of American agriculture and promulgating innovations that improve profitability, stewardship, and quality of life by investing in groundbreaking research and education. SARE provides grants to researchers, agricultural educators, students, farmers, and ranchers in the United States (SARE, 2014).

surveyed 15 GHF volunteers, staff, and research team members who worked with us on the project to assess what they learned. The participants reported that they learned about biochar and that soil is a source and sink for GHGs (Wight, 2013b). The project is on-going as Gorman recently received \$12,500 to construct an Adam Retort™ biochar kiln and carbon education station.

Photo 7: Research Team and Gorman Staff at the Inaugural Biochar Burn

From left to right: Mare Warner, Andrew Schneider, Mike Roman, John Hemmerle, Mary Brydon-Miller, Alan Wight, Amy Townsend-Small, and Sandra Murphy.

Our Harvest Coop. The OHC as part of CUCI conducted a series of marketing studies prior to launching their operations. CUCI and several core members of OHC, along with Tom Schneider from the Ohio Cooperative Development Center (located at the OSU Extension South Center), did a feasibility study to understand the business landscape and plan accordingly. Under the leadership of Ellen Vera, the group completed buyers' and growers' surveys to assess supply and demand for their food hub. These reports

highlighted organizations in the region that are involved in educating community members such as OHC, Civic Garden Center, the SouthWest OEFFA chapter, This Land, the local Coop Extension offices, GHF, Granny's Garden School, The Green Acres Foundation, The Cincinnati Zoo, and Turner Farm. OHC and the OSU Extension concluded that there is the need to train more farmers and develop innovative programs to increase access and consumption of locally grown foods. In addition, Kristin Gangwer (2013) produced a report titled *The State of Local Food*, which was commissioned to investigate local-food movement by the GUFAT and a handful of other stakeholders²⁹. These research projects helped OHC build networks, social support, and organizational capacity for their efforts.

Carriage House Farm. Kate Cook at CHF is constantly testing out new methods to improve her yields and quality of crops. She does experiments with different types of mesh and insect barriers on some valuable cold crops like cabbage and cauliflower that don't need to be pollinated. In addition to testing row cover materials and combinations of layers to protect crops, Kate, like many of the growers, is always on the lookout for new practices; especially pest-management strategies that do not use chemicals. Kate looks to OEFFA and the extension offices for new findings.

Urban Greens. UG is the final organization involved in research. Lauren Wulker, a founding member and graduate student at Miami University in Oxford, conducted two studies at UG. The first was a survey to understand why members joined the CSA, what they learned, and how they viewed the garden as a source of conservation, biodiversity, and health. Among the findings, members reported that they learned how to start seeds, harvest, and identify plants. Lauren also analyzed the iron content of UG's kale as compared

²⁹ Civic Garden Center, City of Cincinnati Office of Environment and Sustainability, Northern Kentucky Health Department, and The Nutrition Council.

to the kale found in grocery stores. Using equipment at McNick High School, where Lauren is also a part-time science teacher, she determined that UG's kale contained more Iron than that sold in stores.

Shareholder Orientations and Contacts. The last grouping of educational opportunities discussed here are orientations and contacts, which are formalized avenues of educating sharers and working shareholders. At the local level, only ES, Turner, CHF, and ERUEV require orientations for sharers. These programs take a more structured approach to educating their members about CSA expectations, procedures for pick-up, farm safety, Good Agriculture Practices (GAPS) and Good Handling Practice (GHP), what to expect when working, and their organizational culture in general. GHF provides an orientation for volunteers, but not for CSA members, although there is overlap between these two groups. The orientations resemble classes in which the growers or managers cover a series of topics, go over handouts, and address members' questions. At most of the orientations, there is a sign-in sheet to track which shareholders have completed the trainings. Shareholders get to meet the farmers and other members, and may be able to take a tour.

Contracts. In conjunction with formal orientations, some CSAs have their members sign a contract or waiver. At the local level ES, Turner, UG, and GK require contracts that outline the details of their relationship. Permaganic and CHF have members sign a photo release, and ERUEV uses an application process. In my interview with Gretchen of Greensleeves, she talked about the litigious nature of our society, and the need to take proactive steps towards developing a more formalized contract with her shareholders. She has followed a series of webinars by Rachel Armstrong about legal issues for farms, which

is hosted by Farm Commons and based in Madison Wisconsin. The next section presents the findings about learning, education, and related resources from a network point of view.

Part 3: A Networked Learning Community of Practice

The final findings section for the organizational case studies describes the rich network that exists between these AAOs, civic groups, statewide non-profits, and the local, state, and federal governments. As mentioned in the methods section, the network between these organizations is the major emergent theme. The account of my positionality, the local organizations' stories, the educational programs and examples presented above have introduced approximately 36 different organizations, over 40 people within the CoP, and over 100 connections between them. Examining how the organizations are connected provides insights into what is being learned and shared, and how this is happening.

Using Clark's (2003) concept of a situational map, I created four association diagrams to illustrate the connections among organizations, including the flow of people, ideas, and money/land. The goal of these diagrams is to show how these exchanges and resources are related to learning and education. The diagrams also provide a graphic representation of the CoP. The flows depicted in these figures are akin to aqueducts carrying different types of capital and resources (intellectual, human, financial, living, etc.) between the nodes in the CoP (Roland & Lundua, 2009). There is a connection between people and their ideas because, when a person moves from one place to another, he or she bring his or her practices and knowledge set with them. These diagrams capture flows over a 30-year time span, with most transactions occurring within the past 5–10 years.

There is no center presented within the diagrams, even though a few of the organizations are considered at the core of this CoP. This decision is based on the

theoretical guidelines of Lave and Wenger (1991); it is not the center, but rather the periphery that is important, because this where the learning happens according to the theory. I have extended this notion of small-group learning to the community level. Each diagram has a faded oval representing the periphery. The boxes representing the 10 CSAs in the case study are shaded gray. The placement of each organization is roughly the same on all four diagrams. However, several boxes representing organizations/people (not directly related to the goals and focus of the study) do not appear on the final graphic given space limitations. The arrows connecting the organizations are one-way or two-way to indicate the kind of relationship. When analyzing the flow of people, a two-way arrow means the person floats back and forth, such as in the case of training programs and working/volunteering at multiple organizations. The numbers that appear at the arrowheads or in the middle of the line identify the specific relationship between the organizations (tables provided upon request). Each number listed corresponds to a specific idea, person, or financial/land relationship.

I present these diagrams as a series to make the data easier to understand overall. Even though these graphics are “busy” (especially Figure 14), they do not show all of the possible connections. For example, there should be many arrows connecting OEFFA to the CSAs because many of the growers attend this yearly conference. There should also be more arrows to and from This Land and the CGC as many growers have connections here as well. However, I have only presented the connections that are prevalent in the data collected. This is both a benefit and drawback of the situational approach, or the analysis of situations as defined by Clark (2003).

Figure 11: Idea Flow within the Cincinnati Alternative Agriculture Community of Practice

Figure 11 (above) displays the flow of 25 ideas within the CoP. Many of these ideas and exchanges of information were discussed above. There are exchanges and demonstrations of specific growing methods such as Sheppard's restoration agriculture (2013) and the use of different kinds of mulch. The diagram charts the transfer of construction designs for germination stations, improvements such as sliding trays, and the use of certain seed-starting soil-mixes between organizations. Other ideas that are shared include the Mobil Kitchen Project, Freedom Gardens, and a regional *State of Local Food* (Gangwer, 2013) report that was made available to the CoP through the GUFAT.

Figure 12: People Flow within the Cincinnati Alternative Agriculture Community of Practice

Building on this information, Figure 12 shows the flow of people, which is closely related to the flow of ideas. The flow of people within the CoP highlights when and through whom information is shared and how learning is occurring. A key example here is the movement of Charles Griffin from Michaela Farm to Enright, and then to OHC, where he now oversees the training of Cincinnati State students. Thus, Charles' biodynamic practices, methods, and ideas about agriculture are being taught to the next generation of growers. Another example is Eric Powlawski, who was a Turner apprentice, then helped to manage the Eco-Garden before Permaganic, and who is now at OEFFA in an educational capacity.

Also of note is the fact that Turner has trained about 10 people who have now gone on to work at other organizations in the CoP.

The majority of the people catalogued in Figure 12 are growers, and thus represent several forms of capital as discussed in Chapter 1 (Roland & Lundua, 2009). Growers are laborers, who have special intellectual and experiential capital pertaining to agriculture. Specifically, growers possess knowledge and experience at the intersections of material and living capital, regarding the proper use of tools; how to improve soils using different forms of mulch, compost and leaves; how to germinate seeds; how to care for plants and animals, and harvest produce. Furthermore, growers' expertise turns living and non-living capital into financial capital in selling produce. They also build their farms' human capital by properly training volunteers and members, teaching them the appropriate techniques, and thus increasing financial capital. Given these connections and synergies between the different types of resources, an experienced and knowledgeable grower with good interpersonal skills on staff is crucial for the success of any agri-educational program.

Figure 13 (below) adds another layer of flows within the CoP. Here, forms of financial and living capital (land) are represented and different kinds and levels of organizations are presented, such as private foundations, institutions of higher education, religious congregations, local, state and federal agencies, and even the US Department of Energy (DoE). How the DoE stimulus funds find their way to the city, then to the CGC, and into the hands of the UG's CSA is an interesting story (see footnote 22 in chapter 5). The CCTST, a large collaborative effort (one of 62 such medical research groups in the US), is also a special example of federal funds being used to support CSA organizations and staff. The CCTST's goal is to improve health outcomes in communities. The Huber, Rettig Family,

Turner and Meshewa, and Turpin Farm Foundations hold private funds and land. The Quakers' have provided financial support for Permaganic. The Corporation for Findley Market is a 501c(3) that received support from the Turner/ Meshewa Foundation and the USDA. The City of Cincinnati's Office of Environmental Quality (Urban Agriculture Program), Campbell County Conservation District, and the USDA represent levels of government providing money and land for agricultural and education.

Figure 13: Money & Land Flow within the Cincinnati Alternative Agriculture CoP

The final situational diagram (Figure 14) presents the data from figures 11, 12, and 13 in sum. I have calculated several different statistics that describe some of these

Figure 14: Total Flows within the Cincinnati Alternative Agriculture Community of Practice

KEY

The black boxes = organizations. Arrows indicate flow (of people, ideas/practices/money in either one or both directions). The weight of these arrows (in increments of 1- 8 points) indicates the frequency (number) of these flows between organizations. The numbers in each box indicate total connections for that CSA organization.

relationships at the CoP level. The total number of relationships (i.e. flows) between the organizations mentioned in the study is about 114. Network centrality (Borgatti, 2005) identifies the most prominent organization, with Turner (31), Grailville/EarthShares (18), Enright (14) and Gorman (13) leading the way. Also the number of flows (8) between Turner and Grailville/EarthShares is noteworthy as these are the two oldest and most connected CSA organizations in the study. Based on these findings Turner, Grailville, Gorman, and Enright (Imago) are technically more towards the non-center of this CSA CoP. Note that they are all educational non-profits, most own their land, offer a wide range of programs, and several of them have deep pockets and connections to procure additional resources and forms of capital (Roland & Landua, 2009).

Chapter 5 Summary

To bring it all back together, this chapter weaves a series of stories about these CSA organizations over the last 30 years. It pays homage to the key people, programs, and organizations responsible for developing CSAs and the supporting agrifood movement structures within the Cincinnati area. From an Action Research point of view, this story belongs to the community, and it deserves to be told in detail. This narrative provides information about the broader context of these organizations, the community, and some of their characteristics and resources. These historical foundations help us understand some of the characteristics and educational opportunities available at the organizations, which are explored in the second section of this chapter.

According to the case study data, farm tours, community outreach, social events, volunteering / service learning, and working shares are the most prevalent educational offerings. Farmer training programs and classes are also widespread within the CSAs, but

not to the extent of the other options listed above. Classes, summer camps, research opportunities, and fully developed farmer apprenticeship programs are the categories that really differentiate one organization from other. The situational diagrams add another layer of analysis regarding the flow of ideas, people, and resources, which are also related to educational opportunities. This type of network analysis also provides further insight into which CSAs organizations are most active in the CoP, according to my data.

There are several takeaways and initial themes that stand out regarding the case study findings. First, the number of CSAs and the number of shares they offer are growing, despite the fact that not all CSAs succeed in the long term (as in the case of Gravel Knoll and perhaps Permaganic). Second, no two CSAs are alike in their implementation of the model. Third, some of these organizations are involved in unique educational opportunities such as farmer training, research, and community outreach programs, all of which help build capacity for the food movement as whole. The fact that several of these CSAs are involved in technical agricultural research is an interesting finding. There appears to be a strong relationship between the type of organization (such as non-profits), their characteristics such as land tenure, and their educational offerings. Finally, the network diagrams of this CoP reveal a long list of actors from the DoE to the CGC and USDA, which are responsible for funding aspects of the CSA organizations. These themes will be fully discussed in Chapter 7 as they relate to the research questions.

Chapter 6: Interview Themes and Findings

This final-findings-chapter introduces the interview results and examines the individual-level data. This chapter is divided into three sections. First, I explore the local shareholder and grower motivations for joining and operating CSAs. Second, I present the themes and quotes that speak specifically to what shareholders and growers are learning through their participation in CSAs and these organizations. This second section is broken down into two parts, one that discusses gardening and organizational tasks, and another one that focuses on food preparation, cooking, and preserving. Here, I present data that addresses the how, where, and with whom learning and education are happening. The final section offers a concession to my argument by exploring the challenges of CSA based education.

Part 1: Why Join and Operate CSAs?

Shareholder Motivations. Ten of the shareholders I interviewed were women and six were men. All of the participants were White and college educated. The interview data revealed several related reasons why shareholders seek out and join these programs. Many of the shareholder motivations are related to grievances regarding our current food system and the desire for alternative methods of growing, obtaining, and consuming food. Participants spoke at length about their feelings of disconnectedness from their food, concerns for their personal health and nutrition, and the quality of the environment as it relates to food safety, chemical inputs, food miles, farm policy, monocultured landscapes, food waste, seed biodiversity and GMOs. Shareholders commented that they view their CSA and CSA organization as place to learn about agriculture and food in general while building

community and relationships. There were ample conversations that centered on permaculture and biodynamic approaches to agrifood production. In these discussions, shareholders explored possible solutions to their grievances such as creating alternative agrifood systems, buying USDA approved organic food, joining CSAs, and having home gardens. Other reasons and motivations for joining CSAs are connected to our broader ecological and cultural crisis. The quotes below provide insights into the shareholder's worldview and their incentives for joining CSAs.

The first quote comes from Bill, an ERUEV and CSA member who has been involved in other programs, including Michaela Farm in Indiana and ES in Grailville. Bill spoke about the ecological problems with our current food system and how the CSA offers an opportunity to reconnect with the land, the soil, and the people growing their food. Bill said a major problem is that "We have built up this technological bubble and these long distance supply lines, which have totally alienated us from our sources, not only soil and water, but everything else" (March 7th, 2014). For Bill, the CSA is one answer to addressing these issues. Kate, a past ES and ERUEV member, also compared food systems, and talked about "long distance supply lines."

I mean I learned about the alternatives to the modern food system, which is what we're doing by being there [being part of a CSA]. I understand our mainstream food system is shipping cauliflower from China. God, how much energy does it take to do that, but China is the biggest producer in the world. Most of our produce comes from Mexico, South America, Israel, and parts of the Middle East, and Indonesia. It's just crazy, why are we shipping food

away from Indonesia, the people in Indonesia need it, but they don't have the money to buy it. (Kate, February 7th, 2014).

Kate's comment hits upon three major food system grievances. First, food miles and the distance traveled from farm to plate. Second, the energy expenditures and resulting GHG emissions associated with shipping produce from the other side of the planet. And third, the fact that people in developing nations grow commodity crops for export, which they cannot afford. Kate's final point is about the tensions and inherent inequalities of food production in a global capitalist system, where local communities are subjected to larger market forces and the policies of absentee overseers such as the World Bank, International Monetary Fund, and World Trade Organization. For Kate and Bill, the CSA model is a more ecological and socially just way to procure food.

Mike and Denise, who were part of GK, GHF, and are now at OHC, have similar concerns about food miles and what happens to food in transit. I asked why they participate in CSAs and what they have learned, Denise said,

The whole lifecycle of food from the time that it's been grown on the farm, whether it's in California, Mexico, or Morocco, to how early something is harvested. You'd think you're buying fresh fruits and vegetables at the grocery store, and oh my God they were probably harvested three weeks ago! I mean they were sitting in a warehouse exposed to heat, cold, and the practices that got them there. I think we are more aware of the purity of the product and of the chemicals that are on and in things. Now I look at things in the grocery store with a great deal of skepticism, and ask, do I really want to eat that?" (January 26th, 2014)

Denise's comment about the "purity of the product" illustrates a critical skepticism and deeper understanding of the chemicals and practices (i.e. irradiation) used to keep food aesthetically pleasing. She questions when the produce was picked, and how it survived the long distances and varying temperatures before it reached the grocery store.

Another major reason why people join CSAs is because of the health implications of conventionally grown food. Kate from ES said, "The veggies that we are getting at the grocery store, which are grown by agribusiness in depleted soils, are pumped full of NPK [nitrogen, phosphorous, and potassium], and do not contain the trace nutrients, so the veggies are not as nutritious" (Kate, February 7th, 2014). Here, Kate mentions a lack of trace nutrients in conventionally produced foods, which include iron, magnesium, selenium, and zinc for example.

George, a sharer and regular volunteer at GHF, provided similar reasons for joining a CSA. He said the CSA's food is healthier and people feel more confident about what they are eating. He then said that there have "been so many scares, contamination, and abuses in the system. So knowing that you're getting higher quality, and that you are dealing directly with the producer is better, but the hidden thing is that it is a luxury" (George, February 1st, 2014). This excerpt presents several interesting points. George believes that CSA food is higher in quality, and healthier, and by procuring it directly from a farm where he works, he avoids the contamination issues associated with the industrial food system. At the end of the comment, George acknowledges the financial barrier associated with CSAs, as they require money up front, which limits those who can sign up based on disposable income.

A related health grievance is that of pesticides. Kathy of Turner and GHF links the personal and ecological health implications of our agri-chemical approach to growing food.

Well I think the herbicides and pesticides is also a cause for concern. I remember we were traveling to Michigan on Saturday and it was very snowy, and all of those fields up there were particularly empty, there were no plants, and if you look at Gorman and our [Turner's] fields, they are not empty of plants, and that is because of what they put in the soil and on the plants. It is a real visual thing when you see that. And in the summer when the corn is there, when all you see is corn, it is the only thing in the field at a time. So there is the soil issue, but then there's also the issue of what these things might do to us, such as cancer. (February 4th, 2014)

Kathy's description of fields and landscapes with no plants or with just corn, conjures up a visual image of the differences between conventional agriculture as contrasted with the practices of most CSAs. Soils and plants treated with chemicals affect other aspects of life within the food chain. Conversely, the fields at GHF, Turner, ES and other no-spray farms are richer in microbial life, and you see the other plants growing alongside their crops until they have been cultivated. While she does not mention it specifically, Kathy's quote makes reference to the concept of bioaccumulation, the fact that these chemicals become concentrated at the top of the food chain (i.e. in humans). Her reasons for joining a CSA include both soil and personal health, making the connection between how we treat our land and the consequences for our bodies downstream in the chain of food and life.

Robin from UG also talks about the multiple implications of conventional agriculture. Similar to Kathy, she starts with her diet and then discusses food miles, climate change, her individual impact, and concerns about our widespread use of chemicals.

I have totally changed my diet now for the reasons of eating local food, and the implications for the environment, because you're using fuel to bring stuff from Argentina or whatever, so I buy local for environmental reasons as well. Climate change is one of my big things and eating locally is one of the little things that I can do. Maybe it's not all that little when it gets added up. So not using fertilizers and all that commercial agriculture stuff, I don't want that in my food. (March 1st, 2014)

Robin's list of reasons for not eating food produced by industrial agriculture is typical of many CSA members. Robin is also optimistic that small changes in people's eating and purchasing habits will add to larger changes regarding our ecological impacts of food miles.

Another reason why sharers join CSAs is for the community and relationship aspects. Aron of UG, Mike and Denise of OHC, Jessica of GHF, Deborah of Enright, and others mentioned that the community and social side of these programs are attractive, as both a primary reason and a supplemental benefit. I asked Aron about his reasons for joining UG, and he said, "One of Ryan's goals is community and so for that reason alone, even if I did not eat vegetables, I would still probably support the CSA financially, because he is a supporter of the community" (February 17th, 2014). Aron continued, "So I would sum it up as community building and character building for Josh [his son], those are my reasons, plus I love fresh fruits and vegetables too, although that is kind of a bonus" (February 17th, 2014). Aron is exceptional in his reasoning by placing community at the top of the list, as most other members see it as auxiliary benefit.

Finally, about 2/3rds of the sharers also indicated a desire to learn more about agriculture, and believed that the CSA and volunteer work opportunities were an extra

benefit to receiving quality food and becoming associated with the organizations. The quote below by Mike provides a rounded summary of his reasons.

I think the whole concept of the farm itself, the outreach to the community, and what is available there for families. It is not just the CSA, it all of the programs, and in the case of Gorman Farm, that was so appealing to us. There is this community of people we really got to know and we were already hooked on the healthy-bodies concept, and that led to healthy body fitness, and to healthy-body eating. Plus, I like the work share discount, I like the people, and I like the education too, from you, and Barb, John, Kathy, everybody shares their knowledge. There is also a spiritual side, there is a benefit of being with nature, down there with the weeds, and the plants, in the dirt, and the smell, and you're close to God. It is very pleasing, and comforting, and relaxing, and calm. (Mike, January 26th, 2014)

Mike hits upon a list of reasons, including personal health, community, education, and spirituality as it relates to his connection with nature. There is not just one reason why people join, especially organizations offering additional programs, like GHF, Turner, and ES. While it is difficult for some shareholders to identity a single reason for joining CSAs, when it comes down to it, half of the sharers in the case study sample (8/16) cited access to fresh local food (50%) as primary. The second largest group is that of community building (25%), followed by ecological and health motivations (both at 12.5%). While health and nutrition are ranked lower as their own theme, in reading many of the quotes above, we get a sense that concerns about health are interwoven with many of the other concerns.

Table 14 below provides a summary of the shareholder interview themes, many of which speak to their motivations discussed above, such as categories four, five, six, eight, nine, and eleven. Having explored the qualitative nature of these quotes, I have also calculated the frequency and percent of each category, which offers a summary of the interview content over all (Hsieh & Shannon, 2005). When the frequencies of these six categories are combined, they total 40% or 165/408 quotes that were analyzed from the shareholder conversation.

Table 14

Ranked Shareholder Interview Themes

Rank	Theme	Frequency	Percent
1	Learning/Doing: prepping beds, mulching, seed starting, etc.	55	13.5
2	Learning about insects, plants, & soil	50	12.3
3	Learning to prepare, cook, preserve food, eating locally	42	10.3
4	Issues with & conversations about changing the food system	40	9.9
5	CSA/CSA Organization as education/learning from others	38	9.4
6	Community building, building partnerships	35	8.6
7	Changes in eating & purchasing behaviors	33	8.1
8	Conversations on alternative ag, permaculture, & biodynamics	26	6.4
9	Conversations on ecological & cultural crisis	16	3.9
10	Food access and affordability, social justice	15	3.7
11	Health and nutrition	12	3.0
11	Improving CSA processes and food options	12	3.0
13	Value of manual labor, hard work	11	2.7
13	Appreciation of nature	11	2.7
15	Learning business, sales, web design, and communication	10	2.5
Total		406	100

Grower Motivations. The grower's motivations for operating a CSA (or farming in general) are similar to the shareholders' reasons, yet they list others. The growers' motivations indicate a much deeper commitment to certain values and ideals because they

have made this a way of life, not just a consumption choice. Many of the growers' reasons can be related to the mission of their organizations and the other programs they help to manage (see Chapter 5). The excerpts presented here reveal personal reasons for choosing market gardening and farming as a vocation. To gain a more complete picture of whom the growers are, let us consider their experiences and demographics.

First, there are eight females and seven males, and half the growers in the sample are over 50 years of age. Many of the growers had other jobs at one point during their working careers. MaryLu Legman of ES, Charles Griffin of OHC, Linda Rosselot of GK, and Barb Liphardt of GHF are the most experienced growers, as they have each been gardening or farming in some capacity for over 30 years. Next in terms of time farming experience is Melinda O'Bryant of Turner (18 years), Luke of Permaganic (14 years) and Gretchen of Greensleeves (11 years). All of the other growers have less than eight years of experience.

There are several themes from the grower interviews that speak to their motivations for farming and operating CSAs. All 15 growers spoke about their desires to practice permaculture, biodynamics, or other alternative methods to grow food (see grower practices in Chapter 5). Many also mentioned a love of nature and the desire to work outdoors. Similar to the shareholders, the growers are interested in promoting personal and environmental health, and stated that our current agrifood system is doing the opposite. Interestingly, there were several growers who cited tragedy and disaster as related to why they pursued agriculture. The growers also discussed topics such as building new food systems and relationships by developing food hubs and CASs, which they see as practical solutions to current food-system issues. Other conversations within the

interviews focused on issues of food policy, lobbying, and safety, and the political and legal obstacles being erected by agribusiness that prevent the creation of new agrifood systems.

Our first grower example comes from Gretchen of GS. I asked her why she decided to become a farmer. She replied,

9/11 had an impact on me. I thought what is wrong with our society, that we are so reviled, and hated, and why can't we help each other? People are starving, why can't we grow food, why can't we share knowledge, why can't we cooperate? So I thought that the old ways of doing things, and that does not mean being conservative, it means going back to a time when there is more honesty, and involvement with the land. So that is how I came to this. (Gretchen, February 13th, 2014).

I inquired further into her reasons for the CSA model, and she said that we have become “a society of consumers, not creators. Farmers’ markets and CSAs mean there is a connection to the eater of the food that you grow. And when they help grow it, they know the honesty and integrity that goes into it” (Gretchen, February 13th, 2014). Gretchen’s reasons are profoundly ideological. She was affected by 9/11 and displayed a deep sadness during this part of the interview regarding our society as a whole—the fact that we are consumers, not producers, that we have lost honesty in the work we do, and that we (Americans) are hated by others. She did not elaborate on this point, but given the targets of the 9/11 attacks—The World Trade Centers (global capitalism), The Pentagon (US military), and White House/Capital Building (US Government) —Gretchen chose to focus on a way of life that is not detrimental to others (as these institutions are perceived to be

by the attackers). Farming and the application of an all-work share model are ways for Gretchen to give back, educate others, and cultivate an honest relationship with the land.

The next example comes from John, who worked at GHF for three seasons as an educator and gardener before starting his own edible landscape business. In response to my “Why farm?” question, John listed several reasons. First he mentioned a connection to nature, and then an appreciation for food and cooking with his college friends. Finally John discussed the catalyst, the spark that led him seek employment at Gorman.

Hurricane Ike hit in September 2008 and we were out of power for five days.

That was the longest this area had gone without power for a while. A lot of grocery stores got raided, and there was definitely some tension in the air. It was a wake-up call for me in terms of our actual vulnerability with food security. So after that I went out and I joined AmeriCorps, and got placed at Gorman, intentionally, because I wanted to be there to learn how to grow food. (John, February 6th, 2014)

It was another “disaster,” similar to Gretchen’s reasons that made John want to learn about agriculture. For John it was the issue of food insecurity and the vulnerability of our food system that prompted him into the field (pun intended).

Charles of the OHC told me his story, which included aspects of tragedy, although there was no single defining moment, but rather the broader march towards what modern society calls “progress.” Charles grew up in California’s Valley of the Heart's Delight, an area that was covered with Cherry, Apricot, Prune, and Plum orchards. He recalled looking over the valley when he was little and it looked like snow, when in fact it was just acres of flowering trees. As he grew up, those orchards were replaced by housing developments

and strip malls. While working in that environment, Charles cultivated an appreciation for nature and a responsibility for taking care of the trees. By the time he was in high school, there were only a few orchards left—he said,

They were like gems and museum pieces if you will, and after high school I left to study agriculture in England and while I was away they changed the name of that valley, from the Valley of the Heart's Delight to Silicon Valley. So that's progress for you, but to me and my relationship with nature, it was kind of like a death knell. (Charles, February 18th, 2014)

One of Charles's reasons for farming is his love for nature. He said, "I wanted to figure out how to live a life that had some kind of relationship to nature. And agriculture is a reasonable way to do that" (Charles, February 18th, 2014). This example also provides direct insight into how Charles views the wider human–earth relationship, specifically our development policies, as they sound "a death knell" for nature.

The fourth grower in our tour of motivations is Barb of GHF. Prior to working at GHF, Barb's growing experience came from homesteading, as she had planted out over an acre of land in Northside, Cincinnati with fruit trees, asparagus, strawberries and annual crops. Barb applied for the GHF gardener position because she wanted to grow food for others and teach them about eating healthily food. In addition, Barb's own experience with changes in her diet and several years of research into the subject of food and nutrition for her Bachelor's degree in Environmental Studies provided her with numerous reasons for pursuing a job in agricultural education. I asked what her major issues with our food system are, and what she wishes everyone knew about it, and she replied,

There are several things and I can't pare it down to one. Primarily the meat and how inhumane meat in this country is raised, specifically factory farming. I educated myself, read books that encompassed all the information and I was appalled by what people will do to sell food quickly and get it to market. It is inhumane how the animals are treated and the facilities in which they are raised are very unnatural. The second thing is that it took me 5 years to finish my degree and in that process a lot of things happened in the US pertaining to food, particularly the spinach outbreak of e-coli in 2008. So even veggies are a problem in this country, and then from an environmental point of view, the fact that our food comes from 2000 miles away, I mean that is criminal, we should be eating locally. There is really no reason not to eat locally. And when you tie the environmental issues in with the cruelty of the animals, with how we treat an animal, the hormones involved in the raising of the animals and then those hormones being transferred into the people who are eating it. We just don't think about that when we are eating food, how an animal been treated, that is then transferred to our bodies. (Barb, January, 15th 2014)

Barb provides a crucial insight here, connecting how we treat animals and the environment with how we treat ourselves. The interrelationship described here is similar to Kathy's point about pesticides on soils and cancer in our bodies. Barb's list also includes food miles and food contamination issues with e-coli.

The next grower example comes from Luke of Permaganic. I asked him why he chose gardening and said, "Of all jobs I did when I was younger, I enjoyed working in the

garden the most, because I felt like it was a place of healing, it was a place of peace, and one of the fringe benefits is you get food” (Luke, February 11th, 2014). Luke went vegetarian for 14 years and pays close attention to the food he puts in his body. He compared gardening to other occupations (including art) and told me that the other jobs he did “just seemed so empty, there was nothing behind them, there was nothing real, whereas planting a seed, and growing it into something, and being able to eat, it seemed real, there was no corruption behind it, or fakeness” (Luke, February 11th, 2014). Luke’s other reason for gardening is personal health, and when he realized how eating vegetables made him feel, this confirmed that growing food and educating others was what he wanted to do.

As for the other growers and their motivations for farming, Kevin and Lauren of UG spoke about wanting connections to the land, an innate curiosity for learning about agriculture, working for food justice, and improving their personal health. Ryan from UG was attracted to farming because of the entrepreneurial possibilities given the public’s interest in purchasing healthy, local foods, as well as a passion for working outside and being his own boss. Kate of CHF was drawn to farming when her career changed. She reflected that her parents were gardeners when she was growing up, and after completing the CHEF training program and seeing the demand for CHF’s products, she was sold on the idea. Linda of GK said she was following Jim’s (her husband) dream to be a farmer. Megan of Turner told me she has always been drawn to plants and enjoyed weeding her parents’ garden on weekends. She has a biology degree, and after working in international development, realizing it was not for her, moved to Ohio and applied for Turner’s farmer apprentice program, which she now runs. Melinda from Turner is also drawn to plants,

specifically flowers, and earned a horticultural degree from Ohio State. She spoke at length about helping her parents in their garden growing up.

Grower's reasons for employing the CSA model revolve around several foci. First, there is the fact that CSAs are an additional revenue stream and members typically pay upfront, which means financial capital early in the season (13/15 growers mentioned these points). A related reason has to do with finding a secure market for their vegetables (i.e. moving produce). Most of these farms grow produce that may not make it into the hands of a customer because it is not sold before going bad, given the small amount foot traffic to the farms or their farm stands. The CSA helps to move vegetables (9/15 growers said this). Next, the CSA work-share was also a popular reason because it represents the intersection of labor and education. Eleven out of 15 growers said that they needed labor to help them with their operations, and CSA work share is a good source. Plus, many of the growers at the non-profits emphasized the educational aspects of working with others in the garden. Finally, several of the growers acknowledged a love for nature and being outside.

Table 15 displays the thematic results from the grower interviews. Similar to Table 14 with the shareholder themes, I have calculated the frequency and percentages of these categories. Evidence for the growers' motivations to farm and operate CSAs is found in themes four, six, seven, and fourteen. When combined, these themes were mentioned 109/457 times by all growers, accounting for 23% of the grower quotes. Comparisons of my participants' motivations to those reported in other studies are discussed in the next chapter. The next section of this chapter presents the interview data regarding what is being learned.

Table 15

Ranked Grower Interview Themes

Rank	Theme	Frequency	Percent
1	Teaching shareholders gardening & farming tasks	73	16.0
2	Teaching & learning with farmers, friends, & CSA members	64	14.0
3	Teaching sharers about insects, plants, & soil	54	11.9
4	Permaculture, Biodynamics, Alternative vs. Conventional Ag	36	7.9
5	Developing Farmer Training Programs	33	7.2
6	Conversations on food policy/lobbying/safety	32	7.0
7	Labor: delegation, as commodity, appropriate tasks	29	6.3
9	Community outreach & building community, newsletters	27	5.9
9	Dreaming about educational opportunities	27	5.9
10	Teaching/talking about cooking, recipes, appreciating food	23	5.0
11	CSA as not financially stable, money vs. education	17	3.7
12	Challenges to CSA Education	16	3.5
13	Research and experimentation	14	3.1
14	Health and nutrition	12	2.6
Total		457	100

Part 2: What is being learned?

There are several interview themes that provide insights into the types of FGBE that are happening within CSA programs and organizations. For the shareholders, the top-three categories are about *learning how to do garden tasks* such as prepare beds, plant seeds, build germination stations, high tunnels, and rain barrel collection systems (ranked 1st), *learning how to identify plants, insects, and soil* (ranked 2nd), and *learning how to prepare, cook, and preserve CSA food* (ranked 3rd). Other categories related to learning include *change in eating and purchasing behaviors* (ranked 7th), *health and nutrition* (tied for 11th) and *organizational tasks* (ranked 15th), which are about communications, webpage design, and marketing (Table 14). Combined, these categories account for 202 quotes, almost 50% of the shareholder conversation. From the grower interviews, the following four categories

about *teaching shareholders gardening and farming tasks* (ranked 1st), *teaching shareholders about plants, insects, and soil* (ranked 3rd), *teaching shareholders how to cook and preserve food* (ranked 10th) and taking about *health and nutrition* (ranked 12th), reveal what participants are learning (Table 15). When combined, these four categories were discussed by all growers 163 times, accounting for 36% of the grower conversations.

This second section is broken down into three parts. First, I discuss gardening and organizational tasks, which include themes such as identification and weeding. Second, I explore the food-related themes of learning to think critically, cooking, preservation, and shifts in eating habits. Then, I provide examples and quotes that address the how, where, and with whom the learning and education are happening.

In the Garden and for the Organization

Gardening Tasks. One of the more common topics discussed is about garden tasks and activities that shareholders learn to perform. This quote from Shannon of Greensleeves provides a broad overview of this theme.

I have learned how to pull weeds, I've moved furniture, drilled nails into boards, planted entire beds, dug holes for trees, planted garlic, spread compost, worked a motorized tiller, built boxes for garlic beds, harvested veggies for shares, filled bags with sand to hold down the greenhouse, transplanted, watered beds, dug potatoes, planted potatoes, and moved the chicken tractor. (Shannon, March 2nd, 2014)

George, a shareholder at Gorman also lists the activities he performed.

Well if you started in the winter, we would do everything from preparing the beds and putting in fence posts, to sharpening tools, working in the Hoop

House, organizing things, and picking up debris and materials. We also constructed plant covers [referring to shade cloth] and built an indoor hothouse [germination station] where seedlings grow in a heated environment. In the spring there was a host of activities, having to do with tilling, preparing the beds, and mulching, and planting, and generally just getting everything up and running. (February 1st, 2014)

Shannon and George talk about gardening tasks beyond just seeding and planting. In the CSA context, sharers learn how to maintain tools, install fences, plant trees, spread compost, construct “hothouses” and shade cloth covers. Other members built trellis systems, organized seeds, and learned new terms and names of tools such as soil knife, seeder, stirrup hoe, Florida weave, “T” posts, herb spiral, and hoop house.

From the grower perspective, Luke listed the activities that his volunteers do as follows.

As for what the volunteers learn, it depends on the day. When volunteers come in the late fall it’s time to clean up the garden. One of the techniques that we do, which is a permaculture technique, is we leave the roots in the ground, so go around with loppers and chop the tomatoes off at the ground. And if there are still green tomatoes, they pull them off, throw them into a bucket and clean them up. They might be flipping the compost. We do a lot of composting, a slow compost style, which the fast composting is more for nitrogen, and slow composting as more for plant health and beneficial organisms. If it’s Friday, our harvesting day, then we harvest for Findlay

Market. If it's Thursday we harvest for the CSA. We also have an herb spiral and little brick wall that volunteers will work on. (February 11th, 2014)

Because of Permaganic's commitment to biodynamics and permaculture, volunteers and interns stand a good chance of learning non-conventional gardening techniques such as sunken pathways, agroforestry, and creating swales to capture water.

Another topic of conversation that growers and sharers spoke about pertained to teaching and learning different harvesting methods. Digging potatoes was a popular point for discussion as many sharers enjoyed searching for potatoes in the soil. How to harvest leafy greens where you "pick the outer leaves, pick them from the bottom, to make sure you leave a little bit on the plant, so it would keep growing" (Kate, February 7th, 2014) came up in over a third of all the interviews. Using a knife to cut lettuce, how to tell if a tomato or berry is ripe, and the attention to detail needed to harvest beans, peas, and okra were also reoccurring subthemes here.

Identification: Plants, Insects and Soil. The third-ranked grower theme and the second-ranked shareholder theme about plants, insects, and soil is another broad area of learning within the CSA context. Linda from GK described how she taught sharers to make forage sandwiches with Chick Weed, early Dandelion greens, early Plantation, and Poke Weed. She spoke about the medicinal properties of Plantain, and how the ability to identify plants in the wild and garden is crucial for simple tasks such as weeding, cultivating, and harvesting. All of the growers in CSAs that offer working shares talked about the importance of identifying plants. Megan from Turner explains,

I try to teach them [shareholders, volunteers, and apprentices] the families of plants in the field because plant identification, I think that's really important.

Last year we organized our seeds into families. And it's cool because when people have questions about a seed, they can think about it in a different way, it is part of this family, so it's going to be like this. And I feel like when you teach this concept, you teach the CSA sharers this, and it is something that they can get, and they can feel really good about knowing it, and it's an applicable piece of knowledge. It's not just knowledge that you store in your head (Megan, February 12th, 2014).

Beyond just knowing what a plant looks like it, it is beneficial to know what the seeds look like, which family it belongs to, and the characteristics.

Kate, a past ES and current Enright member, who is also an avid home gardener, mentioned learning more about plants through CSA participation.

Well I had never even seen potatoes growing, so the first time we dug potatoes at EarthShares, that was really cool for me, to see how potatoes actually grow, which is different from your leaf crops, or your beans, it's like rooting around in the ground, and here are all of these potatoes. So just getting to have new experiences with plants and I am real into plants. And even though I garden, some of my first experiences with new plants were through the CSA. (Kate February 7th, 2014)

Beyond just learning about what plants look like, sharers also get educated about plant diseases, and gained experience quarantining infected organic matter. Dan, a Turner sharer, described the process of cleaning dead and diseased foliage from tomatoes. He was instructed to dip his hands into milk to prevent the spread of this disease or fungus between the plants. Dan could not remember the name of the fungus, but he learned that

milk is a protective barrier and that to ensure that future soil is free from disease, the dead foliage was composted in a separate pile, and not reincorporated back into the garden soil.

The second topic within this identification theme is insects. Kate from CHF takes the time to show and educate her sharers for several reasons. First, to know which are the beneficial bugs, the ones that eat or repel the *bad* bugs; and then the ones that eat your food. This is good practice in the realm of integrated pest management. Secondly, according to Kate, many of her sharers volunteer to learn/improve their gardening skills.

I always try to point out beneficial insects to people and their eggs and larval forms. And people get excited about this, because they usually have a blanket aversion and think bugs are gross, and I like to show them how useful they are. For example I learned recently is that paper wasps eat cabbageworms, and I've actually seen them flying along with cabbageworms. We also have a healthy population of parasitic wasps here. So we had a great crop of tomato hornworms that were getting parasitized, and I loved showing people, even though they think it is weird. It's fascinating to me to see them when they're totally zombified. Some folks get a little creeped out and others think it is awesome. You can tell when the baby wasps will emerge soon because it the hornworm has stopped eating. (Kate, March 14th, 2014)

Here sharers learn what parasitic wasps look like, why they are beneficial and how to identify an infected hornworm. In this capacity, Kate is an interpreter, a guide on behalf of the beneficial insects as she helps people overcome fears and get more comfortable interacting with nature. Kate has also taught sharers how to identify Harlequin beetles, the Eastern Dobson fly, and different kinds of butterflies, like the Spicebush Swallow Tail.

On the shareholder side, Josh of UGs learned about pollinators (bees) and why Kevin and Ryan planted sunflowers to attract these important insects. While at ES, Kate leaned about the bean beetle and picked them off as she harvested beans. George from Gorman learned about Harlequin Beetles and squash bugs (aka stink bugs). He spoke about removing the pests by hand and also cutting down on his own use of insecticides at home.

Soil, soil amendments, and fertilizers were a third major point of conversation within the identification theme. Many of the growers referenced the importance of soil. Ryan from UG explained, “I want to build the soil. Over time you get better disease resistance and you need to water less. I make sure people know when they eat my plants they are eating my soil” (January 23rd, 2014). Josh of UG and Shannon of GS talked about fish emulsion (a kind of fertilizer). They both spilled it on their clothes and reminisced to me about the smell and stickiness of the substance. George, Jessica, and Kathy of GHF mentioned learning about biochar. Others learned about composing coffee grounds to build their garden soils. Sharers across programs also spoke about learning to use leaves as mulch and in compost. Robin from UG said,

I learned about composting and convinced Ted [her husband] that we should not bag our leaves. We should just pile them all at the end of the driveway where there was all this clay, so I can have a garden. So Ted could not believe that we were bagging leaves all the time, because we had two enormous oak trees with lots of leaves. We stopped buying mulch and got a backyard composter when our garbage disposal broke and did not replace it. (Robin, March 1st, 2014)

As part of the identification theme, shareholders (and some growers) told me they learned new terminology or approaches such as: diatomaceous earth (an alternative, non-synthetic pest application); using Blue Hubbard (a type of brassica) as a trap crop to protect cabbages, cauliflower, and broccoli from Harlequin Beetles; bees and the colony-collapse syndrome; seed saving techniques, cingulated (seeds that grow one plant) vs. non-cingulated (seeds that produce many plants); growing unique varieties such as yellow tomatoes, popcorn, purple basil, pole beans, etc.; learning the names and how to use tools; using mulch and straw as weed prevention, soil moisture retention, and soil amendments; how to harvest Okra; the difference between rhizomes, bulbs, and roots; and building different trellis weaves.

Weeding. Of all the different tasks involved in growing food, there is one that receives special attention by gardeners who do not use synthetic chemicals: weeding! (Table 16). Without herbicides, growers must engage in what John Hemmerle calls “hand to hand combat” with the weeds (February 6th, 2014). Growers used a variety of approaches and slogans to excite shareholders and volunteers, to get them motivated, and to make sure that no damage is done to the crops during the weeding and harvesting processes.

The most educational approach to weeding is Luke’s laminated flash card set, which includes pictures and the names (scientific and layman) of the weeds. Luke believes it is more educational to teach his interns what to pull, rather than what not to pull (weed vs. crop identification). Gretchen’s “weed dating” is the most social approach, where participants get to know one another and then enjoy a local beer and a potluck supper afterwards. The other growers primarily use a series of slogans to help frame the importance of weeding, add a bit of humor, and motivate sharers in what many consider to

be a mundane activity. When weeding alone, sharers and growers talked about achieving a Zen like state. When weeding with others this activity serves as a context for conversation.

Table 16

Variations on the Task of Weeding

Grower	Location	Methods/Slogans
Luke Ebner	Permaganic	Created a top-10 laminated list of weeds and their pictures to help with identification.
Gretchen Vaughn	Greensleeves	Organizes a “weed dating” event, similar to speed dating, where singles pull weeds and get to know one another (social event).
Kate Cook	Carriage House	“Let’s go rescue_____” (and then fill in the blank with the crop that needs weeding).
John Hemmerle	Gorman	“Like ninjas, let’s do some hand to hand combat.”
Megan Hill	Turner	Has worked on getting shareholders to understand the difference between weeding and cultivating.
Melinda O’Bryant	Turner	“If it’s not in the row, then it has to go.”
Ryan Doan	Urban Greens	“Let’s go harvest some nitrogen and compost.”

Organizational Tasks. In addition to learning garden tasks, sharers and growers spoke about different organizational undertakings (15th sharer and 12th grower theme). Julie, a sharer from Enright, is an exemplar in this area. Over a few seasons she designed a marketing brochure, learned HTML, Front Page, and Farm-A –GO (software programs) to design a webpage and manage the CSA. Julie also published a book (mentioned earlier) about starting an urban CSA. In a similar example, Aron from UG, who is also professor of marketing at Northern Kentucky University, volunteered his and his students’ time to work on a marketing project for the CS. This exposed his students to the concept and helped UG at the same time. In other rare instances, such as ES and ERUEV, members organize, plan, market, hire a farmer, and secure land (Charles, 2011; DeLind, 1999b).

Sometimes CSA organizations even have to play politics and learn how to fight for their space, soil, and survival. As mentioned in Chapter 5, Permaganic's Eco-Garden is under threat of being developed into condominiums. This unfortunate series of events prompted Luke and Angela, and their volunteers, interns, and supportive community members to engage in city politics, and learn about urban renewal and gentrification agendas first hand. Luke talked about how two of their youth interns became involved in civics. "Robert and Isaiah went to City Hall and saw that even people with a small voice who may not have a lot of power, can make a difference. Robert talked in front of city hall and he did really well" (Luke, February 11th, 2014). Angela's quote below exemplifies her own learning and the challenges of working with supporters during their campaign to save the Eco-garden.

It really takes a lot of time. I had to get on Facebook for the first time in my life, and did not want to do that. I learned that we have a lot of support in the community and when we needed people they are ready to stand up and shout out about the garden. I learned that it's hard to keep people's passionate words in a kindly frame and tone. I think one of the reasons we got so far is that I was determined not to be a rabble-rouser, I was just a person that did not stop. I was positive all the time and had this attitude of we are going to work together, and it's going to benefit you guys, as well as us. People were talking about how great the garden is, and how progressive this is, and how everyone is coming together. So to me it is wonderful to go through that kind of thing, because I really think that education is the key to everything good in the entire universe. (March 4th, 2014).

Angela's willingness to work with developers raised the garden issue above other public concerns at that time, and earned Permaganic a seat at the table for future conversations. While most of the Eco-garden will be developed, a small parcel will be preserved. These examples are not the norm, but they indicate that participants are learning much more than just gardening when becoming involved in CSAs and farm-based educational non-profits.

Learning about Food

For the shareholders there are two interview themes that revolved around food: *learning new recipes, preparation, cooking, and preservation skills* (ranked 3rd) and *changes in their eating and food purchasing habits* (ranked 7th). Corroborating evidence for cooking and changes in eating behaviors comes from the 10th highest grower category about *teaching and sharing cooking and food preparation and nutrition and health* (ranked 12th). Furthermore, evidence for these themes also comes from emails, social media, and newsletters. If we consider these categories in total (860 participant quotes), these topics account for 15% of the total conversation (122 quotes in these 5 related themes).

Critically Deconstructing Food. An example of this theme comes from the grower side, and is about food, health, and marketing. Luke engages the Permaganic youth interns in critical thinking and pushes them to see past the advertising of food corporations. Before learning to cook, one must first desire fresh, local foods that are not processed.

We talked about the fact that there's an epidemic, and they know that there's a diabetes epidemic and an obesity problem. We've done classes where we pass around a tomato and ask them what this is, and then we pass around a candy bar and ask what is in this candy bar, and we have someone read the ingredients. And I ask if they know what any of that stuff is, and they say no.

Okay, why would you want to eat something that you don't know what it is?
So we go into different depths and talk about the perception of what food is,
and what is food for, and that it is actually for nutrition. So when you're
eating something that is junky, and the company that makes it, it is not their
utmost intention for that product to make you healthy. Their intention is for
you to buy it and that is why the junky stuff is more addictive. So we go into
that and reinforce the idea that their job as food providers, is to grow good
food for people purchase at Findlay market. (February 11th, 2014)

Here, Permaganic's youth interns are pushed to think critically about food marketing and advertising. These food and health conversations are important topics for discussion with the interns because they often come from families in need, who are disproportionately affected by health epidemics (Wang & Beydoun, 2007). As Luke mentioned, the teens are well aware of the health issues plaguing their communities, and Permaganic helps them deconstruct the reasons behind these problems.

Prepping, Cooking, and Preserving Foods. The next series of quotes speak to how sharers adapt their purchasing, cooking, and eating behaviors and became more aware of health, nutrition, and seasonality as a result of joining CSAs. Dan, a past ES and current member of Turner, touches on several of these subthemes. "We get a sense of what is in season, we have learned how to prepare new dishes, how to make kale palatable for several nights. It expands your cooking repertoire, so that is kind of a nice thing" (March 18th, 2014). Learning how to prepare seasonal dishes and make kale "palatable" for several nights is a subtheme, as sharers in this bioregion receive their fair share of this plentiful plant.

A prime example of shifting eating habits comes from Aron and Josh of UG. Aron told me he has seen changes in the way his son Josh eats. Josh helped Aron work off the family's labor commitment, and became good friends with UG grower Ryan Doan.

I mean his [Josh's] eating habits have changed from last summer. It used to be macaroni and cheese, and pizza. And Marty [his wife] and I would joke that he would only eat it if it was yellow, like grilled cheese, pizza, and mac and cheese. And now, he is really quite daring with what he will try and I think he is much more aware of what he puts into his body. As an athlete he realizes that if you want to be at your peak performance, it is not just a matter of practicing and working out, he is much more aware of the nutritional aspects. (Aron, February 17th, 2014)

Aron continued and talked about how his family has learned to use the CSA produce.

We make a nice big stir-fry with potatoes, those awesome bell peppers, and beans. And then use the Swiss Chard and the Kale in smoothies. We bought a Neuta Bullet Blender, and use the chard and kale, and as long as you put some fruit and fruit juice in it, you getting all those great nutrients. I never knew Kale had so much protein. And then make a salad, with arugula and spinach, and carrots and blue cheese, and craisons, and that makes an awesome salad. We love salad. So this has really been an educational thing, learning how to use the food. (February 17th, 2014)

This family has taken the stir-fry, smoothie, and salad approach, using multiple vegetables at once, and Aron learned about the protein content of kale. Josh also talked about using fermented foods from the CSA on sandwiches, and referenced the positive digestive effects.

Another example of the cooking and preservation theme comes from Jessica at GHF. I asked what she likes about the CSA. She enjoys the challenge of using the produce and said that it has changed her husband's eating habits.

Well I definitely like the concept of local and seasonal food. This year I have a much better system. I have a ton of stuff in my freezer, because there are only two of us. If we have a busy week we don't eat at home every night, and then all of a sudden it is like, what am I going to do with all the stuff! I like the fact that you open up the box, and it's like what am I getting this week? It's this little bag of goodies and I get to figure out how to use them. It's pressure and fun and my husband who is a picky eater has become open to trying different vegetables. (Jessica, February 4th, 2014)

Jessica acknowledges the pressure of using all the CSA food, especially given how much people eat out of their homes these days. She also talked about improving her preservation system by freezing extra produce. Later on in our conversation, I asked for specifics about cooking, using recipes, and trying new produce. She said they both have tried new things like radish pods, okra, edamame, turnips, and garlic scrapes. Jessica learned about different types of garlic that have the scape or edible stem in the middle. She admitted a new love for Swiss Chard, something she hated at a child, and affirmed that learning how to deal with the greens is a big thing. She is not alone in recognizing this, as the greens are a major hurdle to "doing the CSA," one of Iwaki's main conclusions in her study (2013).

Julie, of ERUEV, spoke about how she is "an expert on hiding greens."

Last year we got greens for 26 weeks, so I am an expert on hiding greens. You can chop them up and throw them in chicken broth and soup. You can make a

quiche, put in your bacon, and cheese and onions, and then chop up fresh greens and you do not even have to cook them, you can just throw them in and they kind of crisp up. You don't taste them that much and they offer a bit of texture, and they are good for you. Then there are the greens that you can put in salads and greens in frittatas. If you cut them coarsely, and nuke them long enough, and you can make croutons of cream cheese and cream-based kale soups for example. I've wrapped meat in them, like with grape leaves, and put them in spaghetti sauce. (Julie, February 26th, 2014)

Julie has an impressive list of what to do with fresh greens. She also went on to explain her methods for preservation, including other types of produce. Julie detailed the blanching processes for greens, green beans, corn, and peppers, where you wash them, cut out the undesired parts, blanch them, and freeze them. She explained how the blanching stops the enzymes when you expose the produce to boiling water for a moment, and then put the vegetables in ice. Next, you scoop them out and put them in the plastic bags and freeze them. Beyond blanching and freezing, Julie ran through another long list of options for food preservation, including drying, pickling, and fermenting. Julie is exemplary and has an impressive preservation repertoire. She also spoke about attending a fermenting workshop at the OEFFA conference to further improve her skills. Across interviews, almost all the participants mentioned some of the methods described above. These cooking skills are necessary to tackle the challenge of using or preserving the CSA produce before another box arrives next week.

How and with whom does learning occur?

The last series of quotes in this section present the findings on how and with whom does learning occur. First, I discuss *how* and then I discuss the related *with whom* learning is happening. The *how* part deserves special attention, given my interest and the interest of the CoP in improving CSA educational outcomes and retention rates. Grower themes one, three, nine and ten, and shareholder themes, one, three, and seven, provide several insightful quotes (Tables 13 and 14). Yet the grower theme that best answers the question is that of *teaching and learning with farmers, friends, and CSA members* (ranked 2nd).

How does Learning Occur? This detailed quote by John of GHF explains his process of teaching and working with volunteers and also touches on other topics of conversation that come up.

First, I would explain why we are doing it [the task]. If I was able to work alongside them I'll try to find out where they're coming from, where they're at with their knowledge of gardening and whatnot, and then just talk to them, and meet them where they're at. They [the volunteers] are usually there because they're interested. So it's good for everyone because that's why I was there, to educate. It's good for them because they will learn something, and it's good for both of us because we're probably weeding, or digging, or doing something mundane. So it makes the work less boring, and hopefully they walk away having learned a skill, and maybe even learning something beyond what we were doing that day, about why we do organic agriculture, why growing food is important to understand, and all of the associated impacts. A lot of times conversations would be specific, about types of

agriculture, or we would broaden it to larger topics such as food security, and the farm bill. Who knows what would come up? Probably things they did not know about, so it was very casual, it is not like a pedagogy of any sort. (John, February 6th, 2014)

John acknowledges the informal and fluid nature of conversations in the garden, and stresses the importance of getting to know the volunteer, finding out where they are in their gardening interest and experience, and “starting where they’re at,” a very Freirian approach. John claims there is no pedagogy or method guiding his interactions, yet he has a clear sense of the order—explaining why they are doing the task, working alongside the person, finding out why he or she is there, using conversation and dialogue, and talking about the specifics of the entire agriculture system.

I asked Megan how she instructs Turner’s farmer apprentices (including volunteers and CSA work sharers) and teaches them to perform unfamiliar tasks. She told me,

Everybody learns differently and that has been a big learning point for me. Because if you tell me how to do something, once I got it, I’ll do that way. If I don’t got it, then I will ask you until I do got it. But that’s not how everybody is. They can watch you, look like they are doing it really well, and then you turn them loose and failure. And you can lose a lot when that happens. So one of my big lessons that I will be applying to this year, because I’m new to this, is to make sure that people do it a specific way. After everybody’s doing it a specific way then we can talk about other approaches. It doesn’t mean we’re going to do those methods, but we can discuss them, because I also want to learn from the people coming in. (Megan, February 12th, 2014)

Megan's quote highlights several important points about how she conceptualizes the learning process. First, she acknowledges that she herself is still learning how to teach others and mentions that we all learn differently. Like other market gardeners, she is concerned about mistakes, which cost the farm money and are common with novice growers, volunteers, and working shareholders. Megan wants the apprentices and volunteers to master certain techniques before trying other ways of completing the task.

Another quote about how people learn comes from Gretchen at GS, where she strives to empower members by having them experience the growing cycle and taking ownership of a garden bed or crop for the entire season. I asked Gretchen for specifics and she explained in detail how she teaches tomato seed starting. First she introduces the sharer to the germination closet, then the different kinds of seeding trays, and the 288, which is 10 x 20 inches. Gretchen reviews the proper order of trays, first a solid tray (to hold water), a webbed tray (for stability) and then the 288 (for the seeds). She continued,

So do we really want 288 of the exact same variety? No, because we grow about 40 varieties of tomatoes here, so I use masking tape to mark each one. Then we use our potting soil and moisturize it with this water that has Maxi Crop in it, a kelp extract that helps it grow. Because of the size of the tomato seed, you will use the tip of a pencil to make a slight depression, and then be careful putting the seed in. You should bring the soil around it and sprinkle water on it, because you want good seed to soil contact to get rid of air pockets. Then, once the tray is seeded, we cover it with cling wrap and slide it in the shelves in the germination closet. The warmth of the lights causes it to

germinate, and over time when we begin to see the true leaves, will bump them into a larger cell (Gretchen, February 13th, 2014).

For an untrained shareholder, there is a lot of information covered in learning how to properly start tomato seeds. Gretchen is methodical in her teaching approach and emphasizes the importance of following her directions. All of these steps contribute to a successful germination. Many growers stressed the importance of going slow, taking time to follow their directions, and asking questions when needed.

Charles of OHC also spoke at length about teaching others how to start seeds. Julie and Deborah at ERUEV both referenced Charles' "breakfast, lunch, and dinner" seed starting and transplant mixes, where different combinations of soil (and sand) and nutrients are added at the appropriate times. Deborah recalled Charles' "see one, do one, teach one" method of instructing. This means members learn by doing and then teach the skill or task to another person. Repetition helps to ensure the task is learned and remembered in the future. In my interview with Charles, I inquired about his teaching process; he said it all starts with observation, and a little history about vegetables.

First we start with observations. When you see seeds in nature, what do they do? They blow off the plant and spin to the ground. And through various natural processes, they reach the surface of the soil, but rarely, except in the case of nut trees, are seeds buried. Everyone knows you're supposed to put the seed in the ground. If you look very carefully at where seeds in nature are germinating, this stuff is called Duff. So you start spinning a story, and the ancient Greeks, Romans, and Babylonians also observed this. They found that wherever there is a landslide, you find these magical plants, plants that

cannot grow anywhere else. These are the rooterals in the ecological text, and these are our vegetables, the plants that pop up where there was a disturbance. Isn't that interesting, they are the pioneers, but we have beaten the pioneering spirit out of them and now we call them vegetables. The Babylonians called this the third of the third of the third, and this was carried by oral tradition to the monks of the Middle Ages, and that is where vegetables as we know them now came from. And even though not all of that is true, it gets people thinking. Food does not come from Kroger's, let's talk about seeds not coming from seed packages. So you broaden people's perspectives, and understanding and appreciation of nature and of human's relationship in and with nature. (Charles, February 18th, 2014)

In another example of *how* learning is occurring, Luke describes his method of facilitating volunteers and interns, specifically mentioning the experiential piece.

It's experiential. I will do a small demo, I'll be like this is how you harvest the Kale, you want to pick the outside leaves, and then I'll give a reason why, and tell them that you're harvesting the outside first to let the inside leaves grow in, so you are not killing the plant. Then I let the intern do their own deal and really give them some time to see if their technique is better, or just as good as mine. I let them do their own thing. If it is disruptive, like ripping the plants out of the ground, then I'll step in and I will redirect them (February, 11th, 2014).

Luke's method of explaining the process, and giving the intern (or volunteer) a chance to try it, is common across these organizations. Luke's quote about the *how* also begins to

address the *through and with whom* is learning happening, in that participants can invent or drawn upon prior experiences to complete a task.

With whom does learning occur? This question is primarily answered from the grower's point of view. When it comes to describing the with-whom aspect, many of the examples suggest that learning is occurring in the company of the growers, and information is moving from the grower to the interns, shares, and volunteers. Yet, one of the important findings is that it is not just the grower or staff who acts as the teacher. Evidence for this claim comes from John at GHF where the staff learns from volunteers.

I mean education is happening every day in the gardens, although it is not just the volunteers getting educated, because I definitely learn from the veteran volunteers, as we would talk about their methods. We would check in with each other, how's your stuff doing, how is my stuff doing, what is working out, and what is not. It is a great atmosphere, basically like a studio, you are learning from your peers, and they are your classmates so to speak, to use a college analogy. Your classmates are trying things out, you're trying things out, you're seeing what they are doing, and they are seeing what you are doing. You borrow some of their ideas, they borrow some of yours, and you accelerate quicker. You might hop on YouTube and see how to grow broccoli, what worked, and what did not. The Internet is good for that, but when you're in the garden and someone is explaining how they did it in person, nothing beats that. It was really cool to see how Kathy [a regular Gorman volunteer] was growing [food] in her plots. You have volunteers come in and plant things a certain way, and you watch how they did it, okay

that's cool, and then see how that worked out. The whole thing is just a giant learning laboratory. (John, February 6th 2014)

In this context, information flows in multiple directions, from staff to the volunteers, from volunteers to staff, from volunteer to volunteer, and from staff and volunteers to the visitors. John makes two important observations—the gardens are a “studio” and a “giant learning laboratory,” similar to a college classroom (i.e. design and art classes, a science lab). With no one person at the center, it is all about the community and the periphery.

Another example that provides evidence for this claim comes from Kate at CHF, where she encourages her volunteers and employees to come up with better ways of doing things. “I say this works for me, but it may not work for you, and if you can come up with a better way of doing it, please tell me” (March, 14th, 2014). Kate empowers her shareholders by suggesting that they can improve upon her methods. She is open to learning from them and works to create a convivial atmosphere, similar to John's garden “studio.”

The shareholder interviews also contain evidence for and against the multiple directionality of learning. Regarding the learning process, Kate of Enright said,

It was pretty directed, the farmer would be there, and usually would work with you and get you started. She would walk out with you to where you're going to be harvesting, and show you exactly what they wanted picked, how to pick it, and how much. So for example if we are picking kale, you don't want to over-pick it because it's going to keep coming. They would show you how they wanted it bundled. She is pretty much telling you what needs to be done right now. (Kate, February 7th, 2014).

Here, Kate is describing famer-directed instruction. It makes sense that the farmers are the ones providing direction, as they manage the programs, keep track of what needs to be planted, cultivated, harvested, and prepared for handling and distribution. Yet further along in our interview, Kate also mentioned that she was able to provide the ERUEV farmer with an idea to have spinach in the spring. She suggested to the farmer that if you plant spinach in the fall and then overwinter it, the spinach starts growing in the early spring. These quotes suggest that both shareholders and gardeners are learning from each other.

A second sharer example about *with whom* and the direction of information comes from Kathy, a home gardener, Turner sharer, and volunteer at GHF. Kathy is a connector between these two organizations passing on information she has learned at Turner or through her own gardening experiences to the volunteers and GHF staff. She said:

I really like my casual encounters with people at Gorman, especially when I'm working in my beds, or sometimes in the market garden. I get to engage people, or sometimes they will come up to me with questions and I can offer them or their children a taste of something we are growing. I enjoy that a lot, and I think that's important to make those connections, even if this is only a visitor's first time or if they're a regular visitor. (Kathy, February 4th, 2014)

Kathy's participation in these two CSA organizations allows her to spread ideas, gardening methods, and programmatic suggestions between Turner and GHF. In this case, Kathy tends to transmit more information from Turner to GHF, as Turner is more focused on teaching and educating future farmers about agriculture, whereas GHF focuses more on summer camps, camp counselor interns, and school programs.

These examples are social-centric, that is, skills, concepts, and methods are taught by one person and directed towards another person or a small group. The quote below by Charles exemplifies a different way of thinking about learning. Here, he references listening to the soil as it in and exhales. He says:

Soil is living. Soil is alive, it breathes, not only every season, and every year, but it inhales and exhales every day, every night. Soil breathes out and you can actually get that experience every time you irrigate, especially if it's overhead irrigation. When you turn the water off just listen, listen to that water being sucked into the ground, you hear, "sleeerrrp." And for me, I get to relive it when I work with people with irrigation or with compost (Charles, February 18th, 2014).

Charles describes what soil sounds like right after the water has been turned off. He suggests that people can learn from the soil, and by listening to it they can gain an understanding that soil is alive, that it breathes in and out on a daily basis, that it drinks water and makes noise in the process. Learning from soil and other non-human aspects of the farm and garden illustrate that the space and the context can also teach us new things—if we are attuned to listening and observing. The final section of this chapter presents data on several of the challenges that CSAs face in educating the public about food, food systems, health, and the larger impacts that agriculture has on our society.

Part 3: Challenges to CSA Based Education

The findings presented thus far suggest that CSAs and CSA organizations are indeed educating their staff and members, and the public on a wide range of issues, from health and nutrition to gardening, cooking and preserving food, as well as food politics and

organizational tasks. However, the interview data also reveals challenges regarding educating the public through CSAs. There are three grower categories that speak to these issues: *labor delegation* (ranked 7th), *CSAs not being financially stable* (ranked 11th), and *challenges to CSA education* (ranked 12th). Together these themes refer to a lack of space, money, staff, time, expertise, and public interest when it comes to education.

One of the major challenges is that people are not interested. Ryan of UG, Barb and John of GHF, Gretchen of GS, and Kristin and Charles of OHC all spoke about members' and the public's lack of interest in learning about food and agrifood systems. Part of the problem comes from the fact that these issues can be politically charged, and growers are not willing to lose shareholders and money over ideological debates such as the role of corporations and government in dictating food policy and the impacts of our industrial food system on people's health and the environment. Barb describes the challenges of discussing health, and emphasizes the need for a "soft sell" approach to education.

It is hard to educate people who don't want to be educated, or who want to remain ignorant. It is hard to step in with a soft sell, as opposed to anger (ARRRGH). People don't want to hear it. They don't want to know that their food is unhealthy and they are doing a disservice to their bodies, the environment, and their communities. When they are unhealthy it does not just affect them, it affects the community, the whole world essentially. People don't see how their health affects everybody. They don't want to see the direct correlation. (January 15th, 2014).

Barb is at GHF because she wants to engage people about these interrelated issues, but she hits upon the harsh reality that people do not want to think about the connections

between their health and the health of the community and environment. It is far easier to not engage in these types of critical thinking related to food.

John from GHF commented on the fact that we [he and I as previous coworkers] were fortunate to work at a place that valued education, and then he pointed out, “Is education even on people’s minds, or on the farm manager’s radars, beyond getting the job done?” (John, February 6th, 2014). John wondered if farmers or other CSAs are even interested (is it part of their mission?) in teaching people about alternative agriculture, and the agriculture-society nexus. John said “I think this is definitely something to consider, beyond just getting the job done, is educating their CSA members something that is important to them and built in the program” (John, February 6th, 2014). If education is not “built into the program” then, why would CSA growers be interested in such endeavors? Education takes time, and can be a lost opportunity cost, as the growers may not be in the fields or tending the garden if they have to give a tour, write up a newsletter, or plan for a social event.

Kristin, the food hub manager at OHC told me that even though their numbers have grown, and they have aggressively marketed tours, classes, and community events, she has really been surprised at the lack of participation on behalf of their shareholders.

We tried putting on farm tours and offering coffee and pastries. It was really eye opening for me, because we would offer these opportunities every month and I thought people would be curious to come out and see the farm, and to know where their food was coming from. We would make it flexible so people could come for as long or as little amount of time as they wanted, or that any volunteers could just come and tour the farm. We didn't want them

to feel pressure, the point was never to get labor, the point was to have a reason for people to come and see where the food was being grown. I have accepted that and it is totally fine if you don't want to see the farm. So I definitely reset some of my expectations. (February 28th, 2014)

A possible reason for this lack of interest could be time and money, as CSA events compete against everything else in life that clamors for attention (work, family, entertainment, etc.). OHC has not given up on getting members and the public to visit the farm and had one of their more successful events in spring of 2014. Yet, expectations for member involvement have been tempered.

In the same vein, Gretchen of GS commented that despite her proximity to Northern Kentucky University and attempts to contact departments and professors, there is no interest in using her farm for educational purposes. Furthermore, even when people are interested in agriculture, they usually have a misconception. Kate of CHF told me, "I feel that part of my educational job is to show people that farming is a business" to help dispel their "romantic views of agriculture" (March 14th, 2014). Some volunteers and sharers don't last because they don't realize the kind of physical, sweaty, dirty labor that is required.

Other obstacles for developing and sustaining educational programs have to do with leadership, an organization's mission, space, and of course, finances. Many of the growers want to do more education, classes, and community outreach with their members, but don't have access to a large kitchen, classroom space, or the time/money to create, market, and advertise (see grower theme nine, *dreaming*). Even at Turner, where education is a priority, a program can fall apart if a teacher leaves. Melinda talked about rebuilding past

school field-trip programs, “So we may get back to doing something with Cincinnati Country Day. We used to years ago, and then when Simon [Jorgenson] left the school that program ended. So when teachers leave, the programs fall apart” (February 13th, 2014). Melinda’s comment points to leadership, which has aspects of social, human, and intellectual capital (Roland & Lundua, 2009). People hold programs together, and when an organized and driven leader leaves a small non-profit, there can be a lapse in coverage.

Charles at the OHC brought up another main issue with education as he reflected on his many years as a gardener at both educational and for-profit farms. Charles stated his point rather bluntly, “So what I realized is that you cannot be a for-profit business and an educational entity at the same time” (February 18th, 2014). This fact is one of the main obstacles preventing CSAs from operating educational programs. When the bottom line takes priority, many other things, including education, community building and outreach, service learning, volunteering opportunities, tours, and social events simply do not have a place within the organization or CSA program.

Along the lines of money and CSAs being financially stable, the responses from the growers were mixed. Kevin and Lauren of UG pointed out that their business model was not working, and that was one of the primary reasons why Kevin did not return as a grower for the 2014 season. Megan of Turner commented that “Our CSA functions at a loss monetarily, because they [shareholders] get a whole lot more, I mean they only pay 450 to 500 dollars and they get about thousand dollars worth of produce” (February 12th, 2014). Kristin noted that the OHC will not turn a profit for the first few years (as is typically the case for many new businesses), and I know from my experience at Gorman that their CSA also runs at a loss, and only makes enough money to pay for the seasonal part-time

assistant gardener. However, Kate from CHF and Linda from GK said that their CSAs are profitable. The implications of these findings will be discussed in Chapter 7.

Chapter Summary

There are several important takeaways and themes from the interview data. When it comes to reasons why shareholders join and growers' operate CSAs, many of their concerns are rooted in our current agricultural production model, and to them the CSA represents a healthier, more socially and ecologically just way to produce and consumer food. The participants want access to fresh, clean, local, produce that is grown using USDA organic standards as a minimum starting point. Shareholders feel more comfortable buying food from smaller farms where they know the farmers and may even have had a hand in the production process. Other motivations for both groups joining/operating also include the social and communal aspects, a love for nature, and the desire to work outside and learn more about agriculture. It is interesting that several of the growers cited tragedy and disasters as pivotal reasons for getting involved in agriculture, hinting at millennial and doomsday scenarios. Also, even though not all the growers work at educational non-profits, and some have to be concerned with their bottom lines, they all stressed that education and teaching others are important parts of their jobs, even though this was not their primary motivation.

Regarding what and how CSA members are learning, findings indicate they are acquiring gardening skills and learning about plants, insects, and soils. They are learning how to perform organizational tasks such as create webpages, manage emails, and write how-to books documenting their enterprises. Members are also learning how to prepare, cook, and preserve CSA food, and are changing their purchasing habits. Recipes are shared

and ideas for preserving and “hiding greens” are passed around. Some members learn about the nutritional value of their food. In terms of how members are learning, the methods of facilitation vary from direct instruction to experiential learning, and involve all members in the community. The directionality of instruction is highly varied, and learning occurs between masters, and volunteers, and even from the context itself.

Finally, despite these findings, there are several challenges to education within the CSA context. Growers spoke at length about a lack of member interest, not enough staff and/or not enough time to focus on education given the other demands on their time. Related to these challenges is that many CSA organizations do not have the resources, such as money, and space to offer formalized opportunities such as cooking classes, summer camps, training programs, or even volunteer programs. This concludes the findings chapters of the dissertation.

Chapter 7: Discussion

In this chapter, I explore the implications of the findings and compare my results to the literature. To do so, I first discuss the limitations and strengths of the study design and what this means for interpreting the data. Second I review my theories and systems approach in light of the findings to assess the validity of these frameworks for future studies. Third, I discuss the major themes and takeaways that help to address the research questions. Fourth, the main section of this chapter answers the research questions in turn, identifying the novel aspects and confirming findings according to the literature. Finally, I conclude by discussing the challenges that the CSAs and to some extent, the food and environmental movements face in creating the types of social and ecological change they desire.

Limitations and Strengths

Limitations. There are several limitations to this study. First, the data collected, findings presented, and conclusions drawn from this work are specific to the Midwest region—to Ohio, Kentucky and Indiana—to its culture and growing conditions. Even within the study region, there are differences in culture and climate, and these distinctions should be kept in mind when interpreting the findings. Therefore, some of these Midwestern results can only be properly compared to other studies with similar climate, culture, economies, and governmental or private support for CSA operations.

Secondly, there are major differences in the findings from the regional survey as compared to the case study data. The survey data indicates that there are not nearly as many non-profits (or CSAs focused on education) that are providing educational

opportunities as compared to the case study data. The results presented from the case studies are selective because this was a purposeful, intensity sample, and I chose the organizations that would provide the best examples of learning and education (Patton, 2003). While this is a limitation, it is also a strength, because the practices of these case study organizations provide the best examples for other CSAs to adopt.

Other possible reasons for this selectivity includes the limited amount of time spent exploring the regional CSAs (a limitation of larger survey research). There is only so much that can be covered and asked in a 12-minute telephone conversation. Also, I did not focus on non-profits or seek them out nearly as much at the regional level as compared to the local level. Thus, we should be cautious of the extent to which the case study data can be generalized to the regional population based on the survey results.

Third, the thematic coding of the local shareholder and grower interviews was conducted specifically through the lens of looking for evidence of education and learning, which is both a strength and weakness given the focus of this project. Also, there are several themes from both sets of interviews that were not explored due to space limitations and the scope of the study. Another limitation, which I believe is also a strength, is found in the PAR and CE methodologies. These approaches have been criticized as not being objective or methodologically sound (Anderson, 1989; Cohen & Manion, 1980). Despite these criticisms, I believe it is a strength of the PAR and CE approaches that I am connected and immersed within my CoP and engaged with the phenomena study firsthand.

Strengths. Therefore, from a PAR perspective and iterative approach to working within this alternative agriculture community, there is good chance that some CSAs may adopt my recommendations and improve upon their programs. This project has

contributed to building community and capacity within the region regarding alternative agrifood initiatives. As a current and active member within the CoP (I am teaching an agricultural class at Cincinnati State, building a biochar kiln at Gorman, and serving on several committees at the organizations mentioned in the study), I am engaged in teaching future farmers, CSA growers, and shareholders about the challenges and solutions to several of our shared CSA issues. The specifics of how this information will be shared with the community are discussed in detail in the conclusion chapter.

The second main strength of this research is that it draws from a system of theoretical frames, where CSAs, CSA-based education, and FGBE can be understood from many points of view and levels of analysis—the regional, community, organizational, and individual—simultaneously. What one theory or perspective lacks in gathering data or helping to analyze or explain the results, another theory or set of theories can provide additional insight. Thus this systems approach permits me to interpret the social world from multiple points of view, identify contradictions and explore them, which make for a richer and more nuanced understanding of CSAs as a context for education.

Related to this layered, theoretical approach, a third strength is that the data collected and presented here has both breadth and depth because of the mixed methods, multiple measures, and levels of findings. This combination of different data-collection tools helps with triangulation. The survey provides a reasonable estimate of the numbers of programs and shares, the growth in the number of programs, and several of the regional characteristics, many related to educational opportunities. The case study methods (participant observation, interview, documents, etc.) presents high-quality, in-depth data, and on many points speaks to the potential of what CSA organizations, specifically non-

profits, are capable of when it comes to educating the public about agrifood systems. Also, the use of a research journal and member checking, and my continued work with other gardeners, educators, and food movement members also helped to ensure internal validity and promote catalytic validity.

Finally, based on my response rate, the survey data can be generalized to the regional population of the Midwestern US. With 140 (total) or a 111 (active program responses) out of 529, I have enough power to detect a .9 power level (high), using an f^2 effect size of .11, and a partial r^2 value of .10, which will explain the variability in the DV (outcome) variable in future two – tailed analysis (Faul, Erdfelder, Lang, & Buchner, 2007). Future analysis and direction for research are discussed in the next chapter.

Revisiting the System of Theoretical Frames

This section explores each level of the various theories in turn and seeks to confirm the use of each within the study. The guiding question here is: To what extent does my system of theories (and each theory individually) provide valid framing of CSAs and our understanding of education within the CSA context? It is beneficial to revisit the theories and review the findings as to help guide future practitioners and researchers.

There is evidence in the findings for the continued and future use of the bioregional and ecological frame, as participants talk about food miles, eating locally, concerns with synthetic chemicals, and the overall impacts of the industrial agrifood system on health and the environment (Kloppenburger et al., 1996; Sale, 2000). While I do not provide support for one specific model (i.e. RMT or NSM) of social movement theory, my use of a social movement frame is supported here through the long list of participants' grievances about the food system, the desire to create alternative agrifood models, the growth of CSA

numbers, and the larger support system that has developed between organizations at all levels of society (O’Leary, 2010; Ostrom, 1997). Prime examples of viewing CSAs a movement are seen in the growth and partnerships being developed by OHC, Turner, GHF, Enright, and other non-CSA organizations such as the GUFAT, the CCTST, and the City of Cincinnati’s Urban Agriculture program as they share ideas and provide resources (money and land) for one another. That being said, can CSAs be a movement when only .21% of the population is involved? My answer is yes, because growers and shareholders engage in framing their issues, work to change their lifestyles, help manage programs and organizations to make CSA options available to the broader public, and engage in the political arena to change policies around agrifood production, processing, distribution, and consumption. (Benford & Snow, 2000; McAdams, 1994; Melucci, 1980.) A caveat is that we must understand the CSA numbers in comparison to the broader population, and acknowledge the limited impacts that these programs have on the larger food system, as activists work towards social change.

At the mid-level of theorizing, there is also support for the AEE frame (Wight, 2013a) and critical pedagogy as a useful lens in thinking about community change and raising the public’s level of *conscientization* about agrifood issues. Within this CoP, there are examples of conversations that help participants see the *cultural hegemony* of the industrial food system, as in the case of Luke and the Permaganic interns. Next, the volunteer, research, and apprenticeship opportunities fit with the goals and methods of *citizenship schools* (Horton & Freire, 1990), as these organizations are developing and sharing ideas. The in-house knowledge generation and dissemination associated with the research projects and surveys demonstrate *praxis*, as these organizations are constantly

involving members and staff in efforts to improve all aspects of their operations. Plus, the relationship and networks between the CSA organizations as well as their partnerships with universities, civic groups, and governments represent *dialogical communication*, and varying forms of community outreach and development.

Next, the use of Dewey's (1938) experiential education and Lave and Wenger's (1991) SL and LPP are validated at the individual, organizational, and CoP levels. We see how sharers and the farm membership as a whole learn through experience and performance, and how information flows in all directions between master growers, apprentices, volunteers, and sharers at all levels. These organizations and their gardens are learning laboratories and studios, and the interview excerpts, situational diagrams, and past studies support the ideas of learning through experience and peripheral participation within agriculture and community settings (Parr & Van Horn, 2006). This finding validates Ambach's (2002) reframing of his main question "how does the farm membership learn?" (p. 97) because the focus is on the CoP or the organization, and not the individual.

Evidence for Haydon and Buck's (2012) idea of tactile space is also supported in my findings, yet not as frequently as some of the other frames. According to other studies, from both positive and negative standpoints, we can see how some participants may learn about compost and soil (Charles's example from OHC), and how others learn that they don't like working in farm settings (Kate's example from CHF), which is supported by Flora and Bregendahl (2012) and O'Leary's (2010) research. While the evidence for the use of the tactile space lens is seen to a lesser degree than experimental education, the AEE, or the theory SL and LPP, based on my experiences in the garden, I believe tactile space is a valuable frame because it incorporates the natural world and the environment as a teacher

of ecological concepts and thinking. It is about observation, which is where master grower Charles begins when he teaches.

An example from my own experience confirms the usefulness of this frame. Early in my Gorman career, John and I were working in the garden during a spring thunderstorm. We observed the rainwater carry topsoil from the market garden into a near-by stream because of the topography, the way the garden and beds were oriented, and a lack of cover crops. We walked with the soil filled water as it traversed the landscape and headed downhill. Based on this experience, during that season we built raised beds, and created a swale, and made sure to plant cover crops in the fall to help prevent future soil loss during heavy rains. We did this because of our experience and observations in seeing how the rainstorm affected the topsoil of the garden, which then impacted future moisture retention and the fertility of the soil.

The validation of these theoretical frames means that future CSA researchers should consider this systems approach in studying CSA phenomena. One new theoretical advance is the use of tactile space within the SL and LPP, as this adds the ecological or environmental emphasis to learning at the community level. Also, the use of the SL and LPP theory as applied to community-level thinking regarding networks is important, and has been used by other scholars (Kroma, 2006). Finally, using a systems approach provides a holistic view of CSAs and their educational activities as experienced and created by their members. Depending on the focus of future studies that investigate CSAs and education, several of the theories described and applied here will be useful in framing and interpreting the results.

Important Themes and Takeaways

Before addressing the research questions there are two broad findings that need to be discussed as they provide a context for interpreting the results. First, and perhaps one of the most promising, yet sobering confirmations is the growth of CSAs (Lass et al. 2003; O’Leary, 2010; Sharp et al., 2002; Tegtmeier & Duffy, 2005). Galt’s (2010) critical geography approach and Strool’s (2013) Localvore index using the Local Harvest data both show increases in the numbers of CSA programs overall. My regional survey data indicates that more than half of all CSAs in existence were formed in the last 5 years, with 85.5% less than a decade old. As a result, the overall numbers of shares, and number of shareholders are also growing. Thus, a larger percentage of our population is procuring food grown by a CSA or CSA organization. Yet, these numbers amount to between .097 - .32% (depending on the state and estimate of shares) of the population, which are incredibly low rates of participation. Put another way, out of the total population of Ohio, Kentucky, and Indiana (22.5 million people), there are only 48,236 people (on the high end) getting their food from a CSA, which is only .21% of the population. Moreover, CSA fruit and vegetable products in this study region are limited by seasonality (even with season-extension technologies) and members must procure food in other ways, usually through a grocery store and the larger global food system.

When discussing the growth of CSAs, we must also look at the failure rate, as not all farms, CSAs and CSA organizations survive. About 20% of the CSAs in my regional survey sample are no longer in existence. There is also evidence for this trend in looking at the case studies, as the Gravel Knoll Farm has been sold and Permaganic’s Eco-Garden has been drastically reduced in size by developers and the city. As with many other farms across the

US, it is their land that our modern capitalist society values, not the food that they grow or the knowledge they create and spread throughout the community – especially when we are talking about urban and suburban areas (Brown, 2011). There is great irony in the fact that the City of Cincinnati helped to create the Eco-Garden and now, decades later, also has a hand in its potential demise, highlighting issues in land tenure (Worden, 2000). In the case of Gravel Knoll, the selling of farmland and the creation of another cluster of cul-de-sac suburbs is a familiar story that continues to receive attention from the environmental and food movements (Rome 2001; Vallianatos et al., 2010). These numbers and related findings suggest that the CSA model still needs to be tweaked to figure out how to make it more financially attractive and stable, avoid grower burnout, and resist development pressures (Henderson & Van En, 1997). Some of these challenges will be explored in the conclusion.

A second and more upbeat theme is that the successive waves of CSAs as seen in the case study data document the dynamism of the movement, as each organization operates its program differently from the others. Ten organizations, with ten distinctive ways of running a CSA, all using various (but similar) growing philosophies and techniques, illustrate ten unique approaches that address the goals and missions of the organizations and the movement as a whole. Organizations such as EarthShares and Enright value democratic participation, and their CSA operations reflect this. Many of these programs value education, yet each attends to this mission in different ways. Another interesting point is that Carriage House, Gorman, and the Bahr Farm (with OHC), have been around for 100–200 years and yet only recently have begun CSAs, which also speaks to the growing popularity of the model.

Similar to AR's iterative approach, CSAs are continuously re-inventing their programs, changing their share offerings, prices, pickup and dropoff locations and times. Growers' change the varieties and kinds of produce being planted based on shareholder feedback from in-house survey results, organizational and staff needs, and the shifting demands of the local food market. Programs such as Turner and GS require working shares; GHF, Enright, ES, and UG lets members choose if they want to work or pay more money. There is wide latitude regarding what counts as work share labor within these organizations. GHF lets members work at their front desk, while Enright, GS, and ES ask for help managing the programs. CHF is unique in its all-volunteer model, where no money changes hands, and sharers leave with food after each work session. Permaganic strives to help families in need through its donation model and OHC is using its CSA as a starting point for a food hub.

This diversity within CSAs and the larger food movements has several advantages. Hassanein (2003) recognizes three positive aspects. First, having different branches and approaches within the CSA and food movements means that these different organizations and programs can address specific problems, and therefore fulfill different functions or niches. The non-profits featured here have the ability to emphasize education, while the OHC, UG, and GK, for example, are able to focus on production and increasing the availability of CSA shares for the public. Second, the wide variety of organizational approaches provides opportunities for all members of society to be involved, from the rich and powerful who buy expensive USDA approved organic items, to the urban poor who organize community gardens and fight for land trusts. Finally, this broad range of actors fosters an "essential vitality" within the movement, where new insights and practices are

constantly being explored and tested (Hassanein, 2003, p. 81). As Eyerman and Jamison (1991) have pointed out, this kind of diversity provides social laboratories for testing ideas and sharing new knowledge, as is exemplified in the farmer training and research programs that occur within some CSAs.

Thus, my data analysis points to a growth in and diversity of CSA programs and organizations, and these points need to be kept in mind when interpreting the answers to the research questions. The remaining section of this chapter addresses the research questions in turn.

Research Question 1: What types of FGBE are happening within CSA programs?

The first finding here (specifically from the interviews) indicates that members are learning how to deal with CSA food, specifically how to plan, prepare, cook, and preserve it. The testimonies from Julie and Jessica touch on a litany of methods and list the vegetables that sharers are challenged to eat or preserve before their next box of food arrives. Dan, Aron, and Jessica talked about seasonality, eating locally, the challenge of eating the weekly “bag of goodies,” and how their family’s eating habits changed as they incorporated turnips, garlic scapes, kale, and swiss chard into their diets. The distribution of recipes by CSAs and their offerings of cooking class options for preparing and preserving food provide additional evidence for this conclusion.

Corroborating evidence also comes from Durrenberger (2002), who reported that 65% of respondents agreed or strongly agreed that CSA membership changed their eating habits and that 83% agreed CSAs changed the way they shopped. This finding is not new, as many of these food-related behavioral changes are well supported by the literature (Cox et al., 2008; Fenster, 1997; Hayden & Buck, 2013; Iwaki, 2013; Schnell, 2007; Zehler, 2011).

Specifically, previous studies by Zehler (2011), Chen (2012), and Iwaki (2013) confirm that CSA participants are embracing the culture of this part of the food movement, where they take on the challenge of eating seasonal and local selections. In other studies, sharers are exposed to new varieties, vegetables, wild edibles, recipes, and ways of thinking about food procurement that do not involve supermarkets (Cone & Meyer, 2000; Ostrom, 2007; UK Soil Association, 2010). Iwaki's (2013) "The CSA Journey" diagram (Figure 1) is a useful visualization for thinking about how shareholders adapt and change their food habits as a result of joining CSAs.

The second finding regarding what is being learned has to do with members' gardening skills, especially those work share members and dedicated volunteers who are involved in production throughout the season. Members learn to start seeds, prepare beds, care for the plants, mulch, weed, harvest, and store the food. Shareholders and volunteers at these organizations are expanding their identification skills for both plants (wild and cultivated) and insects. Participants are learning about soil types, compost, composting methods, fertilizer, biochar, and the relationship between soil health, plant health, and their personal health. This last point about the relationship between soil health and personal health is crucial, as studies indicate a lack of micronutrients in the soil is responsible for decreased human health (Welch & Graham, 2004). The interview data also reveals that participants are applying what they learn to their own backyard gardening operations. Members are no longer throwing out coffee grounds or putting leaves on the curb to be taken away; they are creating their own compost piles and using fewer chemicals in the yards and gardens.

These findings are supported by the literature and this makes sense as participants working in an agricultural setting need to know this information and these types of skills to be productive members of a CSA operation (Henderson & Van En, 2007; Laird, 1995; Mouillesseaux-Kunzman, 2005; Ostrom 1997; Picardy, 2001; Polimeni, Polimeni, Shirey, Trees, & Trees, 2006). As Chen (2012) states, “CSA members not only harvest the agricultural products, but also learn agricultural knowledge from farm personnel” (p. 40). Plus, many growers in this sample understand that one reason why shareholders provide labor is because they want to learn.

Furthermore, not only are shareholders learning how to grow food, but they are also exposed to different schools of agricultural thought, such as biodynamics, permaculture, and integrated pest-management. This point about being exposed to different agricultural approaches is as important, if not more important than some of the practical takeaways, because members are potentially expanding their understanding about our agrifood systems and the connections between food, personal health, economics, and the overall ecological wellbeing of our planet (Laird, 1995, Lamb, 1996, Zaneccchia, 1991). The hope here is that as more and more people begin to see the world through a permacultural or biodynamic lens, they will adjust their food-related actions accordingly, approach situations from a systems point of view, and take a holistic, rather than a reductionist perspective on agriculture.

Third, participants are also learning organizational tasks and engaging in politics as they assist growers and CSA staff and managers in building alternative food systems. The primary examples here come from ES, Turner, Enright, Permaganic, and Gorman as shareholders and volunteers help to run various aspects of these organizations. Julie’s

examples from Enright are noteworthy, as she learned different web applications and CSA management software. Shareholders at Gorman (Jessica and Kathy) lead school groups in educational activities at the farms. Some of Turner's members learn how to staff their farm stand at Findley market. Regarding politics, Angela, Luke, the Permaganic interns, and their supporters created a grassroots campaign to fight the city and developers for the right to continue the Eco-Garden. There is also evidence of CSA members engaging in the political process. Members from ES, GS, Enright, and Turner are encouraged by Gretchen, Bonnie, and others to fight fracking legislation, aspects of the Farm Bill, and become involved in other local food initiatives. At the broader community, state, and regional levels, organizations such as OEFFA, Pennsylvania Association for Sustainable Agriculture (PASA), the Midwestern Organic and Sustainable Educational Service (MOSES), and others are leading the charge by coordinating petitions, organizing conferences, and sending out informational flyers to help keep farmers and the public involved in the political-business decisions that determine the types and quality of foods available in the grocery stores.

Additional evidence for what is being learned by staff, growers, shareholders, and volunteers at these CSA organizations comes from the situational analysis of the network. Lessons and insights from operating work shares at ES and Turner are disseminated to other programs such as GS. The idea for Gorman's flower-cutting garden originated from Turner. The Grailville CSA grew out of the Northside food coop, and the CORV guide came from Deborah at Enright, which is now used by many across the tri-state to gain access to alternative, local, seasonal produce. Permaganic's curriculum for their youth intern program was adopted from an existing template created by the Civic Garden Center. GS and Turner have exchanged ideas on how to design germination stations. Turner's research

into mulching with sheep's wool, ES's research into soil mixtures, and the use and application of biochar at Gorman have all been shared throughout the community and adopted by others. These examples indicate that it is not just individuals who are learning, but the entire CoP is learning new agricultural methods or ways to implement the CSA model. One or two organizations test an idea, share the results with others, and then these findings are put into practice according to other organizational and agricultural contexts. What we see here is a networked community of practice engaged in learning. Connections to the literature on this finding are discussed below.

Research Question 2: How, where, when, and through whom is learning happening?

How and with whom is learning happening? Learning and education happen in a variety of ways and through different instructional techniques within the CSA organizational context. One-on-one or small-group mentoring is evident in the volunteer, apprenticeships, and working shareholder programs. Many growers described experiential methods of showing participants the task and then letting them perform it in an apprentice and vocational style. Larger volunteer and shareholder groups are facilitated through direct instruction, and then usually broken down into small teams with organizational staff as their guides. While growers and farm-based educators have idiosyncrasies in their approaches to teaching, the examples in Chapter 6 highlight the similarities between these methods. Several of the approaches described above fit the learning process outlined by Dewey (1938) and Lave and Wenger (1991).

If we revisit the instruction examples provided by Charles, John, Gretchen, Luke, and Megan, there are several differences as well as similarities. For Charles, he begins by discussing the historical aspects of agriculture, and takes a broader, more poetic approach

in talking about the natural processes and the interventions of the ancients. Charles begins “spinning the story” behind the cultivation of our modern-day vegetable varieties, and then introduces critical questions about food and seeds and our relationship with nature. The use of story is a both an ancient and proven method for relaying information, and a successful teaching technique (Dooley, 2007). In many of the examples we see that learning is intricately tied to doing, performing, and experiencing (Dewey, 1938). John of GHF, Megan of Tuner, and Gretchen of GS all echo this point about teaching gardening skills. One thing Luke emphasized in his approach that other growers did not explicitly address, was his willingness to “give them some time,” to let the participant “do their own deal” as long as they are not destructive. On the other hand, Megan of Turner, wants participants (apprentice, shareholder, or volunteer) to learn the ways of the masters before making the process their own and modifying it. Depending on the task, the other growers in the study tended to fall somewhere in between Gretchen (who was very detailed in her example of starting seeds) and Charles in their descriptions, directions, and orientations towards teaching in the agricultural setting.

One of the important findings regarding how and with whom is that it is not just the grower or staff who acts as the teacher. Within the organizational and community context, learning occurs in multiple directions. In support of Lave and Wenger’s (1991) SL and LPP theory, learning is happening between all of the participants in the CoP, the organization, and the CSA, not just from grower to sharer. John’s studio reference and Kate’s example encouraging shareholders to teach her their methods are of particular interest, suggesting that CSAs are a rich place for collaboration and the exchange of ideas. In other examples, Kathy (a Gorman volunteer) teaches John (the gardener), and Kate (a shareholder)

provides ideas to Enright's gardener on how to over winter spinach. Plus, it is not just people who are in the educator role. According to the idea of tactile space (Hayden & Buck, 2012) and the Reggio Emilia educational perspectives of the 3rd teacher, it is also the space, context, and "surroundings can take on a life of their own, that contribute to children's [or adult's] learning" (Strong-Wilson & Ellis, 2007, p 40). This metaphor and the idea of that we can learn from our context is well documented within constructivist and experiential educational philosophies (Dewey, 1938; Grabinger & Dunlap, 1995; Hayden & Buck, 2012).

Support for the claim that people learn from their environment is seen in Charles's example of listening to the soil. Further evidence for learning from non-human actors is also found in the literature, but it speaks to farming experiences that actually turn participants away from the garden. Other CSA studies report that volunteers have negative experiences in performing farm activities as they encounter "biting stinging insects, scratching plants, unpleasant weather, hard physical labor, potentially disagreeable or even offensive people and baffling ingredients" (Hayden & Buck, 2012, p. 340). Thus, immersion in "tactile space sometimes produces negative rather than positive affects," which can lead to withdrawal from what is perceived as "hostile nature," and a reduction in CSA retention (Hayden & Buck, 2012, p. 340). Other studies support these findings about the adverse reactions people have to working on farms based on unpleasant interactions with nature and a distaste for physical labor, which refers to the sweat, grime, and expectations of what it takes to grow food without the use of synthetic chemicals and large scale mechanization (Flora & Bregendahl, 2012; Iwaki, 2013; O'Leary, 2010; Ostrom, 2007). Thus, in these examples, participants learn that they do not enjoy the farm or CSA setting.

Where and when does learning occur? This question is both straightforward and complicated. Many of these learning opportunities occur at CSA organizations, in their gardens and farmyards. Given the seasonality of farming in this bioregion, most learning takes place during the growing season (March–November), although some classes such as tree and bush pruning and nutrition can be held in the winter. This makes sense as FGBE and place-based education are conceptualized as connected to a specific location and context (Farm and Garden Based Education Network, 2014).

Thus, on the one hand, the fields, gardens, farms, classrooms, offices, and common areas of these campuses circumscribe the learning that is occurring when volunteers, interns, and shareholders participate in the tasks mentioned above. There are many topics, related and unrelated to agriculture that are discussed informally between staff, sharers, and volunteers, on site, at dropoff locations, and during social events (see themes in Tables 14 and 15). Regarding the when part of this question, the same side of this argument suggests that learning occurs when the organization is open and when the staff and growers are working with the participants.

On the other hand, there is evidence that learning is occurring away from these contexts, without any direct instruction from staff. All the CSAs in the case studies provide recipes, cooking and storage tips, and nutritional information in their regular blogs and newsletters. Therefore, the transmission of cooking, preservation, and health information that happens depends on what the organization offers, but ultimately comes down to the engagement of the participant (Ambach, 2002; Iwaki, 2013). It is up to the shareholder to take action, follow the instructions, and adjust them as he or she sees fit, in his or her kitchen and on his or her own time. Some sharers may not open their emails, only read

certain sections of the letter, decide not to use the recipes, and simply ignore the health and nutrition information.

The most probable answer is that learning is happening both within the confines and hours of operation of the organizations, and outside of these bounds, at the discretion of the participants. To some extent, the kinds of learning can be parceled out according to the activity. For example, a shareholder can learn more about gardening by being present, mimicking the movements of the masters, finding out how to properly hold a tool, or name a plant or insect. Yet, a sharer might also learn by reproducing the task at home and in his or her backyard garden. An overlapping example comes from Ryan at UG, who visited Aron and Josh (shareholders) at their residence and did a cooking demonstration. This was a grower-directed activity that took place outside the garden with shareholders.

In another example, a conversation in the garden about concentrated animal feeding operations or the Farm Bill could lead a participant to conduct research at home, watch a video, or read a book on the subject. Conversely, it could be any one of these activities that also prompts the participant to bring up the topic while working with others or participating in a social event at the CSA. Regardless of when and where, or which event caused the precipitating actions, the result is a conversation where one or both parties may learn something about our food systems.

Thus, the where and when question depends on the CSA staff, the sharer, and the organization at the same time (Donahue, 1994). Some growers will take the time to teach, show, explain, and let the participant perform certain tasks, while others may not. Learning also depends upon the participant. Are they motivated, interesting in learning about food, do they take the initiative, and possess agency? (Bandura, 1986). Another factor affecting

the where and when of learning is the mission, resources, and type of organization (non-profit, LLC, etc.). Finally, the organization's programs and the CoP also impact where and when learning is happening. The answers to these questions are highly dependent on the context and the individual.

Research Question 3: What resources and characteristics influence CSA education?

There are several important findings regarding resources and characteristics that address this question, including the type of organization, its mission or goal, the types of educational programs already offered, and access to different types of capital--financial, land (living), intellectual, human (experiential), and others--as outlined by Bourdieu (1986) and Roland and Landua (2009). First, the findings from both the survey and case studies indicate that the type of organization operating a CSA program will impact the educational opportunities available for the shareholders, members, and the public. As pointed out by Henderson and Van En (1997), Ambach (2002) and Mouillesseaux-Kunzman (2005), CSAs that are associated with or have their own non-profit status are providing more formalized and structured learning opportunities. Although my survey data indicates that LLCs and Sole Proprietors are actually providing the largest number of educational programs (the classes of which are the most formalized), but this is primarily due to their high numbers of representation in the sample.

The case study data provides more support for the claim that non-profit and CSA organizations that have developed relationships with other civic groups (universities, schools, and other food-related initiatives) are offering more formalized and structured learning opportunities. The primary reason is that non-profits have access to more staff/volunteers and funding to create and sustain camps, classes, service learning and

volunteer opportunities, as well as conduct research and build partnerships. Kristin from OHC told me that if they could start their planning process over again, one of the things they would do differently is to create a non-profit that would be affiliated with the coop. This would permit the seeking of grants to help them develop additional programs. One of the issues is that establishing non-profits takes time and commitment, and many growers do not have access to the kinds of resources and capital (human, financial, cultural, etc.) that can help them succeed in creating educational organizations and programs. To speak to this last point, it took Luke and Angela two years to achieve their non-profit status for Permaganic. Most CSA organizations and growers have to make a profit, and as Charles indicated, it is difficult to run educational programs at for-profit organizations, even though OHC has a farmer-training program (through OSU and/or CS).

Not surprisingly, those organizations that have access to financial capital and land also have the resources to provide more educational opportunities. When this is combined with an educational mission, you end up with organizations such as Turner, Enright, and Gorman. These organizations are considerably well funded through the Turner and Meshewa, and Huber private foundations, and the Village of Evendale, respectively. One of the interesting ironies regarding Gorman's public funding by the Village of Evendale is that Evendale receives a massive amount of tax dollars from Formica Chemicals and General Electric's Aviation division (which makes engines for military aircraft and is funded through the US DoD). Funding means these organizations have full-time year-round staff and seasonal help to run their educational programming, apply for grants, build community partnerships, and grow their agricultural operations. However, even organizations such as UG and CHF, which do not have much private or governmental financial support or large

staffs such as Turner and Gorman, are able to offer tours, social events, volunteer and work shareholder opportunities that can impact learning and education.

The second finding regarding access to resources for educational (and other) programs comes from my situational analysis of the CoP's network. Organizations and individuals who are well connected within the CoP have a greater potential to learn from one another and share resources and ideas, which can in turn impact their educational offerings. Supporting evidence for this claim is found in the network literature that focuses on agriculture. Kroma (2006) noted that farmers adopted new alternative agricultural practices based on their connections to other growers and concluded that these types of informal networks reduced risk and increased innovation. Oreszczyn, Lane, and Carr, (2010) reported that farmers learned about the positive and negative impacts of new agricultural technologies (specifically GM crops) through their networks. They also found that the farmers in their study "interacted with a large number of other practitioners, both fellow farmers in a broad network of practice (rather than a narrower community of practice) and others in agricultural support organizations in a web of influencers" (Oreszczyn et al., 2010, p. 415). That is, these farmers used their situated learning about agricultural practices to understand and contextualize the information (and advice) they received from others. These findings echo the results presented in Chapter 5 regarding the sharing of information, ideas, and practices.

There are three types of programs or initiatives that deserve special attention here in examining the network: partnerships, research, and farmer-training programs. The ability of CSAs (and other small farms) to create relationships across different sectors of society is important to spread the ideas of the food movement, garner financial and

volunteer support, and demonstrate the viability of community-based production operations (Van En, 1988). Turner's Freedom Gardens, Stoneham's Mobile Kitchen, the OHC and CS endeavor, and all the non-farming volunteer groups (business, schools, civic clubs) that help these organizations during the season are prime examples. In another example, Luke and Angela of Permaganic cultivated a relationship with a local Quaker Meeting. This is noteworthy because Permaganic is now classified as a ministry (according to the Quakers), and this designation speaks to the time that Luke and Angela spent in meetings with the Quakers to receive financial and social support. Also to this point, the Quakers are a prominent religious organization within the CSA literature, as they provide both a model for operating (i.e. democratic committees) and various forms of support: pickup locations, money, and purchasing CSA shares (O'Leary, 2010; Ostrom, 1997; Worden, 2000). The ability of CSAs to reach beyond their fields, farmer markets, and shareholder base is crucial for expanding the movement's reach.

The next type of program within the network that is interesting is that of research. CSA organizations that are involved in research of one kind or another are creating new knowledge and then sharing it with others in the CoP. Many of these research projects are similar to citizen science and related to aspects of Action Research, where scientific investigation and education is undertaken by everyday people, often in partnership with other organizations and universities, with the goal of improving practical aspects of these programs (Bäckstrand, 2003; Silvertown, 2009). Evidence of this kind of research suggests that some CSA organizations are approaching the *citizenship school* model as outlined by Horton and Freire (1990). The findings discussed earlier highlight the important connection between research and education, as these various research projects have the

potential to impact what other growers and shareholders learn, both through participation in the projects and simply by being members of these organizations and the community.

The existence of farmer-training apprentice and other internships programs are also connected to the viability and fertility of the network as these programs impact the educational offerings of CSAs. These farmer apprentice training programs deserve special attention because they represent formal avenues for experiential and vocational education for adults, veterans (Turner), college students (CS), and inner-city youth (Permaganic). These mentorships create additional resources in the form of cultural, social, human (experiential), intellectual, and financial capital (Roland & Landua, 2011) for the organizations and the community as whole as they train future farmers. The existence of such a robust network means that the CoP is reproducing itself. The act of reproducing the community's knowledge and subculture is a key piece of Lave and Wenger's (1991) theory as they discuss how newcomers become members and eventually the masters.

Within the apprenticeship theme, the creation of non-land-grant university farmer-training programs such as CS, UC, and XU deserves further examination. While there are many benefits, and we need more growers who are not trained in conventional agriculture, there are issues with this type of college-based, cooperative, on-the-job training. First, just because these programs are on the books does not mean that they are well populated by students. XU has had trouble getting students to declare their Land, Farming, and Community degree³⁰. My second and primary concern is that these students are actually paying to provide labor in exchange for experience, which is an unfortunate reality of some

³⁰ XU offers five different degrees in sustainability (three of them are new as of 2013). The new programs were created through a Provost directive, to align with the broader social justice goals of Jesuit education (www.xavier.edu/green/Academic.cfm).

cooperative educational programs. Specifically, XU and UC (\$460 and \$449 per in state credit-hour, respectively), are more costly than CS's \$148 per in-state credit hour. Some coop programs (such as UC's only asks student to pay a coop fee, typically \$500, during the semester they work). Yet this depends on the program. The wage issues here are an important fact when considering student-loan debt and the amount of income offered to new farmers (approximately \$10–15 per hour).

None-the-less, the fact that liberal arts and non-land-grant state-funded institutions of higher education are exploring the possibilities of agricultural-related degrees is a fascinating development within the context and history of agriculture education, the land grant model, and its connections to agribusiness (Bergman, 1985). As Barlett (2011) has shown, farmer-training or other food studies programs are one of four main areas where institutions of higher education are capitalizing on the popularity of the food movement. Colleges and universities are setting purchasing goals and guidelines (local, small farm, fair trade, etc.) for where they buy their food and how it was produced; creating their own CSAs and farmer's markets; and touting experiential learning programs that are tied to university owned farms or community garden partnerships.

These programs, purchasing guidelines, and other food-based college-driven initiatives speak to the fact that local food is perceived as a marketing tool and universities want these programs on their books. Furthermore, these policies illustrate the capacity of higher education to impact the economics of the agriculture and food sectors, and highlight the social justice goals of these institutions (Barlett, 2011). These new programs and partnerships are also testaments to the fact that some institutions and members of the public are fed up with aspects of the agricultural research and training being funded by the

USDA land grant-extension-agribusiness complex (Lockeretz, 1994). Different than most conventionally focused agricultural education programs, these new programs tend to focus on no-to-low-input methods and are geared toward educating students about more community-based farming careers (especially in XU's case). The existence of such programs widens the scope for EE and ESD, helping to situate and connect these environmental disciplines to agricultural programs—something that is needed given the fact that environmental educators often ignore the implications of food (Weaver-Hightower, 2011).

The third and final finding explored here also pertains to the network, but is more focused on the implications for the shareholders and members. A quote by Roland and Landua (2011), from Appleseed Permaculture in New York State speaks further to the implications and interconnections between resources and capital, the benefits of conducting research, working with volunteers, and teaching others to observe and learn from the natural environment. They state,

We're gaining experiential and intellectual capital about the farm's soil, crops, and management, we're supporting the growth of healthy living capital in the soil, my friend gets help producing products to exchange for financial capital (her right livelihood), and we both build social capital through positive interaction and connection with each other. (Roland & Landua, 2011, p. 58)

This quote hits upon the important connections regarding resources and networks. A knowledgeable grower, involved in educating others about FGBE, is also contributing to the wellbeing of our "living capital" through the proper management of farm ecosystems. The more shareholders trained in alternative, biodynamic, and permacultural methods, means more food and fiber produced in such a way that it does not degrade ecosystem services or

impinge on our personal health. Not only is the garden a learning laboratory, but the CoP itself is also involved in refining and testing new ideas and ways to educate the public. The implication is that for CSAs to be successful in educating their members, they should seek to be part of a larger CoP, and create connections with other CSAs, civic organizations, and agrifood initiatives in their region.

There are a few implications of these conclusions as they relate to learning and education. It is important for AAOs to seek and gain funding to conduct their own research projects. Establishing partnerships and building relationships with like-minded organizations is crucial. We see how the USDA's SARE program, the NIH funding for the CCTST, as well as private foundations contribute to furthering the goals of the food movement and opening up dialogue with the public. It will be interesting to see the extent to which colleges and universities outside the land-grant system can develop, market, and populate their new agricultural degree programs. The success of these certified training programs may also be contingent upon community partnerships with local farms and the use of the coop educational model. Funding remains an issue as student laborers need to be paid a fair wage. Given the types of FGBE, EE, and ESD that are happening within the CSA context, educational organizations (schools, universities, etc.) would be well served to develop these relationships. As the food movement continues to grow, there will be an increased need for education and community outreach efforts, similar to many of the programs run by the Civic Garden Center and OEFFA.

Research Question 4: What are the grower and shareholder motivations?

According to my findings for the shareholders' and growers' motivations, most sharers want access to a source of clean produce with underlying motivations for personal

health, the environment, and a socially just economic system. These conclusions are supported by other studies within the CSA literature (Henderson & Van En, 1999; Russell & Zepeda, 2008; Worden, 2004). Interview data indicates that shares' interest in personal health and concern for the environment are linked to industrial food-system grievances. Half of the shareholders here (8/16) cited local food as their primary reason, followed by community building, environmental issues, and health. Cone and Myhre (2000) concluded that concern for a healthy environment, a desire for better than USDA certified organic produce, and a source of fresh produce, were the top reasons people join. The least important reasons were community, price, and opportunities to attend events. Cox et al. (2008) reported members' three highest motivations were environmental concerns, the desire to support local farmers, and the ability to acquire quality healthy foods. According to Picardy (2001) and Brown and Miller (2008) the top reasons why shareholders join CSAs are for food quality, environmental and political factors, and education (especially for the children), while the least important reasons were social activities.

Additional supporting evidence for the top shareholder motivation (access to fresh food that is produced using no synthetic chemicals) comes from several other studies (Lang 2010; O'Hara and Stagl, 2002; Ostrom, 2007; Perez, Allen, & Brown, 2003). However, the second highest category of community building and relationships does not align with other findings, and other studies state the lowest ranked reasons have to do with community, education, and a desire for affordable food (Brehm & Eisenhauer, 2008; Lang 2010; O'Hara & Stagl, 2002; Ostrom, 2007). The fact that no shareholders cited education and learning as a primary reason for joining offers a sobering view of this study, although education is a tertiary motivation for some (see Iwaki, 2013 for a summary of shareholder motivations).

In comparing the shareholder's motivations regarding their concerns for personal health to other studies about agriculture and the connections to health, we see that my findings are similar, and thus have substantial external validity. Increasingly, health professionals are calling for more community and backyard gardens, and larger urban agricultural projects, which in turn expose people to fresh, local foods, usually grown without chemicals, which can then impact their eating habits and health (Armar-Klemesu, 2000; Brown & Jameton, 2000). Health advocates also point out the differences in micronutrient content (silica, magnesium, zinc, etc.) in *organic* foods as opposed to foods grown in conventional soils, which are often depleted and degraded of these important elements (Hunter, Foster, McArthur, Ojha, Petocz, & Samman, 2011). Furthermore, at the international level (World Health Organization and United Nations), experts recognize the major health problems associated with using pesticides, both for the agricultural workers and for the people consuming the food (Grijp, 2008; Jeyaratnam, 1990). The quotes presented in chapter 6 illustrate that shareholders are well aware of these health issues, and this is an important reasons for why they join CSAs.

Growers' motivations tend to be more nuanced, as these participants are involved in agriculture for a living. According to the regional survey, it makes sense that economics and moving produce are the number one (36%) reason in this sample, followed by local food (24%), and community building (12%). These findings are also supported by the literature (Sharp et al., 2002; O'Hara & Stagl 2002). When looking at grower motivations from the case study data, we gain a deeper understanding of why these farmers chose agriculture, such as: a love for nature and the desire for a career in service of nature from a stewardship point of view. One of the more interesting findings is that several growers

cited tragedies and disasters from 9/11 and Hurricanes, to the growth-oriented developmental model of modern civilization as reasons for entering the vocation. Several of the growers, such as Barb, John, Luke, Gretchen, Megan, Charles, and Ryan are also interested in educating others about agriculture and our food system. Their positions at these organizations provide them the opportunity to not only grow food but also teach others. The last section of this chapter discusses the challenges facing the CSA movement.

Challenges to the CSA Movement

There are several issues and challenges facing CSAs. During my thesis research, while working with Ecovillagers, I learned that most of the people involved in the environmental movement have privilege (Pulido, 2000). They are White, middle class, and educated, and have access to transportation and a long list of resources and capital (Bourdieu, 1986) that they can draw upon to help change their behaviors and the system. What I have found, and what other CSA researchers have confirmed, is that the food movement, as an extension of the environmental movement also faces major issues in connecting marginalized populations with access to healthy, locally grown food (Guthman, 2008; Katkins, 1997; Thompson & Coskuner-Balli, 2007). Theme 10 from the shareholders' interviews is specifically about affordability, social justice, and food access. My experience with the CSAs in the Cincinnati area confirms these challenges. Almost all of the participants I worked with are White, have college degrees, and are interested in healthy food (due to culture) and able to participate in CSAs to some extent because of their ethnic, social, and economic positions in society.

Many in the CSA movement know that extending this model beyond the demographics of their major constituents is something that needs to happen. The quotes by

Kate, George, and others draw attention to these challenges regarding who has the money (several hundred dollars) to pay for the CSA in a lump sum at the beginning and middle of the growing season. It was these issues that prompted me to create the Freirian-based AEE frame, which help us think about and take action towards creating more inclusive agrifood community based developments. A prime example that addresses these concerns from this study is Permaganic's programs that engage inner-city youth in art and agriculture, and put food, politics, and community at the center of conversation. Other relevant examples are the OHC, which is working to change the CSA model. Their Weekly Harvest Box addresses the financial issue as members can pay on a weekly basis. Jamie Stoneham's mobile kitchen project engages lower income and minority populations in food preparation and cooking classes—arguably one of the most important pieces, as she is helping communities in need not only gain access to, but also cultivate a culinary desire for fresh and healthy food.

The good news is that there are also other examples of organizations and outreach within the food and environmental justice movements that are bridging this socioeconomic and cultural gap around food (Alkon & Agyeman, 2011; Allen et al., 1999; Groh & Mcfadden 1997; Henderson & Van En, 1997; Vallianatos et al., 2010).). Practitioners are working with marginalized First American populations to gain access to fishing rights on ancestral lands and create farmer's markets that connect African American farmers to African American consumers (Alkon & Norgaard, 2009). Other initiatives such as People's Grocery in Oakland CA, seek to establish grocery stores and mobile food projects in communities with high rates of poverty and minority populations (Sbicca, 2012). In Cincinnati, OHC is currently working to raise money by selling shares (\$100 per person with a maximum of one share per person) to open Apple Street Market in the Northside neighborhood. This food outlet

would serve the dual purpose of moving OHC's produce and also making healthy food available in a mixed income neighborhood that is considered a food desert.

Other major challenges to CSAs and farmers in general have to do with land tenure, shareholder turnover, and the convenience of our modern food system (Iwaki, 2013; Katkins, 1997; Worden, 2000). Permaganic's situation with the city, the closing of Gravel Knoll, and the fact that half of the case study CSAs do not own their land highlights issues with land tenure. Regarding shareholder turnover, my experience and other studies suggest high rates; upwards of 40 – 50% of members do not return the following season (O'Leary, 2010; Ostrom, 1997). This tends to be program specific because some have waiting lists (i.e. Turner and ES). Shareholders who do leave, maybe in search of other programs, which apply the CSA model differently, have more varieties of produce (due to season extension and skilled growers) and add-on options, or that offer closer, more convenient pickup locations, payment options or additional programs. Other shareholders try a CSA for one season and never go back. They are unable or unwilling to make the adjustment to eating CSA-produced food. The literature is filled with examples of what Cone and Meyer (2000) call "supermarket withdrawal," where people want the convenience associated with our modern shopping and eating habits, where the world's market place of is available under one roof (Iwaki, 2013; Ostrom 2007).

Grower and staff turnover is also an issue. Enright has employed four different head growers in 6 years. Gorman's executive director position has seen four different people cycle through in a 10-year period, and they seem unable to keep their head gardener and farmer for more than three seasons in a row. Growers get burnt out, don't make the money they expected, or have communication and personality issues with other staff and/or their

organization's constituents and end up leaving (Kaktins, 1997). Luke of Permaganic told me that he loves what he does, but he is tired of relying on the generosity of others to fund their interns and programs. He is also tired of being poor, because as the head of a small non-profit, he does not make very much money. There are also issues when it comes to apprentices and interns surviving their first season because they realize the backbreaking nature and low-paying wages of the vocation they are exploring.

Along these lines of turnover and burnout, Kristin from OHC said that larger communal and societal changes that the food movement is working towards should not rely on volunteers. There have to be other entities, people, and organization employed to run food-policy councils, food-action teams, design websites, and build programs. "As amazing as volunteers are, our collective efforts to improve the local food-system cannot rest on their backs. That's not sustainable, we need to employ people to help out with the less glamorous but more infrastructural roles" (Kristin, February 28th, 2014). Furthermore, it should not just be non-profits and private funders that underwrite programs; we need government, business, and other kinds of public support as well.

This last point about having broader support from other societal institutions is problematic. If we take a step back, and view the environmental, food, and CSAs movements within the broader context of our society, and consider the governmental and agribusiness agendas, we see a set of major challenges inhibiting the growth of these models (Allen, 2004; Magdoff & Tokar, 2010; Shiva, 2005). Many of the participants, specifically the growers, spoke about the uphill battle that they face in trying to change the system. The quote below by Bill sums up several of these issues.

I remember when Joel Salatin gave his talk at OEFFA, he was the keynote speaker up there a few years ago, about how everything he wanted to do was illegal, which is the title of one of his books. He talked about how the movement is growing rapidly, even though it is still a very small and tiny percent of the total food market. He said that corporate food is not going to roll over for this and they are really going to come down on you hard in terms of food safety stuff, such is the labeling laws that they tried to get going for the animals, for the small animal producers. And so I realized that this, like a lot of things is going to lead to a big polarization, in this anti-ecological culture, this corporate growth culture. As these movements build up, the corporations are going to resist. So you can have learning within the dialectical conflict, but there is a major upheaval ahead of us in our culture.

(March 7th, 2014)

There is a hint of hope within Bill's comment, as people are learning to navigate through this "dialectical conflict." CSAs are a powerful alternative because they are a relatively unmediated relationship between farmer and eater. Yet Bill's comment also points out the stifling effects that agribusiness lobbying can have on democracy and food policy, how these powers can unduly influence local community decision-making and an individual's food consumption choices. As other food movement experts have pointed out, our consumption choices, which are not healthy (see Campbell & Campbell, 2006) are skewed towards the subsidized industrial grain, meat, and dairy options, rather than the production of locally-grown better than USDA certified organic products. These points and Bill's quote emphasizes the resources stacked up against CSAs and other alternative modes

of agrifood production and consumption. This concludes the discussion regarding the findings and themes.

Summary

There are several important takeaways from this discussion of the findings. First, CSAs as an alternative food-procurement option is growing, but they are still in the minority when it comes to how and what most Americans choose to eat. Second, the CSA model is diverse and dynamic, and can be applied in numerous ways depending on the community and organization it is designed to serve. Third, the CSA movement can be understood as a dense network of actors and organizations—and the more connected a CSA program is to other food, health, and environmental players, the greater the potential for learning, education, and social change. Fourth, an organization's resources and mission help determine the kinds of educational programs they can offer the public.

Regarding education, despite the challenges to the CSA movement and the issues around educating shareholders, organizational members, and the public at large, this study provides substantial evidence that people are learning about food and agriculture. CSAs and farms are a unique context for learning. Growers, shareholders, and volunteers learn from one another as gardens and organizations are laboratory settings—through the performance of tasks, to formalized classes, and informal social events. From gardening and organizational tasks, thinking critically about food, to learning how to cook, preserve, and shop—CSAs are helping to transform the way people think and behave when it comes to the relationship between agriculture, personal health, local economics, and the ecological well-being of our only home, the earth.

Chapter 8: Conclusion

In this last chapter, I consider how my findings relate to the larger goals of the civic agriculture paradigm and the food movement. Next, I address the implications of this study as they relate to environmental education. Then, I discuss areas for future research and outline several best practices for CSA managers, growers, and coordinators from an AR point of view regarding the training and education of their shareholders. Finally, I present a personal reflection on this project and future of the CSA movement.

Civic Agriculture and CSAs

Civic agriculture is an ideal model not just for food production, but also for how other aspects of our society could function. Production processes should be locally oriented and based on best ecological, bioregional, social, economic, and cultural practices. This agrifood systems model emphasizes linking people directly with the farms and gardens that provide their food, thus creating strong economic and social relationships. As in the case with CSAs, there is no one-size-fits-all solution, and typically these civic production centers are smaller, bucking the trend of economizes of size, as these enterprises work to re-create functioning communities—where local dollars and knowledge are reinvested, rather than siphoned away, as is the case with the usual flows of global capitalism (Magdoff & Tokar, 2010). This system is interested in cultivating healthier human–human and human–Earth relationship (Berry, 2003; Lyson & Guptil, 2004).

There are several noteworthy findings from my study that support and have implications for the goals and operation of the civic agriculture paradigm. First, the fact that CSA organizations are growing, building relationships, creating their own training

programs, and working with other institutions on research projects in ways that resemble citizen science is encouraging. From a critical perspective, it is necessary to have farmers conducting research from within various philosophical paradigms (biodynamic, permaculture, civic, etc.), as industrial agriculture has become splintered, reflecting the “inland empire,” which Mayer and Mayer (1974) talk about, where only a handful of corporations dictate the agricultural research agenda. These farming experiments speak to the fact that agriculture is a constantly growing science and we need to reintegrate it into communities. Research (and training programs) that are not directly connected to the agribusiness model (including some land-grant university programs) represent a healthy development within the history of CSAs and hold promise for the larger food movements.

Another significant finding that speaks to Lyson’s (2000) framework is the existence of a dense network of connections within the CoP. The exchange of ideas, the movement of people among organizations, and the sharing of resources exemplify a functioning and robust community of people and organizations. The connections between OEFFA, This Land, the Civic Garden Center, Findlay Market, the CCTST, and other non-CSAs organizations are exactly what Lyson (2000) was theorizing regarding the need for more voluntary civil associations to help realize the dreams of civic agriculture. If we expand the analysis to include other types of alternative agrifood groups and initiatives (such as community gardens), we find further evidence for the growth of this paradigm. For example, Hamilton County Public Health division received three large national grants that were used to fund We THRIVE!, the Civic Garden Center, and Closing the Health Gap. In sum, volunteers managed 74 different across the county (We THRIVE, 2012).

What are the implications of my findings for agriculture and the food movement in general? O'Leary (2010) views CSAs as not directly challenging conventional agriculture, but rather developing their own solutions alongside the industrial system. My analysis supports this view, but I believe it is not that cut and dried, especially when considering the case of the OHC. Given their outside support from Mondragon, the creation of the CUCI, their food hub, partnership with CS, and their goal of opening a supermarket in Northside, I would argue that civic agriculture also has the ability to change aspects of the industrial system, albeit in subtle, and small ways. One of the challenges is that these organizations need to remain small, connected to communities, and not lose sight of their ideals.

Another challenge is that of financial stability. Building upon Steiner (1977), Lamb (1996), and other founders of the CSA movement, Lyson's (2000) civic agriculture paradigm questions the extent to which food production (and other basic human needs like housing) should be connected to the larger economies in ways that subject it to fluctuations in the market. Resolving this basic tension is at the center of our food-society nexus and many of its resulting economic, health, and environmental problems. Financially successful CSAs, farmer's markets, and other food movement initiatives such as community and backyard gardens are addressing these issues, but the numbers of programs are few and far between—and warrant further research (discussed below). CSAs are only one piece of the solution in moving towards civic agriculture and a more convivial society in general (Illich, 1970).

Environmental Education

The findings from this study also have implications for the implementation of environmental education (Bowers, 2001; Kahn, 2010), education for sustainable development (Sauvé, 1996), place-based education (Sobel, 2004; Theobald, 1997), FGBE, and other similar fields and programs such as environmental studies. As Donahue (1994), Bowers (2001), Gruenewald (2003) and many other proponents of EE have pointed out over the years, we need to create a society that “is aimed at producing a citizenry that is knowledgeable concerning the biophysical environment and its associated problems, aware of how to solve these problems, and motivated to work toward their solution” (Stapp et al., 1969, p 33). The evidence above suggests that CSAs are an ideal setting to meet the goals of EE and transform the ways in which we interact with the biosphere.

First, the CSA model takes the numerous benefits of school and community gardens, and farm-to-school programs³¹ to the next level, as they can exemplify how individuals and communities work together in decentralized, yet cooperative and democratic manners to address the ecological issues of food production. Moreover, similar to these kinds of gardening programs and school partnerships, CSAs are a perfect fit within the goals of place-based education as they connect students, teachers, and schools to the broader community, teach them about ecological integrity, provide a context for interdisciplinary learning, and foster a love of place (Sobel, 1996; Theobald, 1997).

Second, CSAs that have built expansive networks, and are associated with non-profits, universities, and governmental agencies (perhaps extensions, the USDA, and the Environmental Protection Agency), are in key positions to advance the goals of citizen and

³¹ See Chapter 1 and Trelstad (1997), Sheffield (1992), and Skelly and Bradley (2007).

public science (science that is conducted in the interest of everyday people and the planet) and continue to develop agroecological solutions for the sustainable production of food and fiber. The CSA research and training programs discussed speak directly to this point. If properly funded and connected to the community, as pointed out above, CSAs are a form of citizenship schools (Horton & Freire, 1990). CSAs and farms (rural and urban) can become ecologically-centered citizenship schools, a destination for environmental educators who seek to reorient the disciplines as described by Orr (1994), where “we would have departments of Sky, Landscape, Water, Wound, Sounds, Time, Seashores, Swamps, Rivers, Dirt, Animals, and perhaps one of Ecstasy” (p. 94). Here we also see the possibility for rich connections to Traditional Ecological Knowledge (Berkes, 1993), as several of the CSA growers teach their shareholders about biodynamics, wild edibles, the medicinal properties of plants.

Third, as a form of community based economics, CSAs are an ideal example of education for sustainable development, or as Sauv (1996) reframes the argument, for the development of sustainable communities. Here is the rich nexus where CSAs as agricultural supported communities (Van En, 1988) meets Ecovillages, Transitiontowns, worker-owner live in cooperatives, and communal models such as the Kibbutz and traditional villages. These kinds of communal and educational organizations are also closely related to the civic agricultural paradigm. This combination of CSAs with intentional and traditional communities is already occurring within different types of societies across the world. Fortunately, people are not waiting for government mandates to create the kinds of education, institutions, new market relationships, and associations (both organizational and interpersonal) that are needed to take humanity into a future where the earth is

viewed and treated as primary. This view can be contrasted with our current perception of reality, where the economy is central, and the earth is simply seen as natural capital.

Future Analysis, Research, and Dissemination

This project generated a lot of data that still need to be analyzed. First in term of the regional survey, I plan to conduct several analyses, including a geographic analysis of the proximity and distribution of CSAs to population centers. Second, I will further analyze the relationships between program characteristics and educational opportunities. Third, I plan to integrate the CSA stories and the situational diagrams in a more formalized network analysis of this CoP. Fourth, I will create a shorter, more formalized guide with pictures to be distributed to CSAs regarding practical suggestions to improve shareholder retention and educational opportunities. These suggestions are discussed below.

Regarding future areas of research and policy implementation, we need to re-invigorate small-scale, community-based production, processing, and distribution centers. Food hubs provide one possible model. Farm to school, hospital, and other institutional relationships could be developed and improved upon. Of course we also need to increase consumer's awareness of these alternative options. The GUFAT has been pushing their 10% local campaign for several years now, which encourage Cincinnatians to shift a small portion of their diet to locally, produced products. This is a great start, but we need to ratchet it up a few notches Cincinnati! To help get this ball rolling, I plan to help the Cincinnati AAO CoP continue the conversations and expand the discussion further with our elected officials and other major players.

To assist in the sharing of these findings and results, several public and community presentations have already been held. First, this project was presented at the state level

during the annual OEFFA conference in Granville, OH, on February 14th, 2015. Second, the results were also shared with the Cincinnati-area CoP on March 7th at Gorman Heritage Farm. At both of these events, after the presentation, quality time was spent in conversation, exploring the findings and their implications, and generating new ideas for the CSA and food movement. Additional presentations are planned for 2015 at the Cincinnati Green Umbrella Food Action Team, which meets at the Civic Garden Center, and for an academic audience at the American Educational Research Association. Plus, I am in contact with Deborah Jordan, the CORV guide editor and Karen Kale, who writes for Ohio Edible Valley, to explore other further options for sharing and disseminating these results. In the next section, I suggest how CSAs can educate their members, increase retention, and lighten the workload for staff and growers.

CSA Best Practices From an Action Research Point of View

Based on my own experiences at Gorman and the other CSAs in this study, as well as findings from the literature (Mouillesseaux-Kunzman, 2005; Ostrom, 2007), here a few ideas to improve CSA programs. These suggestions are geared towards CSAs that offer working shares, but they can also be applied across CSA models. First, there are others who have written on these topics, and one might consult the CSA guides mentioned above, such as *Sharing the Harvest* (Henderson & Van En, 1999) and the UK Soil Association (2010), as these how-to books cover all of the important points (including insurance, liability, and financial issues).

In the spirit of the AEE and Freire, you have to start where other people are and be willing to listen. As suggested by Charles (2011), CSAs and PAR are similar in several respects: their underlying ethics, idealism, and general desire to make the world a better

place. This being said, Charles (2011) also points out that CSA growers and members must “learn to drive a path between idealism and pragmatism. Where the balance lies will be contingent on the local context and wider economic, social, and environmental policy context, all of which are currently in a state of flux” (p. 370). This means that you should start where your family, friends, and community are; where the local economy is; be prepared to re-work and re-invent aspects of the CSA each season; be patient and look forward at least three, maybe five seasons to realize short term goals; and finally; be prepared to turn the challenges into opportunities and ride the waves out.

Specifically, regarding share numbers and sizes of shares, I suggest starting small. It is far easier to provide more than it is to let the members know you will be providing less. Second, you should incorporate your operation as an LLC, possibly with a separate but related non-profit organization that can assist with organizing the educational programs. At the very least, it is advantageous to develop partnerships with non-profits or other civic organizations that share your values, goals, and commitment to changing the food system. This will provide flexibility for funding sources, labor, and tax write offs and incentives.

From the beginning, the CSA model was intended to promote agriculture supported communities (ASC) (Van En, 1988). To help growers and organizational staff create and sustain these types of programs, it is extremely wise to cultivate a core group of members and volunteers. Research suggests building the core group is easier said than done, takes time, and does not always work, due to personality conflicts, misunderstandings, and unclear expectations (DeLind, 1999b; Pole & Gray, 2013). Extra CSA food, reduced share prices, free classes, and other incentives can be offered in exchange, but finding those

members, friends, and family who are truly committed to the ideals of CSAs is necessary for the program survive under current political and economic conditions.

Regarding the actual operation, I cannot overstate the importance of establishing the rules and expectations upfront, before the beginning of the season. Discussion of payment and finances is important here. I know some CSAs ask all members to pay the full price in advance, and then will provide refunds to sharers at the end of the season if they have completed their hours. This avoids the hassle of chasing down individuals and trying to collect money or get them to provide labor at the end of the season. Successful programs (those with low turnover, waiting lists, and profitability) require shareholder orientations, where members get to meet one another, the growers, and other staff or volunteers involved in coordinating the programs. It is important for CSA staff to take the time to develop relationships with members—even when they are needed in the field. Meetings and orientations provide this opportunity. I suggest program coordinators work to create a semi-formal atmosphere, by using handouts, a presentation, time for questions, food and drinks, and yes, require the signing of a contract (signed twice with one copy for the members and one to remain on file at the organization). Contact information, including telephone numbers, addresses, and emails should be collected and organized.

During this meeting, the goals of your CSA, hours of operation, expectations, prices, a guide to the types of produce you are growing and when they maybe available that season should be introduced and/or reviewed. Information provided at meetings should be made available online for members and the public to view at their leisure. A combination farm tour and introduction to other organizational programs and partnerships is a must, and it will help build your community and make people aware of your organization. One of

the challenges here is that not all growers are extroverts or enjoy these kinds of social-meet-and-greet events. If you or your grower is not a people person, then find a knowledgeable, charismatic representative to lead the meeting and be the face of the CSA. The growers still need to attend, take the tour, put in the face-time and address questions, but can and should rely on others for support. The tour should include a visit to the garden and fields, tool sheds, bathrooms, and first-aid kit.

In establishing a work shareholder program, I would require several training sessions in gardening basics, which include plant and insect identification, proper tool use, harvesting methods, and information on GAP and GHP. Even after training, I would not let members work without supervision on the farm (unless you really trust them) because too many mistakes can happen that jeopardize your crops and operation. It is helpful to have clear hours for when work sharers are expected to provide labor. These hours should be set in advance. It is also helpful to have a white board, a chalk board, or signs that indicate the tasks that need to be done in the garden, where members can go to find people on the farm, and the coordinator's cell phone number for direct or immediate conversation.

Regular communication with the membership on a weekly or biweekly basis is also important. Email blasts and newsletters are probably the best way to stay in touch, although many growers also use text messages and social media outlets like Facebook. Having an online social media presence is beneficial, as is providing your information to Local Harvest, other regional or national databases (when you are ready or established), publishing organizations such as the Edible series, and your local municipalities. Communications with members should include recipes and other cooking and preservation suggestions based on what is in the share for that week or part of the season. It is

important to frame news, updates, and farm happenings in a positive light. Receiving negative news does not help your public relations cause, the winning over members or the spreading the good CSA word. I would also include pictures of the, members, and links to other related websites in your communications.

Monthly social events are also recommended and can be paired with shareholder workdays, where a cooking demonstration or group class, potlucks or short educational video or speaker follows weed dating and other fun gardening activities. Setting aside time for discussion, reflection, and questions is also important to help orient members towards the CSA ideals. These events should not be required but are strongly suggested. Perhaps the time spent at them could count towards work share hours or extra produce if it is available. I know that some growers and staff are worried about bombarding members with too many emails or requests for the time, but I think that providing these opportunities is better than not providing them. Members will choose their own level of participation and over time you will gain an understanding of your shareholders' wants and needs.

My final suggestion is to solicit feedback and engage in the AR cycles of action and reflection. Online or even paper surveys are a great way to do this. You can set them up to be anonymous so members will feel protected in providing criticism. To help increase participation, CSA organizers can provide paper forms during social events at the end of the season. Having an open discussion where members respond to prompts and build off of each other's ideas could also work. I think it is important to frame the questions in terms of improvement and what can be done better next season. These suggestions are ideals to strive for, and money, time, and volunteer commitment will ultimately dictate the extent to

which these can be implemented. That is why it is important to form your partnerships and grow your relationships at least a season in advance. As I discuss below, it is important to stay positive and surround yourself with others who share the dream and are working towards creating alternative agrifood systems.

Reflection and Call to Action

I was introduced to the food movement and the idea of DIY and community backyard gardening through my thesis research into ecovillager's ideals and practices (Wight, 2010). I was, and still am, searching for better models, examples, and communities that take the earth as primary and adjust their behaviors accordingly. I learned that a love of place is paramount. If we love where we live, we will take care of it, and work with others to improve the quality of our environment. We will engage the political and civil systems, and will fight for fair wages and social and ecological justice to make our region and planet a better place to live, raise a family, work, and enjoy life. I also learned that thinking ecologically has to involve food and consider the impact that our food choices have on the earth. It was with these sentiments in mind that I sought to learn how to grow food in an ecologically sustainable way. As other researchers (Delind, 1999b), farming apprentices, and farmers know, this is not an easy endeavor to do and be successful at financially.

After three part-time seasons in Gorman's market garden, I was ready to spend more time researching and writing. I have to acknowledge how fortunate I was to be a part-time seasonal gardener at Gorman and to receive an introduction to agriculture at an educational non-profit that does not need to make money through its production operations. Because of Gorman's public funding, emphasis on children's camps, volunteer

groups, and social events, I did not learn about agriculture as many others do (through large conventional, mechanized operations that rely heavily on migrant labor). Similar to how others experience Gorman, Turner Farm, Green Acres (not featured here, but this farm has an endowment from the Nippert Family Foundation), and other non-profit CSA organizations, my experience does not accurately reflect the CSA movement. It would be a beautiful thing if public, governmental, and private support for civic, educationally oriented organizations was more widespread, where each community had an organization like these, or where cities had several of them scattered throughout their sub and exurban areas based on the regions population. Yet this alone would not change the numbers regarding how most people obtain their food. For this to happen, we need not only a shift in supply, but also a shift in demand.

Clearly, it would be helpful if more money were available to help start, staff, support, and sustain these various CSAs and local food efforts. While the USDA and the land grant extensions are not without criticizable aspects, they have departments and programs that support CSAs and conduct research into alternative agricultural practices. Appropriate Technological Transfer for Rural Areas (ATTRA) and SARE can be huge resources for CSA farmers. The National Resource Conservation Service and its Environmental Quality Initiative Program are helping farmers extend their seasons and make local food available year round. I know that Gretchen at GS found an apprentice through the ATTRA website and has received money from the USDA for some of her equipment, and Turner was able to conduct research with a SARE grant.

Other exciting programs that are helping small farmers include Slow Money (micro-lending organizations) that connect local funders with farmers in need of loans and start up

capital. What we really need, as many other food movement scholars and activists have pointed out (Allen, 2004; Pollan, 2006; Salatin, 2007; Schollosser, 2001; Nestle, 2009, etc.), is a redistribution of our agricultural subsidies and research programs away from chemical, fossil fuel, genetically modified, pharmaceuticals, and export oriented models of producing food and fiber. This dream is in direct conflict with how agribusiness, the FDA, and parts of the USDA currently operate, and while I believe that change at the national and regional level is needed, I also think it is best to start in your own backyard, to join a CSA, and get to know your local farmer. However, the demand side does not fully address consumers' food preferences. Like many other people, I still want access to coffee, chocolate, alcohol, fruits, nuts, and other produce from around the world.

Therefore, from the individual, family, and small community point of view, how does the food movement get more people interested and involved in procuring food from a local source? I think we are on the right track with creating publications such as the CORV guide, Edible Ohio Valley, and cookbooks that emphasize local and season produce. Food policy councils, Green Umbrella Food Action Teams, Regional Health Councils, CCTSTs, Healthy Corner Store initiatives, and other larger collaborative efforts are helping to change the public's awareness about food. Yet we need more of these partnerships and opportunities for the institutional purchase of local foods. We need to create more food hubs, coops, CSAs, farmers markets, and gardens in every yard, school, hospital, and business setting to make local food visible, available, and affordable. These efforts will build capacity, and create new agrifood systems, while working to change the way we grow and consumer food.

I think the cautionary quote by Bill where he referred Joel Salatin's warning that corporate food interests are not going to let us change the system contains a valid point.

Yet I am hopeful that CSAs and other alternative agrifood initiatives will prevail and work in a peaceful way to change the system. One of the main reasons I became an environmental educator was to work towards positive and equalizing social and ecological change. I sought out Action Research because of its value and political orientations (Brydon-Miller, 2003). A major takeaway from these past five years and my work with Professor Mary Brydon-Miller is that with a bit of hope and optimism, and a lot of patience, we can work with others to transform our relationships, institutions, and communities for the better. Working at Gorman and within the larger Cincinnati alternative agricultural community, I have seen the fruits of our efforts, and they are good. I have witnessed the work of the Green Umbrella, the Civic Garden Center, OEFFA, and all the CSA organizations in this study, and it gives me hope. Good things are happening as more and more people become aware of the need to change our food system.

On this note, consider a final quote and the perspective of Charles as he comments on the intersections between education, health, finances, relationships, resources, and community well-being as they relate to the work and philosophy of OHC. Along with many of the participants interviewed for this project, he understands that engaging CSA members and the public in critical conversations about the industrial food system can create negative “thought space” and “feeling space,” and can be unconstructive towards their financial and social goals (February 18th, 2014). Charles, in a very Freirian way, said you have to start where people currently are—which is often the most difficult part.

So if you really want to address the problems that are most urgent, you have to keep people engaged in a certain way, and you have to start with the youth. You also have to start where you are, it's our karma, it's Our Harvest's

karma, as an organization or an entity. Just like Our Harvest had to start where Dale Bahr is, you have to start where the agricultural scene is. You have to start with the pre-existing relationships in the food chain. We are building relationships with distributors, and two other independent food outlets, which will strengthen and give substance to all the terms that we use to describe ourselves, like local. And when that becomes a living reality, our relationship to those groceries and the distributors, like Picks Produce, and Delhi foods, or Green Bean Delivery, will start a stream or a zip line, and once that begins to form, and is stable enough, it will take on character. So as that cable, that is the business relationship becomes warm enough, and wide enough, when the goodness of the earth can flow through there, which will come with time. Each box we get into the hospitals and into the schools, and when people taste the difference, and feel the difference, they wake up with a clear head. The byline that I use to say at Michaela Farm, was 'food that will change your life.' Some people thought I was going too far, but no I was right on. Feel the change in your life. So this speaks to the relationships we are growing, that our food is full of life, and respecting all life in the process. So when you take that and make that part of you, all of that warmth and concern and love, and when you put that into a business relationship, that is the web, that is what we will be trading in. And then the hard-earned money will be flowing backwards. So this is the ash of the spiritual activity, these are the coals, this is the solidified human wealth. And human wealth is not money.

(Charles, February 18th, 2014)

This lengthy quote is filled with references to different kinds of social and human capital, which according to Charles, will give way to financial capital. His point about starting where people are and working within the current agriculture scene is a perfect fit with the AEE theory. The ability to take things as they are, work with others, identify their concerns, adjust your goals and move forward together is a crucial ingredient to creating local food systems. Starting where people are is an excellent pragmatic approach to learning and behavior change. It is with these sentiments in mind that I look to the garden and beyond, and encourage you to do so as well. I leave you with words that John and I would often rhyme back and forth as worked in the garden.

In the Garden

In the garden, chilling it where it's at,
In the garden, with sunscreen, glasses, and hats,
In the garden from dawn til dusk,
In the garden, we're keeping it lush!

Growing food and fiber, kale and greens,
Growing food and fiber to keep us lean,
Teaching people how it used to be,
Teaching people how to believe,
Teaching people step by step,
How to re-member the basic concepts,

Without this foundational science knowledge,
There would be no gymnasium, lyceum, colloquium, or college,
And yet, most people don't know:

In the garden, chillin' is where its at,
Hoeing it up, planting potatoes, okra, and tomatoes,
red and yellow eva purple romatoes,
Green peps, green beans, green peas,
Green machines,
In the garden chilling is where it's at!

References

- Abate, G. (2008). Local food economies: Driving forces, challenges, and future prospects. *Journal of Hunger & Environmental Nutrition*, 3(4), 384-399.
- Abbott, S. (Ed.), (2014) The glossary of education reform. Retrieved from <http://edglossary.org/hidden-curriculum>
- Alkon, A. H., & Agyeman, J. (2011). *Cultivating food justice: race, class, and sustainability*. MIT Press; Cambridge, MA.
- Alkon, A. H., & Norgaard, K. M. (2009). Breaking the Food Chains: An Investigation of Food Justice Activism*. *Sociological Inquiry*, 79(3), 289-305.
- Allen, P., FitzSimmons, M., Goodman, M., & Warner, K. (2003). Shifting plates in the agrifood landscape: the tectonics of alternative agrifood initiatives in California. *Journal of rural studies*, 19(1), 61-75.
- Allen, P. (2004). *Together at the table: Sustainability and sustenance in the American agrifood system*. University Park, PA: Penn State Press.
- Alinsky, S. (1971). *Rules for Radicals: A Pragmatic Primer for Realistic Radicals*. New York: Random House, Inc.
- Ambach, M. (2002). *Food for thought: community supported agriculture and learning*. MA Thesis, Department of Education, Concordia University, Montréal, Québec.
- Anderson, G. L. (1989). Critical ethnography in education: Origins, current status, and new directions. *Review of educational research*, 59(3), 249-270.
- Angrosino, M., & de Pérez, K. M. (2003). Rethinking observation. *Collecting and interpreting qualitative materials*, 3, 107.
- Argyris, C. (1995). Action science and organizational learning. *Journal of Managerial Psychology*, 10(6), 20-26.
- Armar-Klemesu, M. (2000). Urban agriculture and food security, nutrition and health. *Growing cities, growing food. Urban agriculture on the policy agenda*, 99-118.
- Bäckstrand, K. (2003). Civic Science for Sustainability: Reframing the Role of Experts, Policy-Makers and Citizens in Environmental Governance. *Global Environmental Politics*, 3(4), 24-41.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

- Barlett, P. F. (2011). Campus sustainable food projects: critique and engagement. *American Anthropologist*, 113(1), 101-115.
- Bartholomew, M. (2005). *Square Foot Gardening: A New Way to Garden in Less Space with Less Work*. Emmaus, Pennsylvania: Rodale Press.
- Beginning Farmers (2015). *An Online Resource for Farmers, Researchers, and Policy Makers*. Webpage: <http://www.beginningfarmers.org/farm-business-planning/farm-incorporation/>. Retrieved March 5, 2015
- Benford, R. D. & Snow, D.A. (2000). Framing Processes and Social Movements: An Overview and Assessment. *Annual Review of Sociology*, 26, 611-639
- Bergmann, H. (1985). Agriculture as a subject in primary school. *International review of education*, 31(1), 155-174.
- Berkes, F. (1993). Traditional Ecological Knowledge in Perspective. *Traditional Ecological Knowledge: Concepts and Cases*. J.T. Inglis (Ed). Canadian Museum of Nature.
- Berry, W. (1978). *Unsettling of America*. San Francisco: Sierra Club Books.
- Berry, W. (2003). *Citizenship Papers*. Washington DC: Shoemaker & Hord.
- Biernacki, P., & Waldorf, D. (1981). Snowball sampling: Problems and techniques of chain referral sampling. *Sociological methods & research*, 10(2), 141-163.
- Biodynamic Association. (2014). What is Biodynamics. Webpage. <https://www.biodynamics.com/biodynamics.html>. Retrieved September 22nd, 2014.
- Blair, D. (2009). The child in the garden: An evaluative review of the benefits of school gardening. *The Journal of Environmental Education*, 40(2), 15-38.
- Borgatti, S. P. (2005). Centrality and network flow. *Social networks*, 27(1), 55-71.
- Bowers, C. A. (2001). *Educating for Eco-Justice and Community*. Athens, GA: The University of Georgia Press.
- Bourdieu, P. (1986). The forms of capital. In Szeman, I., & Kaposy, T. (Eds.). (2010). *Cultural theory: an anthology*. Hoboken, NJ; John Wiley & Sons.
- Bourdieu, P. (2008). 15 The Forms of Capital. *Readings in economic sociology*, 4, 280.
- Brandt, K., & Mølgaard, J. P. (2001). Organic agriculture: does it enhance or reduce the nutritional value of plant foods?. *Journal of the Science of Food and Agriculture*, 81(9), 924-931.

- Brehm, J. M., & Eisenhauer, B. W. (2008). Motivations for participating in community-supported agriculture and their relationship with community attachment and social capital. *Southern Rural Sociology*, 23(1), 94-115.
- Brillinger, R., Ohmart, J., & Feenstra, G. (2003). *The Crunch Lunch Manual: A Case study of the Davis Joint Unified School District farmers market Salad Bar Pilot Program*. Davis, California. University of California Sustainable Agriculture Research and Education Program.
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.
- Brown, C., & Miller, S. (2008). The impacts of local markets: a review of research on farmers markets and community supported agriculture (CSA). *American Journal of Agricultural Economics*, 90(5), 1298-1302.
- Brown, K. H., & Jameton, A. L. (2000). Public health implications of urban agriculture. *Journal of public health policy*, 20-39.
- Brydon-Miller, M. (2011). Addressing the Ethical Challenges of Community-Based Research. *Teaching Ethics*. Pp 157 – 162.
- Brydon-Miller, M., (2008). Ethics and action research: deepening our commitment to principles of social justice and redefining systems of democratic practice. In Reason, P., Bradbury, H. (Eds.), *The SAGE Handbook of Action Research*, second ed. SAGE, London. Pp 199-210.
- Buechler, S. M. (2000). *Social movements in advanced capitalism: The political economy and cultural construction of social activism* (pp. 19-31). New York: Oxford University Press.
- Burgess, J. (2006). Participatory action research: First-person perspectives of a graduate student. *Action Research*, 4(4), 419-437.
- Burns, J. Z., & Schaefer, K. (2003). Informal Learning: An Exploratory Study of Unstructured Learning Experiences of T&I Teachers Enrolled In an Alternative Teacher Education Program. *Journal of Institutional Teacher Education* (40)3.
- Campbell, T., & Campbell, T. (2006). *The China Study*. Dallas, Texas: BenBella Books.
- Capps, S. A. (2012). *Professional project in farm- and garden-based experiential education*. (Order No. 1516302, University of California, Davis). *ProQuest Dissertations and Theses*, , 257. Retrieved from <http://search.proquest.com/docview/1036612185?accountid=2909>. (1036612185)

- Carlsson-Kanyama, A. (2007). Climate change and dietary choices – how can emissions of greenhouse gases from food consumption be reduced? *Food Policy*, 23(3/4), 277-293.
- Carriage House Farm. (2014). Web. www.carriagehousefarmllc.com. Accessed July 1, 2014.
- Carspecken, P. F. (1996). *Critical Ethnography in Educational Research*. New York: Routledge.
- Certified Naturally Grown. (2014). Website. <https://www.naturallygrown.org/about-cng/frequently-asked-questions>. Accessed on November 11, 2014
- Center for Clinical and Translational Science and Training. (2014). Website. <http://cctst.uc.edu/> Accessed September 15th, 2014
- Central Ohio River Valley Guide (2014). <http://www.eatlocalcorv.org/> Accessed March 23rd, 2014.
- Charles, L. (2011). Animating community supported agriculture in North East England: Striving for a 'caring practice'. *Journal of Rural Studies*, 27(4), 362-371.
- Chen, W. (2013). Perceived value of a community supported agriculture (CSA) working share. The construct and its dimensions. *Appetite*, 62, 37-49.
- Cheney, I., Woolk, A., Miller, J., and Ellis C. (Producers). 2008. King Corn. (Documentary) United States: New Video Group.
- Child, J., Bertholle, L., & Beck, S. (1961). Mastering the Art of French Cooking. New York: Alfred A. Knopf.
- Christens, B. (2010). Public relationship building in grassroots community organizing: Relational intervention for individual and systems change. *Journal of Community Psychology*, 38(7), 886-900.
- Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative research*, 6(3), 319-340.
- Chonchol, J. (1968). Preface to Extension or Communication, *Education for Critical Consciousness* (Author, Paulo Freire). New York: Continuum.
- Cincinnati Herald. (2013). Cincinnati State and Our Harvest Cooperative: Partners in Local Food. Retrieved on September 15th from: <http://cincinnatiherald.our-hometown.com/news/2013-0622/News/Cincinnati State and Our Harvest Cooperative Partn.html>

- Cincinnati Union Cooperative Initiative. (2014). Webpage. Retrieved from: www.cincinnatiunioncoop.org.
- Civic Garden Center. (2014). Webpage. Retrieved from: www.civicgardencenter.org.
- Cohen, L. & Manion, L. (1980). *Research Methods in Education*, 2nd ed. Dover, NN: Croom-Helm.
- Coghlan, D. (2005). Ignatian spirituality as transformational social science. *Action Research*, 3(1), 89-107.
- Coleman, E. (1995). *The new organic grower*. White River Junction, Vermont: Chelsea Green Publishing.
- Coleman, E. (2009). *The winter harvest handbook: year-round vegetable production using deep-organic techniques and unheated greenhouses*. Chelsea Green Publishing: White River Junction, Vermont.
- Colquhoun, J. & Bosch, L. (Directors) (2009). *Food Matters*. Documentary. United States; Passion River Films.
- Cooley, J. P., & Lass, D. A. (1998). Consumer benefits from community supported agriculture membership. *Review of Agricultural Economics*, 20(1), 227-237.
- Cooperrider, D., Whitney, D., & Stavros, J. (2003). *Appreciative Inquiry Handbook*. San Francisco: Berrett-Koehler Publishers.
- Cone, Cynthia A., and Ann Kakalioursas. 1995. The Quest for Purity, Stewardship of the Land, and Nostalgia for Sociability: Resocializing Commodities through Community Supported Agriculture. *CSA Farm Network II*:26-29.
- Cone, C. A., & Myhre, A. (2000). Community-supported agriculture: A sustainable alternative to industrial agriculture?. *Human organization*, 59(2), 187-197.
- Corporation for Findlay Market. (2012). *Cultivating a Healthy Environment for Farmers Project: Technical Report*. Retrieved from: http://www.uc.edu/cdc/publications/technical_reports/CHEF_Report.pdf.
- Cox, R., Holloway, L., Venn, L., Dowler, L., Hein, J. R., Kneafsey, M., & Tuomainen, H. (2008). Common ground? Motivations for participation in a community-supported agriculture scheme. *Local Environment*, 13(3), 203-218.
- Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.

- Cross, R., Borgatti, S. P., & Parker, A. (2002). Making invisible work visible: Using social network analysis to support strategic collaboration. *California management review*, 44(2), 25-46.
- Dale, V. (2008). Fertilizer Run-Off From Agricultural Activities Blamed For Gulf Dead Zone In Gulf Of Mexico. *Science Daily*. Retrieved www.sciencedaily.com/releases.
- Darder, A., Baltodano, M. P., & Torres, R. D. (Eds.). (2003). *The Critical Pedagogy Reader*. First Edition. New York: Routledge Taylor & Francis Group.
- Davis, J. D. (1971). *The interview as arena: Strategies in standardized interviews and psychotherapy*. Stanford California: Stanford University Press.
- Debord, G. (1967). *The Society of the Spectacle*. Retrieved April 1, 2012 from: http://library.nothingness.org/articles/SI/en/pub_contents/4
- DeLind, L. (1999a). *The Many Faces of Community Supported Agriculture: a guide to CSAs in Indiana, Michigan, and Ohio*. Ohio Ecological Food and Farm Association: Columbus, OH.
- DeLind, L. B. (1999b). Close encounters with a CSA: The reflections of a bruised and somewhat wiser anthropologist. *Agriculture and Human Values*, 16(1), 3-9.
- DeLind, L. B. (2002). Place, work, and civic agriculture: Common fields for cultivation. *Agriculture and Human Values*, 19(3), 217-224.
- DeLind, L. B. (2003). Community Supported Agriculture 2002: The State of the Art in Michigan. East Lansing, MI: Michigan State University, Department of Anthropology.
- DeLind, L. B., & Ferguson, A. E. (1999). Is this a women's movement? The relationship of gender to community-supported agriculture in Michigan. *Human organization*, 58(2), 190-200.
- Deleuze, G., & Guattari, F., 1996. *What is Philosophy?* New York: Columbia University Press.
- DeMarco, L., Relk, P.D., & McDaniel, A. (1999). Integrating gardening into the elementary school curriculum. *Horttechnology*, 9(2), 276 – 281.
- Denzin, N. K., & Lincoln, Y. S. (Eds.). (2003). *Collecting and interpreting qualitative materials* (Second Edition). Sage: Chicago.
- Dewey, J. (1938). *Experience and Education*. Collier Books: New York.
- Dewey, J. (1997) [1910]. *How we think*. Mineola NY: Courier Dover Publications.

- Dewey, J. (2004). [1916]. *Democracy and education*. Mineola NY: Courier Dover Publications.
- De Vaus, D. (2001). *Research design in social research*. Sage Publication: London
- Dib, C. Z. (1988, October). Formal, non-formal and informal education: concepts/applicability. In *Cooperative Networks in Physics Education-Conference Proceedings* (Vol. 173, pp. 300-315).
- Diffenderfer, M., & Earle, J. (1997). Fostering a Sense of Place: Bioregional Education in Theory and Practice. *International Journal of Environmental Education and Information*, 16(3), 225-36.
- Dooley, K. E. (2007). Viewing Agricultural Education Research through a Qualitative Lens. *Journal of Agricultural Education*, 48(4), 32-42.
- Donahue, T. P. (1994). Community-supported agriculture: Opportunities for environmental education. *The Journal of Environmental Education*, 25(2), 4-8.
- Donohue, R.MN. (1997). *Abandonment and Revitalization of Central City Retailing: The Case of Grocery Stores*. The University of Michigan DAI-A 58/10.
- Durrenberger, E. P. (2002). Community supported agriculture in Central Pennsylvania. *Culture & Agriculture*, 24(2), 42-51.
- Earles, L. E. (2007). *Ways of old, ways of new: Realism and idealism in community supported agriculture*. (Order No. 3285599, University of Oregon). ProQuest Dissertations and Theses, 138. Retrieved from <http://search.proquest.com/docview/304834996?accountid=2909>. (304834996).
- EarthShares (2014). Accessed on February 24th 2014, www.earthsharescsa.org/index.html
- Edible Ohio Valley. (2013, October 30th). *Bonnie Mitsui, Cultivators, Farmers, Historic, Ohio, Stories*. Retrieved from: <http://edibleohiovalley.com/stories/bonnie-mitsui/>.
- Enright Ridge Urban Ecovillage. (2014). Webpage. Retrieved from: <http://enrightecovillage.org/>.
- Enright Ridge Farm Project (2014). Webpage. Retrieved from: <http://www.enrightecovillage.org/our-csa/csa/>
- Escobar, A. (1992). Imagining a post-development era? Critical thought, development and social movements. *Social text*, 20-56.

- Esteva, G. & Prakash, M. S. (1998). *Grassroots Post-Modernism: Remaking the soil of cultures*. London: Zed Books.
- ETC group. (2008). *Who Owns Nature?: Corporate Power and the Final Frontier in the Commodification of Life*. ETC Group. Retrieved on October 5, 2014, from: <http://www.etcgroup.org/content/who-owns-nature>
- Evenson, R.E., & Gollin, D. (2003). Assessing the Impact of the Green Revolution, 1960 – 2000. *Science*, 300.
- Eyerman, R. & Jamison, A. (1991). *Social Movements: A Cognitive Approach*. Cambridge: Polity Press.
- Fabros, S. L (2005). A Cry for Health: State and Federal Measures in the Battle Against Childhood Obesity. *Journal of Law and Family Studies*, 7, 477-457.
- Farm-Based Education Network (2013). Guiding Language. Retrieved on August 28, 2013, from: <http://www.farmbasededucation.org/>.
- Feagan, R., & Henderson, A. (2009). Devon Acres CSA: Local struggles in a global food system. *Agriculture and Human Values*, 26(3), 203-217.
- Feenstra, G. W. (1997). Local food systems and sustainable communities. *American journal of alternative agriculture*, 12(01), 28-36.
- Feenstra, G. (2002). Creating space for sustainable food systems: Lessons from the field. *Agriculture and Human Values*, 19(2), 99-106.
- Finkelstein, E. A., Trogon, J. G., Cohen, J. W., & Dietz, W. (2009). Annual medical spending attributed to obesity: Payer-and service specific estimates. *Health Affairs*, 28(5), 822-831.
- Flora, C. B., & Bregendahl, C. (2012). Collaborative Community-supported Agriculture: Balancing Community Capitals for Producers and Consumers. *Int. J. of Soc. of Agr. & Food*, 19(3), 329-346.
- Foley, D. (2002). Critical ethnography: the reflexive turn. *Qualitative Studies in Education*, 15(5) 469 – 490.
- Fontana, A., & Frey, J. H. (2005). The interview: From neutral stance to political involvement. *The Sage handbook of qualitative research*, 3, 695-727
- Freire, P. (1970). *Pedagogy of the Oppressed*. New York: Continuum.
- Freire, P. (1973). *Education for critical consciousness*. New York: Seabury Press.

- Freire, P. (1975). *Conscientization*. Geneva: World Council of Churches.
- Freire, P. (1976). *Education, the practice of freedom*. London: Writers and Readers Publishing Cooperative.
- Freire, P. (1978). *Pedagogy in Process: The letters to Guinea-Bissau*. New York: A Continuum Book: The Seabury Press.
- Freire, P. (1985). *The politics of education: culture, power, and liberation*. South Hadley, MA: Bergin & Garvey.
- Freire, P. (1993). *Pedagogy of the city*. New York: Continuum.
- Freire, P. (1998). *Politics and education*. Los Angeles: UCLA Latin American Center Publications.
- Freire, P. (2004) *Pedagogy of Indignation*. Boulder, CO: Paradigm Publishers.
- Fukuoka, M. (2009). *The one-straw revolution: an introduction to natural farming*. L. Korn (Ed.). New York Review of Books. New York.
- Fuller, B. (1969) *Operating Manual for Spaceship Earth*. New York: Simon & Schuster.
- Furco, A. (1996). Service-learning: A balanced approach to experiential education. *Expanding boundaries: Serving and learning, 1*, 1-6.
- Gadotti, M. & Torres, C. A. (2009). *Paulo Freire: Education for Development*. Institute of Social Studies. Oxford: Blackwell Publishing.
- Gallagher, M., Research & Consulting Group. (2007). *Examining the Impact of Food Deserts on Public Health in Chicago*. Retrieved from www.marigallagher.com on August 23rd, 2010.
- Gangwer, K. (2013) *State of Local Food Report*. Green Umbrella Food Action Team. Retrieved on October 5, 2014 from:
- Garcia, D. K. (2007). *The Future of Food*. Documentary. Produced by Lilly Films.
- Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st century*. Basic Books.
- Galt, R. E. (2011). Counting and mapping community supported agriculture (CSA) in the United States and California: Contributions from critical cartography/GIS. *ACME: An International E-Journal for Critical Geographies*, 10(2), 131-162.
- Geertz, C. (1973). *The Interpretation of Cultures*. New York: Basic Books.

- Gerring, J. (2001). *Social science methodology: A critical framework*. Cambridge University Press.
- Gerth, H. H., & Mills, C. Wright. (1946). *From Max Weber: Essays in Sociology*. New York: Oxford University Press.
- Giandomenico, L. (2000). *A tale of two co-ops: personal characteristics, food behaviors and food consciousness in the food cooperative organizational context*. Dissertation. Cornell University, May.
- Gilman, R. (1991). The eco-village challenge. *Context*, 29(10), p 10.
- Giroux, A. (2003). Critical Theory and Educational Practice. *The Critical Pedagogy Reader*. First Edition. Darder, A., Baltodano, M. P., & Torres, R. D. (Eds). New York: Routledge Taylor & Francis Group.
- Ghimire, S. (2008). *Urban Agriculture in the Urban Landscape: An Analysis of Successful Urban Agriculture in the US*. Thesis for Masters of Community Planning, in the College of Design, Architecture, Art, and Planning at the University of Cincinnati.
- Goffman, E. (1991). *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates*. New York: Penguin Books, Ltd.
- Goodman, D., & DuPuis, E. M. (2002). Knowing food and growing food: beyond the production–consumption debate in the sociology of agriculture. *Sociologia ruralis*, 42(1), 5-22.
- Gorman Heritage Farm. (2013). Gorman Heritage Farm 2013 Annual Report. Author's files.
- Gorman Heritage Farm. (2014). Webpage. Retrieved from (www.gormanfarm.org).
- Gottlieb, R., & Fisher, A. (1996). Community Food Security and Environmental Justice. *Agriculture and Human Values*, 3(3), 23 – 32.
- Goulet, D. (1973). *Introduction to Education for a Critical Consciousness*. New York: Continuum.
- Grabinger, R. S., & Dunlap, J. C. (1995). Rich environments for active learning: A definition. *Research in learning Technology*, 3(2).
- Grailville. (2014). Webpage. Retrieved from www.grailville.org.
- Grant, S. (2007). Learning through 'being' and 'doing'. *Action Research*, 5(3), 265-274.
- Gravel Knoll. (2013). Webpage. Accessed on March 27th, 2013: <http://gravelknollsfarm.blogspot.com>).

- Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational evaluation and policy analysis*, 11(3), 255-274.
- Greenwood, D., & Levin, M. (2007). *Introduction to action research: Social research for social change* (Second ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Gregory, P. J., Ingram, J. S. I., Andersson, R., Betts, R. A., Brovkin, V., Chase, T. N., ... & Wilkinson, M. J. (2002). Environmental consequences of alternative practices for intensifying crop production. *Agriculture, ecosystems & environment*, 88(3), 279-290.
- Grey, M. A. (2000). The industrial food stream and its alternatives in the United States: An introduction. *Human Organization*, 59(2), 143-150.
- Grijp, Nicolien van der. (2008). *Regulating pesticide risk reduction: the practice and dynamics of legal pluralism*. Printed by VU Drukkerij: Amsterdam, Netherlands.
- Groh, T., & McFadden, S. 1990. (and then again in 1997). Farms of tomorrow: communities supporting farms, farms supporting communities.
- Gruenewald, D. A. (2003). Foundations of place: A multidisciplinary framework for place-conscious education. *American educational research journal*, 40(3), 619-654.
- Gustavsen, B. (1992). *Dialogue and Development*. Van Assen, Netherlands: Gorcum.
- Guthman, J. (2008). "If they only knew": color blindness and universalism in California alternative food institutions. *The professional geographer*, 60(3), 387-397.
- Hall, S. (1996). Reflexivity in Emancipatory Research: Illustrating the Researchers Constitutiveness. *New Directions in Action Research*. (Ed) Zuber-Skerritt, O. Washington, D.C.: Falmer Press.
- Hall, B. (2002). I wish this were a poem of practices of participatory research. In P. Reason & H. Bradbury (Eds.), *Handbook of action research: Participative inquiry and practice* (pp.171-178). Thousand Oaks, CA: Sage Publications.
- Hanks, W. (1991). *Forward to Situated Learning Legitimate Peripheral Participation* by Lave and Wenger. New York: Cambridge University Press.
- Hassanein, N. (2003). Practicing food democracy: a pragmatic politics of transformation. *Journal of Rural Studies*, 19, 77 – 86.
- Henderson, E., & Van En, R. (1997) 2007. *Sharing the harvest: a citizen's guide to Community Supported Agriculture*. Chelsea Green Publishing.

- Heron, J., & Reason, P. (2006). The Practice of Co-operative Inquiry: Research 'with' rather than 'on' people. In Reason, P. & Bradbury, H., (Eds), *The Handbook of Action Research*, 144-154. Los Angeles, CA: Sage Publishing.
- Herr, K. & Anderson, G. L. (2005). *The Action Research Dissertation: A guide for students and faculty*. Sage Publications, Thousand Oaks, CA, USA.
- Hillel, D. (1991) *Out of the Earth: Civilization and the life of the Soil*. New York: The Free Press.
- Hinrichs, C. (2003). The practice and politics of food system localization. *Journal of Rural Studies*, 19, 33- 45.
- Hodder, I. (2003). The interpretation of documents and material culture. In Denzin & Lincoln, Y. S. (Eds.). *Collecting and interpreting qualitative materials*, 3, 155-175. Sage. Thousand Oaks, California
- Horkheimer, M., & Adorno, T. W. (1947) (2002). Dialectic of enlightenment: Philosophical fragments (E. Jephcott, Trans.). *Cultural memory in the present*. Palo Alto, California: Stanford University Press.(Original work published 1947).
- Horrigan, L., Lawrence, R. S., & Walker, P. (2002). How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture. *Environmental Health Perspectives*, 110(5), 445 – 456.
- Hoshaw, L. (2009). Afloat in the ocean, expanding islands of trash. *New York Times*, November 10th.
- Horton, M., & Freire, P. (1990). *We make the road by walking: Conversations on education and social change*. Temple University Press.
- Howard, P. H. (2013). Philip H. Howard's Homepage. Retrieved on June 20th, 2013 from: www.msu.edu/~howardp/
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative health research*, 15(9), 1277-1288.
- Hunter, D., Foster, M., McArthur, J. O., Ojha, R., Petocz, P., & Samman, S. (2011). Evaluation of the micronutrient composition of plant foods produced by organic and conventional agricultural methods. *Critical reviews in food science and nutrition*, 51(6), 571-582.
- Illich, I. (1970). *Deschooling Society*. www.davidtinapple.com/illich/. May 16th 2010.
- Illich, I. (1973). *Tools for Conviviality*. www.davidtinapple.com/illich/. May 16th 2010.

- Imago. (2014). Webpage. Retrieved from (www.imagoearth.org).
- Iwaki, T. J. (2013). Gateway to Green: Experiencing of Community Supported Agriculture. Dissertation. Columbia University.
- Jenkins, J. C. (1983). Resource mobilization theory and the study of social movements. *Annual review of sociology*, 527-553.
- Jeyaratnam, J. (1990). Acute pesticide poisoning: a major global health problem. *World Health Stat Q*, 43(3), 139-44.
- Kaktins, S. L. (1997). Community Shared/Supported Agriculture Overcoming the Barriers: Environmental Studies. Dalhousie University. Halifax.
- Kahn, P. H., Jr. (2002). Children's affiliations with nature: Structure, development, and the problem of environmental generational amnesia. In P.H. Kahn Jr and S. R. Kellert (eds). *Children and nature: Psychology, sociocultural and evolutionary investigations*, 94 – 116. Cambridge, MA: MIT Press.
- Kahn, R. (2010). *Critical Pedagogy, Ecoliteracy, & Planetary Crisis: The Ecopedagogy Movement*. New York: Peter Lang Publishing Inc.
- Kelley, D. B. (1985). The evolution of Quaker theology and the unfolding of a distinctive Quaker ecological perspective in eighteenth-century America. *Pennsylvania History*, 242-253.
- Kemmis S & Wilkinson M 1998. Participatory action research and the study of practice. In: Atweh B, Kemmis S & Weeks P (eds). *Action research in practice: Partnerships for social justice in education*. London and New York: Routledge.
- Kerbo, H. (2014). Social Stratification: Trends and Processes. *Contemporary Sociology: A Journal of Reviews*, 43(2), 225-226.
- Kincheloe, J. & McLaren, P. (1994). *You can't get to the yellow brick road from here*. Cited in Carspecken (1996). *Critical Ethnography in Educational Research*. New York: Routledge.
- Kincheloe, J. & McLaren, P. (2002). Rethinking Critical Theory and Qualitative Research. *Ethnography and Schools: Qualitative Approaches to the Study of Education*. Zou, Yali, & Trueba, E. 2002. (Eds). New York: Rowman & Littlefield Publishers, Inc.
- King, A. M. (2012). Community Supported Agriculture and Nature Education (CSANE) Restoring our Food Systems through Education. Prescott College, ProQuest, UMI Dissertations Publishing, 2012. 1532029.

- Klemmer, C.D., Waliczek, T.M. & Zajicek, J.M. (2005). Growing Minds: The Effect of a School Gardening Program on the Science Achievement of Elementary Students. *HortTechnology*. 15(3): 448-452.
- Kloppenburger Jr, J., Hendrickson, J., & Stevenson, G. W. (1996). Coming in to the foodshed. *Agriculture and human values*, 13(3), 33-42.
- Knabb, K. (1981). *Situationist International Anthology*. Berkeley: Bureau of Public Secrets.
- Knobloch, N. A. (2003). Is experiential learning authentic? *Journal of Agricultural Education*, 44(4), 22-34.
- Kriwy, P., & Mecking, R. A. (2012). Health and environmental consciousness, costs of behavior and the purchase of organic food, *Journal of Consumer Studies*, 36, 30-37.
- Laird, T. (1995). Community-Supported Agriculture: A Study of an Emerging Agricultural Alternative. *Partial Fulfilment of the Requirements for the Degree of Master of Science Specializing in Natural Resource Planning. Faculty of the Grad. Coll. University of Vermont*.
- Lamb, G. (1994). Community supported agriculture. Can it Become the Basis for a New Associative Economy? *Review*, 11, 39-43.
- Lang, K. B. (2010). The Changing Face of Community-Supported Agriculture. *Culture & Agriculture*, 32(1), 17-26.
- Lappé, F. M. (1975). *Diet for a small planet*. LOCATION: Random House.
- Lass, D. A. (2003). *CSA across the nation: Findings from the 1999 CSA survey*. Center for Integrated Agricultural Systems, College of Agricultural and Life Sciences, University of Wisconsin-Madison
- Lass, D., Bevis, A., Stevenson, G. W., Hendrickson, J., & Ruhf, K. (2003). Community Supported Agriculture entering the 21st century: results from the 2001 national survey. *University of Massachusetts, Department of Resource Economics, Amherst*.
- Lass, D. A., Lavoie, N., & Fetter, T. R. (2005). Market power in direct marketing of fresh produce: Community supported agriculture farms. *PERI Working Papers*, 200.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press. New York.
- Lehmann, J., & Joseph, S. (2009). *Biochar for Environmental Management: Science and Technology*. Earthscan, London & Sterling, VA

- Levitan, L., Merwin, I., & Kovach, J. (1995). Assessing the relative environmental impacts of agriculture pesticides: the quest for a holistic method. *Agriculture, Ecosystems and Environment*, 55, 153 – 168.
- Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues*, 2, 34–36.
- Lincoln, Y. S. & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- Lineberger, S.E., & Zajicek, J. M. (2000). School Gardens: Can a Hands-on Teaching Tool Affect Students' Attitudes and Behaviors Regarding Fruit and Vegetables? *HortTechnology*, 10(3), 593 – 597.
- Lobao, L., & Meyer, K. (2001). The great agricultural transition: crisis, change, and social consequences of twentieth century US farming. *Annual review of sociology*, 103-124.
- Lorimer, H., 2005. Cultural geography: the busyness of being 'more-than representational'. *Progress in Human Geography* 29 (1), 83–94.
- Lovelock, J. E. (1979) *Gaia: A New Look at Life on Earth*. Oxford: Oxford University Press.
- Lyson, T. A. (2000). Moving toward civic agriculture. *Choices. The Magazine of Food, Farm, and Resources Issues*, (3), 42-45.
- Lyson, T. A., & Guptill, A. (2004). Commodity Agriculture, Civic Agriculture and the Future of US Farming*. *Rural sociology*, 69(3), 370-385.
- Lyson, T. A. (2007). Civic agriculture and the North American food system. *Remaking the North American food system: Strategies for sustainability*, 19-32.
- Magdoff, F. & Tokar, B. (2010). *Agriculture and Food in Crisis: Conflict, Resistance, and Renewal*. Monthly Review Press: New York.
- Markowitz, L. (2011) *Potlucks and Politics: Creating Alternative Food Economies*, Presented at the Meetings of the American Anthropological Association (Capitalism, feminism, and the politics of the possible: Engaged Research in Honor of J.K/ Gidson-Graham) November 2011, Montreal, Canada.
- Marsick, V. J., & Volpe, M. (Eds.) (1999). Informal learning on the job. *Advances in Developing Human Resources*. Williston, VT: Berrett-Koehler.
- Mayer, A., & Mayer, J. (1974). Agriculture, the island empire. *Daedalus*, 83-95.
- McAdams, D. (1994). Culture and Social Movement. *New Social Movements: From Ideology to Identity*. Eds. Larana, E., Johnston, H., & Gusfeild, J. Philadelphia: Temple University Press.

- McAdams, D., Tarrow, S., & Tilly, C. (2003). Dynamics of contention. *Social Movement Studies*, 2(1), 99-102.
- McCann, W. P. (Ed.). (2013). *Popular education and socialization in the nineteenth century*. Routledge.
- McCarthy, J. D., & Zald, M. N. (2001). The enduring vitality of the resource mobilization theory of social movements. In *Handbook of sociological theory* (pp. 533-565). LOCATION: Springer.
- McCormack, D., (2003). An event of geographical ethics in spaces of affect. *Transactions of the Institute of British Geographers* 28 (4), 488–507
- McCracken, G. 1988. *The Long Interview: Qualitative Research Methods series no 13*. Thousand Oaks, CA: Sage Publishers.
- McIntosh, R. P. (1985). *The Background of Ecology: Concept and Theory*, Cambridge: Cambridge University Press.
- McLaren, P. (2000). *Che Guevara, Paulo Freire, and the pedagogy of revolution*. Rowman & Littlefield Publishers.
- McLaren, P. (2003). Critical Pedagogy: A Look at the Major Concepts. *The Critical Pedagogy Reader*. First Edition. Darder, A., Baltodano, M. P., & Torres, R. D. (Eds). New York: Routledge Taylor & Francis Group.
- McNab, P. (2012). Planting Wholesome Seeds: Organic Farming and Community Supported Agriculture at Sweetwater Organic Farm. MA Thesis in Anthropology and Public Health. University of South Florida.
- McTaggart, W. D. (1993). Bioregionalism and regional geography: place, people, and networks. *The Canadian Geographer/Le Géographe canadien*, 37(4), 307-319.
- Melucci, A. (1980). The new social movements: A theoretical approach. *Social science information*, 19(2), 199-226.
- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. Jossey-Bass. San Francisco.
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. Jossey-Bass, 350 Sansome Street, San Francisco, CA 94104-1310.
- Millen, B. E., & Vernarelli, J. A. (2008). Survey research planning and questionnaire design. *Research Successful Approaches*, 3, 167-186.
- Miller, T. (1999). *The 60s communes: Hippies and beyond*. Syracuse University Press.

- Minkler, M., & Wallerstein, N. (2003). Part One: Introduction to Community-Based Participatory Research. *Community-Based Participatory Research for Health*. San Francisco, CA: Jossey-Bass.
- Mintz, S. W. (1985). *Sweetness and power* (p. 157). New York: Viking.
- Mondragon Corporation. (2014). Webpage. Retrieved from: www.mondragon-corporation.com/eng.
- Monson, S. (Producer) (2010). *Earthlings*. Documentary. United States, Nation Earth Media.
- Morris, B. S. (2011). Teaching Patients How to Eat Healthier: Practical Strategies for the Primary Care Setting. *Proceedings of the UCLA Healthcare*, 15, 1-4.
- Morris, J., & Zidenberg-Cherr, S. (2002). Garden-enhanced nutrition curriculum improves fourth-grade school children's knowledge of nutrition and preferences for some vegetables. *Journal of the American Dietetic Association*, 102(1), 9.
- Mouillesseaux-Kunzman, H. (2005). *Civic and capitalist food system paradigms: A framework for understanding community supported agriculture impediments and strategies for success*. Cornell University. Thesis in Masters of Science
- Nelles, W. (2011). Environmental education, sustainable agriculture, and CGIAR: History and future prospects. *Comparative Education Review*, 55(3), 398-423.
- Nestle, M. (2007). *What to Eat?* New York: North Point Press.
- Nestle, M. (2009). Reading the Food Social Movement. *World Literate Today*, 83(1), 37 – 39.
- Newbury, D. (2001). Diaries and fieldnotes in the research process. *Research issues in art design and media*, 1, 1-17.
- Niewolny, K., & Lillard, P. (2010). Expanding the boundaries of beginning farmer training and program development: A review of contemporary initiatives to cultivate a new generation of American farmers. *Journal of Agriculture, Food Systems, and Community Development*, 1(1), 65-87.
- Noblit, G., Flores, S., & Murillo, E. (Eds). (2004). *Postcritical Ethnography: Reinscribing Critique*. Cresskill: Hampton Press, Inc.
- Ohio Ecological Food and Farming Association. (2014). Accessed on February 1st: (<http://www.oeffa.org>).
- Okumura, N. (2004). *Where are the Movements Going?: Comparisons and Contrasts Between the Teikei Movement in Japan and Community Supported Agriculture in the United States* (Doctoral dissertation, Michigan State University. Department of Resource

Development).

- O'Hara, S. U., & Stagl, S. (2002). Endogenous preferences and sustainable development. *The Journal of Socio-Economics*, 31(5), 511-527.
- O'Leary, D. E (2010). Shifting landscapes: Community supported agriculture's next season Syracuse University, ProQuest, UMI Dissertations Publishing, 2010. 3459384.
- Orr, D. (1994). *Earth in Mind: On Education, Environment, and the Human Prospect*. Washington: Island Press.
- Orr, D. (2002). Political Economy and the ecology of childhood. In Kahn, P.H, Jr. & Kellert, S.R. (eds). *Children and nature: Psychology, sociocultural and evolutionary investigations*. 279 - 303. Cambridge, MA: MIT Press.
- Ortlipp, M. (2008). Keeping and using reflective journals in the qualitative research process. *The Qualitative Report*, 13(4), 695-705.
- Ostrom, M. R. (1997). *Toward a community supported agriculture: a case study of resistance and change in the modern food system*. University of Wisconsin--Madison. Dissertation.
- Ostrom, M. R. (2007). Community supported agriculture as an agent of change: Is it working. *Remaking the North American food system: Strategies for sustainability*, 99-120.
- OTR Homegrown. (2014). Webpage. www.otrhomegrown.com. 2014. Accessed June 28th, 2014.
- Our Harvest Cooperative. (2014). Webpage. Retrieved from: <http://ourharvest.coop>.
- Rahm, J. (2002). Emergent learning opportunities in an inner-city youth gardening program. *Journal of Research in Science Teaching* (39), 164 – 184.
- Ravenscroft, N., Moore, N., Welch, E., & Hanney, R. (2013). Beyond agriculture: the counter-hegemony of community farming. *Agriculture and Human Values*, 30(4), 629-639.
- Reason, P., & Bradbury, H. (2006) *Handbook of Action Research*. New York: Sage Publication.
- Revans, R. (1982). Action learning. *Journal of Management Development*, 1(3), 64-75.
- Riel, M. (2010). Understanding Action Research, Center For Collaborative Action Research, Pepperdine University. Accessed online on 21 February 2013 from <http://cadres.pepperdine.edu/ccar/define.html>

- Roberts, T. G. (2006). A Philosophical Examination of Experiential Learning Theory for Agricultural Educators. *Journal of Agricultural Education*, 47(1), 17.
- Robertson, G.P., & Swinton, Scott. 2005. Reconciling agricultural productivity and environmental integrity; a grand challenge for agriculture. *Frontier Ecology Environment*. Vol 3, No. 1 pgs 38 – 46. The Ecological Society of America.
- Roland, E. & Lundua, G. (2009). Eight Forms of Capital. Retrieved on January 20th, 2014 from <http://www.8forms.org/regenerative-enterprise/>
- Rorty, R. (1999). Education as Socialization and as Individualization. *Philosophy and social hope*, 114-126.
- Rose, D. & Rickelle, R. (2004). Food Store Access and Household Fruit and Vegetable Use Among Participants in the US Food Stamp Program. *Public Health Nutrition*, 7(8), 1081 – 1088.
- Parr, D. M., & Van Horn, M. (2006). Development of organic and sustainable agricultural education at the University of California, Davis: A closer look at practice and theory. *HortTechnology*, 16(3), 426-431.
- Participant Media (Producer), & Weber K. (Editor). (2009). Food, INC. Motion Picture Documentary. United States: Public Affairs.
- Patton, M. Q. (2003). Qualitative evaluation checklist. *Evaluation Checklists Project*. Retrieved from: <http://dmeformpeace.org/sites/default/files/Patton>
- Perez, J., Allen, P., & Brown, M. (2003). Community supported agriculture on the central coast: The CSA member experience. *Center for Agroecology & Sustainable Food Systems*.
- Permaganic. (2014). Webpage. Retrieved from: www.permaganic.org.
- Perry, J., & Franzblau, S. (2010). Local Harvest: A Multifarm CSA. *Northeast SARE Web*. Retrieved from: <http://www.caes.uga.edu/topics/sustainag/documents/LocalHarvest-CSA.pdf>. A
- Pfaffenberger, B. (1992). Social anthropology of technology. *Annual review of Anthropology*, 491-516.
- Phipps, R.H., & Park J.R. (2002). Environmental Benefits of Genetically Modified Crops: Global and European Perspectives on Their Ability to Reduce Pesticide Use. *Journal of Animal and Feed Sciences*, 11, 1- 18.
- Picardy, J.A. (2001). Closing the distance gap through community supported agriculture. Master Thesis, Michigan State University, Lansing.

- Pimentel, D., Hepperly, P., Hanson, J., Douds, D., & Seidel, R. (2005). Environmental, Energetic, and Economic Comparisons of Organic and Conventional Farming Systems. *BioScience*, 55(5), 573 – 582.
- Pinstrup-Andersen, P., & Hazell, P. B. (1985). The impact of the Green Revolution and prospects for the future. *Food Reviews International*, 1(1), 1-25.
- Pulido, L. (2000). Rethinking environmental racism: White privilege and urban development in Southern California. *Annals of the Association of American Geographers*, 90(1), 12-40.
- Polanyi, M. (1967). *Tacit dimension*. New York: Doubleday.
- Pole, A., & Gray, M. (2013). Farming alone? What's up with the "C" in community supported agriculture. *Agriculture and Human Values*, 30(1), 85-100.
- Pollan, M. (2001). *The botany of desire: a plant's-eye view of the world*. Random House LLC. New York.
- Pollan, M. (2006). *The Omnivores Dilemma: A natural history of four meals*. New York: Penguin Press.
- Pollan, M. (2008). *In Defense of Food: An eater's manifesto*. New York: Penguin Press.
- Pollan, M. (2010). *Food Rules: An eater's manual*. New York: Penguin Press.
- Polimeni, J. M., Polimeni, R. I., Shirey, R. L., Trees, C. L., & Trees, W. S. (2006). The demand for community supported agriculture. *Journal of Business & Economics Research (JBER)*, 4(2).
- Popper, K. (1945). *The open society and its enemies*. First Edition. London: Routledge.
- Quinn, D. (2009). *Ishmael: An adventure of the mind and spirit*. New York: Bantam.
- Russell, W. S., & Zepeda, L. (2008). The adaptive consumer: shifting attitudes, behavior change and CSA membership renewal. *Renewable Agriculture and Food Systems*, 23(2), 136-148.
- Salatin, J. (2007). *Everything I Want to Do is Illegal: War Stories from the Local Food Front*. Swoope, Virginia: Polyface Inc.
- Sale, K. (2000). *Dwellers in the land: The bioregional vision*. LOCATION: University of Georgia Press.
- Sauve, L. (2005). Currents in Environmental Education: Mapping a Complex and Evolving Pedagogical Field. *Canadian Journal of Environmental Education*, 10.

- Sauvé, L. (1996). Environmental education and sustainable development: a further appraisal. *Canadian Journal of Environmental Education (CJEE)*, 1(1), 7-34.
- Sbicca, J. (2012). Growing food justice by planting an anti-oppression foundation: opportunities and obstacles for a budding social movement. *Agriculture and Human Values*, 29(4), 455-466.
- Schenk, J. & Hotchkiss, J. (2014). *Starting your urban CSA*. Price Hill Historical Society, Cincinnati, Ohio.
- Schlesinger, W.H. (1997). *Biogeochemistry: An Analysis of Global Change*. New York: Academic Press.
- Schlosser, E. (2001). *Fast Food Nation: The dark side of the all American Meal*. New York: Houghton Mifflin.
- Sharp, J., Imerman, E., & Peters, G. (2002). Community supported agriculture (CSA): Building community among farmers and non-farmers. *Journal of extension*, 40(3), 5.
- Sheffield, B.K. (1992). The affective cognitive effects of an interdisciplinary garden-based curriculum on underachieving elementary students. *Unpublished Doctoral Dissertation*. University of South Carolina.
- Sheppard, M. (2013). *Restoration Agriculture: Real World Permaculture for Farmers*. ACRES USA, Austin Texas.
- Shiva, V. (2005). *Earth Democracy: Justice, Sustainability, and Peace*. South End Press: Cambridge, Massachusetts.
- Sikka, T. (2006). Pragmatics, poststructuralism, and hermeneutics: An examination of discursive-consensus formation and its ethical implications. *Journal of Pragmatics*, 40, 227 – 243.
- Silverton, J. (2009). A New Dawn in Citizen Science. *Trends in Ecology & Evolution*, 24(9).
- Skelly, S.M. & Bradley J.C. (2007). The Growing Phenomena of School Gardens: Measuring Their Variation and Their Affect on Student's Sense of Responsibility and Attitudes Toward Science and the Environment. *Applied Environmental Education and Communications* 6, 97 – 104.
- Skjervheim, H. (1957). *Deltaker og Tilskodar*. Oslo: Oslo University Press.
- Smith, P. D., Martino, Z. Cai, D. Gwary, H Janzen, P. Kumar, B. McCarl, S. Ogle, F. O'Mara, C. Rice, B. Scholes, O. Sirotenko. (2007). Agriculture. In *Climate Change Mitigation. Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. (B. Metz, O. R. Davidson, P.R. Bosch, R.

- Dave, L.A. Meyer (eds), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Sobel, D. (2004). Place-based Education: Connecting Classroom and Community. *Nature and Listening*, 4
- Schnell, S. M. (2007). Food with a Farmers Face: Community Supported Agriculture in the United States. *Geographical Review*, 97(4), 550-564.
- Spurlock, M. (2004). *Super Size Me*. (Documentary). United States; Sony Motion Picture.
- Stake, R. E. (1995). *The art of case study research*. Sage. London.
- Stapp, W. B., Bennett, D., Bryan, W., Jr., Fulton, J., MacGregor, J., Nowak, P., Swan, J., Wall, R., & Havlick, S. (1969). The Concept of Environmental Education. *The Journal for Environmental Education*. 1(1).
- Star, J. R. (2013, April). On the relationship between knowing and doing in procedural learning. In *Fourth international conference of the learning sciences* (pp. 80-86).
- Steiner, R. (1977). World Economy: The Formation of a Science of World Economics (Rudolf Steiner Press, London), pp. 132-133.
- Stringer, E. (2004). *Action research in education*. Columbus, OH: Pearson Education, Inc.
- Strong-Wilson, T., & Ellis, J. (2007). Children and place: Reggio Emilia's environment as third teacher. *Theory into practice*, 46(1), 40-47.
- Taylor, D. (2000). The rise of the environmental justice paradigm: Injustice framing and the social construction of environmental discourses. *American Behavioral Scientist*, 43(4), 508-580.
- Tegtmeier, E., & Duffy, M. (2005). *Community supported agriculture (CSA) in the Midwest United States: A regional characterization* (No. 12577).
- Teske, R. L., & Tétreault, M. A. (Eds.). (2000). *Feminist Approaches to Social Movements, Community, and Power: Conscious acts and the politics of social change* (Vol. 1). University of South Carolina Press
- This Land. (2014). Webpage www.this-land.org. Accessed on March 29th, 2014.
- Theobald, P. (1997). *Teaching the Commons: Place, Pride, and the Renewal of Community*. Boulder, CO: Westview.
- Thompson, C. J., & Coskuner-Balli, G. (2007). Enchanting Ethical Consumerism The case of Community Supported Agriculture. *Journal of Consumer Culture*, 7(3), 275-303.

- Thrift, N., (2007). *Non-representational Theory: Space, Politics, Affect*. Routledge.
- Tilman, D., Cassman, K. G., Matson, P. A., Naylor, R., & Polaksy, S. (2002). Agricultural Sustainability and intensive production practices. *Nature*, 418, 671 – 677.
- Trelstad, B. (1997). Little machines in their gardens: a history of school gardens in America, 1891 to 1920. *Landscape Journal*, 16(2), 161-173.
- Turner Farm. (2014) Webpage. Retrieved from: www.turnerfarm.org.
- United Kingdom Soil Association (2010). Community Supported Agriculture: A teaching programme for degree students in agriculture and related subjects. Retrieved on January 22nd 2013 from www.soilassociation.org/csa.aspx
- United States Department of Agriculture AFSIC. *Alternative Farming System Information Center*. Available at : <http://afsic.nal.usda.gov/>. Accessed on May 26, 2013.
- United States Department of Agriculture. (2014). Definition of Organic Agriculture. <http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=organic-agriculture.html> Accessed November 11, 2014.
- United States Department of Agriculture. (2009). *National Agricultural Statistics Service 2007 Census of Agriculture: United States, Summary and State Data*. Washington, D.C.: United States
- United States Environmental Protection Agency. (2014). Integrated Pest Management. Website. <http://www.epa.gov/pesticides/factsheets/ipm.htm> Accessed on November 11, 2014
- Urban Agriculture in Cincinnati. (2013). Quality of Life Committee Meeting. Retrieved From: <http://city.egov.cincinnati.oh.gov/Webtop/ws/council/public/child/Blob/32876.pdf;jsessionid=2A124B99D1B75B696A1518A8DC2DE796?m=31751>.
- Vallianatos, M., Gottlieb, R., & Haase, M. A. (2010). Farm-to-School: Strategies for Urban health, Combating Sprawl, and Establishing a Community Food Systems Approach. *Journal of Planning Education and Research*, 23, 414 – 423.
- Van En, R. (1988). *Basic formula to create community supported agriculture*. R. Van En.
- Vandertuin, J. (1986). *It's not Just About Vegetables*. Promotional Video. Self Produced in Massachusetts.
- Wang, C. C., & Burris, M. A. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health, Education & Behavior*, 24(3), 369-387.

- Wang, Y., & Beydoun, M. A. (2007). The obesity epidemic in the United States—gender, age, socioeconomic, racial/ethnic, and geographic characteristics: a systematic review and meta-regression analysis. *Epidemiologic reviews*, 29(1), 6-28.
- Weaver-Hightower, M. B., (2011). Why Education Researcher Should Take School Food Seriously. *Educational Researcher*, 40(1), 15 -21.
- Weber, C. L., & Matthews, H. S. (2008). Food-miles and the relative climate impacts of food choices in the United States. *Environmental science & technology*, 42(10), 3508-3513.
- Weiss, Robert S. 1995. *Learning From Strangers: The Art and Method of Qualitative Interview Studies*. The Free Press: New York.
- Welch, R. M., & Graham, R. D. (2004). Breeding for micronutrients in staple food crops from a human nutrition perspective. *Journal of Experimental Botany*, 55(396), 353-364.
- Wells, B., Gradwell, S., & Yoder, R. (1999). Growing food, growing community: community supported agriculture in rural Iowa. *Community development journal*, 34(1), 38-46.
- Wendel, B. (Producer). (2011). *Forks over Knives*. Documentary. United States; Monica Beach Media.
- Wight, R. A. (2010). *Ecovillagers Perceptions of Nature and Uses of Technology*. Lambert Academic Publishing: Saarbrücken, Germany.
- Wight, R. A. (2013). The AgroEcological-Educator: food-based community development. *Community Development Journal*. Published online June 19, 2013
doi:10.1093/cdj/bst038
- Wight, R. A. (2013b). *Citizen Science Action Research: Greenhouse Gases, Biochar, and Farm-Based Education*. Roundtable presentation at the American Educational Research Association. Annual Conference, San Francisco, California.
- Winson, A. (2010) The Demand for healthy Eating: Supporting a Transformative Food “Movement,” *Rural Sociology*, 75(4), 584 – 600.
- Woodhouse, J. L., & Knapp, C. E. (2000). Place-based curriculum and instruction: outdoor and environmental education approaches. ERIC Digest. *Charleston, WV: ERIC Clearinghouse for Rural Education and Small Schools*. (ERIC Document Reproduction Services No. ED 448 012).
- Worden, E. C. (2000). Community supported agriculture Land tenure, social context, production systems, and grower perspectives. A Dissertation. UMI.
- Worden, E. C. (2004). Grower perspectives in community supported agriculture. *HortTechnology*, 14(3), 322-325.

Worldwide Opportunities on Organic Farms WWOOF. (2014). Webpage. Retrieved from:
<http://www.woofusa.org/>.

Xavier University. (2014). Website. (www.xavier.edu/green/Academic.cfm). Accessed on
September 20th, 2014.

Yin, R. K. (1984). *Case Study Research: Design and methods*. Beverly Hills CA, Sage
Publications.

Zanecchia, A. L. (1991). *Crack in the citadel: corporate control of food and the transition to
sustainable agriculture*. UMI Dissertation Services.

Zehler, J. (2011) Community supported agriculture participation on a farm in western New
York. D'Youville College, ProQuest, UMI Dissertations Publishing, 2011. 1493205

Zhao, J., Wight, A., & Dick, B. (2012). A practitioner in the academy: An interview with Bob
Dick. *Action research*, 10(4), 432-448.

Appendix A

Cincinnati Tri-State CSA Manager Interview Guide

Thank you for your time. Just as a reminder, your participation in this study is voluntary. You do not have to answer any questions you do not want to and you may stop the interview at any time. You may withdraw from the study at any time without penalty. This interview should take about 60 – 90 minutes to complete. Do you have any questions before we begin?

1. Please tell me what drew you to this line of work (farming / gardening)?
 - a. How long have you been a farmer / gardener? Does anyone else in your family farm or garden?
 - b. How long have you been involved in managing CSA programs? This and others?
 - c. Why did you or the organization decide to try the CSA model?
2. What are your motivations for owning and/or operating this (& other) CSA program(s)?
3. What was the first year of operation for this CSA?
 - a. Did you operate the CSA this past season?
 - b. Do you or the organization currently lease or own the land?
 - i. Has it always been this way? Do you know the history of the land?
4. Is there a specific type of cultivation or agricultural method you practice? (i.e. organic, biodynamic, permaculture, conventional, a mix, or other).
 - a. Why have you chosen this or these method(s) as opposed to others?
5. Please fill in these categories to describe the characteristics of your program.

	Week	FT Em	PT Em	# Shares / \$	½ Shares / \$	Wk Shares \$ & hrs
1st Year		hr \$	hr \$			
Last Year						
Next Year						

6. Let's talk about your working shares...
 - a. Do you recall if everyone met this obligation?
 - b. What happened if a shareholder did not meet this obligation?
7. What types of CSA do you offer (meat, dairy, grain, produce, fruit, other)?
 - a. What was offered when the CSA first began?
8. How many acres do you currently have under cultivation for the CSA?

- a. And for the farm as whole?
 - b. Do you know how many CSA acres were under cultivation during the first year?
 - c. How many CSA acres are currently cultivated under glass or plastic?
 - d. During your first season, did you have a green or hoop house for CSA production?
- 9. Have you applied for external funding such as a grant to help support any part of your operations?
 - a. If so, have you ever been awarded external funding?
 - b. Could you please tell me a little bit about the funding or program?
- 10. Do you have a training or orientation program that shareholders or volunteers have to complete before working at the organization or in the garden?
 - a. If so, when did you implement this program?
 - i. Please tell me about it and explain in more detail.
 - ii. Do you have a copy of the training materials I could have?
- 11. What types of tasks and activities do members perform while working for the CSA? Please be as specific as possible.
 - a. Think back to your first year with this CSA, how do you think these activities have changed over time?
- 12. Do the shareholders choose where and when they work, or are they assigned specific tasks?
 - a. Who decides which shareholders should perform a certain task? How?
 - b. How do you communicate this information to the shareholder?
- 13. How do you communicate with your shareholders in general?
 - a. What methods do you use (newsletter, telephone, email, face to face) How often do you use each of these methods?
 - b. What kinds of information do you include in these communications?
- 14. Does your CSA have a core group of volunteers who help you with some of the major tasks? If so, how many people in general?
 - a. Specifically, which tasks does the core group do?
 - i. How does this division of labor get decided?
 - ii. Does the group meet on a regular basis?
 - iii. What else should I know about the core group?
- 15. Based on your experience working with shareholders, what do shareholders learn while working in the garden or on CSA-related tasks? What is talked about while working?
 - a. Can you recall any “ah ha” moments or epiphanies about learning at the CSA?
 - b. Can you tell me a story about that time?
 - c. Where and how did this exchange take place?

- d. Have you or your staff made any efforts to talk about different agriculture approaches to growing food with your CSA shareholders, such as organic, permaculture, biodynamic farming, pest management, etc.
 - i. Can you tell me about them?
 - e. What other related stories can you think of where learning might have occurred?
- 16. Does your CSA offer any community, school, or group educational programs?
 - a. If so, please explain these programs in detail—when did they start?
 - b. Do you recall why they were started, what were the goals?
- 17. What other kinds of educational opportunities do you think are available through your CSA program? Do you put on events? How often?
- 18. When you have a question about gardening, agriculture, or education, where do you get your information?
- 19. What else should I know about the kinds of information, education, and learning that occur at your CSA with shareholders?
- 20. Do you have your shareholders sign a contract? If so, may I please have a copy?
 - a. Why do you think this is, or is not, important?
- 21. Would it be ok if you added me to your shareholder communications (listserv for example so I can attend you CSA events and work days?)
 - a. Would it be ok if I attend your CSA events in the future?
- 22. What other questions do you think I should be asking during this interview?
- 23. Would you like your CSA to be identified by name or remain anonymous?
- 24. Would you like to be identified by name in this study or remain anonymous?
- 25. Do you know of any other CSA managers (programs) or shareholders (of your program) who might be willing to participate in this study? If so, could you please provide an email address or telephone contact?

Thank you so much for your time. I will send you a copy of the interview once it has been transcribed. Please let me know if you have any questions and do not hesitate to contact me.

Appendix B:

Cincinnati Tri-State CSA Shareholder Interview Guide

Thank you for your time. Just as a reminder, your participation in this study is voluntary. You do not have to answer any questions you do not want to and you may stop the interview at any time. You may withdraw from the study at anytime with out penalty. This interview should take about 60 minutes to complete.

1. Please tell me a little bit about your reasons for joining () CSA?
 - a. How did you hear about the CSA concept?
 - b. What do you like about it? Any dislikes?
 - c. How many hours are you asked to give each season?
 - d. How many years have you been a member?
 - e. Have you participated in other CSAs or related food programs?
2. Please tell me why you chose to provide labor hours to the CSA rather than paying full price for the share? Please be as specific as possible.
 - a. What do you think are the pros and cons of this decision?
3. Does _____ CSA have an orientation or training program that helped you become familiar with the tasks that needed to be done?
 - a. If so, please tell me about it.
 - b. What did you learn?
 - c. How did the training class or orientation prepare you for working at the CSA?
 - d. How long was the class, where was it held, what kinds of materials or examples did you go over?
 - e. Who facilitated the class?
 - f. Do you feel this training was adequate?
 - g. If the CSA did not have a training program, how were you introduced to the work that needed to be done?
 - h. If not, please tell me about your experience becoming familiar with the CSA garden/farm.
4. Please tell me how the shareholder work is organized?
 - a. Does the manager send out a regular letter or email describing what needs to be done in the garden?
 - b. Is there a bulletin board posted on-site with a list of activities?
 - c. Who decides which tasks to perform?
 - d. Do you get to choose from a list of options?
 - e. Did this system work for you?
 - f. Did you keep track of your labor hours, and if so, how?
 - g. Or did the CSA manager track the number of hours you put in?
5. Based on your experience in working at _____ CSA, what kinds of activities / tasks do you do when working? Please be as specific as possible.

- a. How did you learn to do these activities? What was the process?
 - i. Can you tell me a story about the first time you learned to perform a task?
 - ii. Are there any special techniques you learned to perform any of these tasks?
 - iii. Is there special terminology you learned about in performing these tasks?
 - b. What was the setting where these activities happened?
6. Can you tell me about some of the conversations you have while working? What topics are discussed? With whom?
7. Have you learned anything about farming and gardening through being part of the CSA?
 - a. Have you learned about different approaches to growing food by participating in the CSA? (Permaculture, biodynamic, etc.).
8. Have you learned anything about our modern food system through being part of the CSA? What? How?
9. Have you learned anything about nutrition through being part of the CSA? What? How?
10. Have you learned anything about cooking or preserving food through being part of the CSA? What? How?
11. What other topics have you learned about through your being part of the CSA? What? How?
12. Can you tell me if you have applied any of these new skills or pieces of information to other parts of your life?
13. How does the CSA manager communicate with the shareholders?
14. Did the CSA community / shareholders or manager organize any social events, such as potlucks, additional trainings, a farm tour, etc.?
 - a. If so, did you participate?
 - b. Please tell me more about what you learned during these events.
15. What other education-related stories or learning opportunities can you think of?
16. Would you like to have your name identified on any final reports?
17. Would you be interested in participating in a follow-up focus group with other participants later in this study?

Thank you so much for your time. I will send you a copy of the interview once it has been transcribed. Please let me know if any questions and do not hesitate to contact me.

Appendix C

Phase 3 Regional CSA Manager Telephone Script and Survey Questions

Hello, may I please speak with _____ (name of CSA manager from database)

My name is Alan Wight and I am a graduate student in Educational Studies at the University of Cincinnati and a market gardener at Gorman Heritage Farm in Evendale, OH. I would like to invite you to participate in a research study about your CSA. This study explores the kinds of farm and garden-based education that are happening within Ohio, Kentucky, and Indiana CSA programs. Do you have a few minutes to talk? I know you are busy and your time is valuable. Would be willing to answer 20 quick questions over the phone with me right now about your CSA operation? This will take about 10 – 15 minutes. If this is not a good time, could I call you back later? If so, thank you. I want to let you know that this research is not for profit. Participation is voluntary. Your responses are confidential. All attempts will be made to keep your participation anonymous. There are no risks or discomforts associated with participation in this study. Each participant will receive a free electronic copy of the study once it has been completed and uploaded to the dissertation database.

1. What was your farms' first year for operating a CSA program (numerical response)?
2. What type of organization best describes your CSA? (select one)
 - a. Limited Liability Corporation
 - b. Ltd (private company)
 - c Not for Profit 501c(3)
 - d. Other
3. What type of cultivation method best describes your agricultural practices?
(Open ended response, then code according selections below).
 - a. Conventional
 - b. Organic Certified
 - c. Biodynamic
 - d. Permaculture
 - e. Naturally Grown
 - Certified
 - f. other (describe)
4. How many shares did you offer during.....(two numerical response)?
 - a. Your first CSA season_____
 - b. This past CSA (2013 season)_____
5. Does your CSA currently offer working shares? (Yes / No)
 - a. If no, did your CSA ever offer working shares? (Yes / No)
 - i. If yes, what year did you stop offering them (numerical)
 - b. If yes, how many did you offer during the 2013 season? (numerical)
 - c. If yes, how many hours over the 2013 season were shareholders required to give? (numerical)
 - d. If yes, what year did you begin offering working shares? (numerical)
 - e. How many working shares did you offer at that first year? (numerical)
6. How do you communicate with your shareholders? (select top 2)
 - a. Email listserv
 - b. Paper News Letter
 - c. Facebook

d. Electronic News Letter e. Telephone f. Face to Face

7. What kinds of information do you include in these communications?

Circle all the apply:

Recipes / Cooking
Food Presentation / Conservation
Opportunities to work on the farm
Social Events / Festivals
Information updates on Farm Policy / Farm Bill
Other Educational Opportunities / Camps / Classes

8. How many employees help you operate the CSA during the summer season?

- a. _____ full time employees
b. _____ part time employees (includes interns)

9. What is your primary motivation for operating the CSA model of these options (Open Ended?)

10. For each of the following possible motivations, please rank their importance to you on a scale of 1 – 5 (1 being not that important, 5 being very important)

Financial / Economic	1	2	3	4	5
Community Food Security	1	2	3	4	5
Educational	1	2	3	4	5
Personal/Shareholder Health	1	2	3	4	5
Ecological Agricultural Practices	1	2	3	4	5

11. Does your CSA program ask shareholders to attend any meetings, trainings, or orientation sessions to help them become familiar with the CSA and understand tasks that needed to be done? (Yes / No response)

- a. How many hours is the meeting or program?
b. What topics are covered?
c. Please describe the meeting, class, or orientation you offer (open ended).

12. Does your organization offer any education classes? (Yes, No)

a. If yes, please select all the types of classes that apply.

Cooking, Preservation / Conservation (i.e. canning), Gardening (edibles)
Gardening (ornamentals), Composting, Bee Keeping, Animal Husbandry
Perennials / Orchards (i.e pruning)

13. What other kinds of educational opportunities do you think are available through your CSA program? Please be as specific as possible (open ended).

14. Does your CSA organization offer any camps or service learning / volunteer opportunities for the following groups – Circle all that apply

Camps (please specify age range and type)
For CSA Members, Business groups, School groups, Community groups
Probation and Court appointed community service, Other (please specify)

15. Do you work with your county or state agricultural extension service or agent?
(Yes / No response).

16. What else should I know about your organization regarding education and learning?

Thank you for your time and consideration. What would be the best method for sending you a copy of the study once it is complete?

Appendix D

USDA Plant Hardiness Zone Map

Appendix E

Summary Averages of CSA Program Characteristics

	Share Price	Number of Shares	Number of Weeks	Number of Pick Up Locations	Delivery
Ohio	550	67*	24.7	3.4^	5
Kentucky	585	35.5	25.5	2.2	5
Indiana	499	64	27.9	2.4^	5
Total Average	544	55.5	26	2.6	N/A

	Fruit & Vegetables	Meat	Eggs &/or Dairy	Honey	Value Added
Ohio	57	23	34	15	17
Kentucky	22	11	14	8	8
Indiana	22	14	14	5	7
Total	101	48	62	28	32

* Does not include three large 3rd party CSA programs that offer over 1000 shares each. When included in these calculations, the average number of shares per program jumps to 111.

^ Ohio has two and Indiana as one CSA program, all three of which provide between 25 and 30 pick up locations per program. When these outliers are included in the calculations, the average for OH jumps to 3.8 and IN to 3.5.