

ABSTRACT

SOMMERFELD, KELSIE KATHERINE. North Carolina Chefs Who Cultivate Restaurant Gardens. (Under the direction of Dr. Jacklyn Bruce).

Over the last decade, segments of the restaurant industry have started to move toward a more local approach. Chefs from all over the U.S. are practicing their hand at garden cultivation for their restaurants. The purpose of this study was to describe the educational needs of North Carolina chefs who cultivate restaurant gardens. By understanding the participants' backgrounds and gardening practices, the researcher was able to suggest a roadmap for the Cooperative Extension service to provide future educational programs targeted toward this unique audience. The theoretical framework for this study focused on constructivism and self-paced learning to effectively demonstrate the flexibility of learning and the meaning making processes used by the subjects of this study.

Through semi structured interviews, the researcher was able to conduct this basic qualitative study by interviewing 12 North Carolina chefs who practice cultivating restaurant gardens. The researcher found that each individual chef had different reasons for cultivating their restaurant gardens and benefited differently from their gardening practices. It was also reported that, by cultivating these unique gardens, chefs also changed outcomes and discovered challenges that arise with their growing areas. These chefs all have separate and unique preferences on how they want to receive the gardening information.

The researcher concludes that, because of their growing areas, these participants have to dedicate a new level of time to their final products while being able to mold their cultivation practices into something unique and significant based on their restaurant approach. It can also be concluded that these participants show attributes of self-paced

learners and their learning preferences show ties back to constructivism. Because the researcher discovered what these chefs want to know, and how they want to receive information, it is recommended that the North Carolina Cooperative Extension service build and deliver cost effective and efficient educational programs to this population using a self-paced method of teaching.

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North Carolina Chefs Who Cultivate Restaurant Gardens

by
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DEDICATION

This thesis is dedicated to my nephews, Coulson Henry Horne and Anthony Hill Horne. You both are living proof that with love, patience, and prayer, anything truly is possible. You two boys helped me through my Graduate school process more than you will ever really know, and for that, I thank you.

BIOGRAPHY

Kelsie Katherine Sommerfeld has been a student of North Carolina State University since the fall of 2005. She graduated with her Associate's Degree in Livestock and Poultry Management from North Carolina State University's Agriculture Institute in 2007 before moving into the University's four year College of Agriculture and Life Sciences. She graduated in the spring of 2012 with a degree in Agriculture and Extension Education with a concentration in Natural Resources. Her love for agriculture and education is what drove her to pursuing a Master's Degree in Agricultural and Extension Education.

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CHAPTER 1 INTRODUCTION

Over the past few years, chefs and restaurants have started to move towards a more local approach and are practicing their hand at growing their own products for their establishments. In 2010, the National Restaurant Association surveyed 2,000 chefs and found that gardens were on the list for top trends within the industry. According to Crumb (2010), these chefs are starting gardens for reasons including savings, quality control, marketing, and meeting demands of customers. Whether a few potted herbs sitting on the roof, or a two acre plot miles from the restaurant, this grow-your-own trend is gaining popularity and quickly becoming a mind-set for chefs all over (Cook, 2009). This trend has made its way to North Carolina. Food writer Kathleen Purvis (2013) reported on North Carolina chefs and this new trend of keeping a restaurant garden, suggesting that the motivations for cultivating a restaurant garden are varied. North Carolina chefs all over the state are utilizing their green thumbs in order to put fresh ingredients onto their restaurant menus. This study focused on North Carolina chefs who are practicing various types of gardening for their restaurants.

CONTEXTUAL FRAMEWORK

According to the 2013 National Restaurant Association, restaurants within North Carolina are a driving force for the state's economy, with sales generating substantial tax revenues and providing jobs and careers for thousands of North Carolinians. According to the 2013 NCRLA, in 2011, there were over 17,000 eating and drinking establishments in the state. The North Carolina Restaurant and Lodging Association, (NCRLA), reports that in

2013, restaurants accounted for 411,800 jobs in North Carolina, a full ten percent of employment in the state. In that same study, it was also projected that in the year 2013, North Carolina restaurants would register 15.4 billion dollars in sales (NCRLA, 2013). It is predicted that by 2023, restaurants in North Carolina will employ over 450,000 people, accounting for a 13.5% increase in restaurant job growth.

North Carolina restaurants provide healthy options for their guests, give back to their communities, and work to reduce their impact on the environment (NCRLA, 2013). Restaurants in North Carolina provide a variety of food options to clientele by following top culinary trends including menus with gluten-free options, lower-calorie options, local sourcing, and smaller (or half) portions. Along with the healthy culinary trends, in order to protect the environment, the North Carolina restaurant industry is also adopting practices and products such as recycling, composting, water and energy efficiency (NCRLA, 2013).

CONCEPTUAL FRAMEWORK

In order to effectively deliver the key factors and concepts of this study, the researcher considered and explained the following areas within their conceptual framework: cooperative extension, the adult learner, home gardens, farm to fork, and the increase in food gardens.

Cooperative Extension

According to Davison (1983), Cooperative Extension has three primary roles and functions. The first role is “the collection, interpretation, and dissemination of information and knowledge through an information system that links farmers and other clientele with the research and knowledge base of the land-grant universities” (p. 468). The second role that

Davison (1983) identified is “the teaching of skills and principles and providing assistance to help the clientele develop a capacity for solving their own problems” (p. 468). Lastly, “the providing of services to clients, including identification and diagnosis of problems, formulation or recommendation of alternative solutions to their problems, and the referring or giving of aid that enables them to identify and use sources for assistance” is the third role of Cooperative Extension (Davison, 1983, p. 468).

Surls & Hayden-Smith (2013), tell us that Cooperative Extension was started in order to help improve the lives of farmers, homemakers and youth by providing them with the latest university research. At first, this service was built to strengthen the rural areas, but now, the Cooperative Extension service is a nationwide system of community focused, evidence based initiatives derived from applied research. The Cooperative Extension service has also become an important part of suburban and urban communities across the U.S. (Surls & Hayden-Smith, 2013). As communities have changed, Cooperative Extension has evolved also in order to help provide programs to meet the needs of their clientele. As access to, and content on, the internet and electronic sources increases, the reliance on those sources has become a part of everyday life. With the ability to find almost any information needed with a search engine, people seeking information can become active, continuous learners without enrolling in courses, workshops, and seminars (Sobrero, 2008). As a result, Cooperative Extension should be the first resource to introduce modern methods, technologies, and ideas to communities in order to help address the issues of the people (Sobrero & Craycraft, 2008). The Cooperative Extension service has the opportunity to be a great resource for North Carolina chefs who are looking for gardening information for their restaurant growing areas.

The Adult Learner

Adult learners are autonomous individuals who are capable of identifying their own educational needs and then planning, carrying out, and assessing their own educational learning activities (Selman, 2001). In 1970, Malcolm Knowles introduced the term “andragogy” to describe adult learners and present a clearer divide between adult learners and youth learners (Mackeracher, 2004, p. 23). Knowles, Holton, and Swanson (2005) describe the assumptions of the andragogical model in 6 categories:

- The need to know occurs because the adult learner must understand why they need to learn something before attempting to learn it.
- The learners’ self-concept is an assumption of the andragogical model because the adult learner feels as though they are responsible for their own decisions and likes. They want to be seen as capable, self-directed individuals.
- Because the adult learner has usually experienced a great deal more than youth students, and because these experiences become part of the learners’ essential make-up, these life experiences are a critical assumption of the andragogical model.
- A readiness to learn is a piece of the model because learners are prepared to seek needed information and relate it to all facets of their real-life lives.
- Orientation of learning is how the adult learner is life-centered in learning because they seek new knowledge that will most effectively fit in with their lives.
- Motivation is included in the andragogical model because the adult learner tends to be motivated by external factors such as quality of life, job satisfaction, and self-esteem.

Due to an increased standard of educational expectations and a rising complexity to modern day life, it has been clearly demonstrated that education is a lifelong practice (Bender, McCormick, Woodin, Cunningham, & Wolf, 1972). Every year, more adults enter into some sort of program in order to continue their education, whether it is courses at a local college or seminars of interest hosted by the local Cooperative Extension Service (Bender et al., 1972). According to Wlodkowski (2008), “adults by social definition, economic need, and institutional expectations are responsible people who seek to enhance their lives through learning that develops their competence” (p. 98). Although adult learners continue their education for different reasons, they all share the common goal of wanting to use the knowledge and skills they acquire to enhance their careers and lives (Wlodkowski, 2008).

Home Gardens

According to the Agriculture Network Information Collaborative (2014), “gardening is an important leisure activity of many Americans,” and each year gardening can produce a variety of products including vegetables, fruits, flowers and herbs. Hoyles (1991) states “the word ‘garden’ comes from the Old English word ‘geard’, meaning a fence or enclosure, and from the word ‘garth’, meaning a yard or piece of enclosed ground” (p. 1). Gardening, according to Dunnett & Qasim (2000), “as an activity and the garden as a place produce aesthetic, spiritual, and psychological benefits that extend well beyond the simple growing of plants” (p. 40). Gardening practices are done for a mixture of both practical and emotional reasons. Reasons for practicing gardening may include taste, aroma and freshness of home-grown fruits and vegetables, concern for the widespread use of chemicals on commercially available produce, and for the pleasure of growing (Dunnett & Qasim, 2000).

Home gardens, depending on the perspective, can be defined in many different ways. According to Eyzaguirre & Linares (2004), home gardens involve the management of multipurpose trees, shrubs, annual and perennial agricultural crops, herbs, spices, and animals all on the same land in a temporal sequence. Home gardens can also be looked at as agroforestry systems that are complex to maintain while involving a distinct canopy structure that makes up a mix of “annual and perennial agricultural crops with shrubs and trees” (Eyzaguirre & Linares, 2004, p. 1-2)

Eyzaguirre & Linares (2004) state that, from a social perspective, home gardens are reflective of one’s culture and are managed by members of a household. These home gardens supply subsistence requirements and can even generate income for the household. Home gardens are usually located close to permanent dwellings, but can be considered either static or moving. These gardens can vary in size and structure according to their ecological, socioeconomic, and cultural environment (Eyzaguirre & Linares, 2004). Along with the variation in size, location, and design of home gardens, the gardener’s motivations in growing them also vary. With a quick to change world that has an economy and way of life built on a steady supply of cheap energy, many individuals feel that home gardening is a way to adapt and reduce their carbon footprint (Diacono, 2010). Along with environmental motivations, Diacono (2010) also states that keeping a home garden motivates gardeners to invite new flavors into the kitchen, while exploring new ways to feed themselves and future communities.

The history of gardening in the United States includes a steady change in type of production, the number of people participating in gardening activities, and the motivational

factors that influence those individuals gardening practices (Schupp & Sharp, 2011).

Gardening has been a part of United States history from the very inception of our country (Schupp & Sharp, 2011). During the early stages of the country's settlement, the capability to understand and cultivate food determined the newcomer's survival in the new land.

Although many of the early settlers struggled because of their lack of food, they eventually were able to incorporate gardening practices first taught by Native peoples (Becker, 1984).

By the eighteenth century, the reasons for gardening had changed as the population of the new colonies increased. Although there were individuals who continued to garden for the purpose of self-provision, others started to garden as a hobby, for relaxation rather than a way to feed themselves (Leighton, 1976).

During the era of the American frontier in the latter half of the eighteenth century, vegetables were starting to be seen in a different light as the average citizen's dietary needs were being met through grains, meats, fish, and wild game (Becker, 1984). Although the frontier population eventually embraced gardening practices, the diverse views of the home garden during this time period revealed some of the early divisions associated with socioeconomic status and gardening (Schupp & Sharp, 2011). While individuals of a lower social class were forced to use food production and gardening practices for sustenance needs, the individuals of the highest socioeconomic status were able to pride themselves on their lavish, and sometimes exotic, gardens that were being maintained by hired help and slave labor (Horsfall, 1969).

As technological developments and urbanization brought change in the nineteenth century, the functions of gardens and needs of gardeners continued to evolve (Becker, 1984).

According to Schupp & Sharp (2011), “the declining necessity of the garden as a subsistence strategy also meant that more people who engaged in gardening did so as a recreational and leisure activity” (p. 94). In fact, as a status activity, middle and upper class individuals in urban settings were using gardening practices in their leisure time to grow exotic and expensive varieties of plants and crops (Tice, 1984). The decreasing need to garden for sustenance, along with the increasing number of urban gardeners may also have been due to the rise of technological advancements for the “new” professional farmer including the development of plows, planters, reapers, and threshers (Schupp & Sharp, 2011; Tice, 1984). Home gardens became more unnecessary in urban landscapes due to the increasing efficiency of production and distribution of market farming and the time and space limitations of the urban family (Becker, 1984). As markets, trading posts, and grocery stores began to develop in both urban and rural areas, the need for home gardens further decreased (Schupp & Sharp, 2011).

Entering into the twentieth century the United States continued to see a decline in garden practices due to greater levels of urbanization and an increase in technology. However, it wasn't long before significant historical incidents caused a resurgence of gardening. According to the United States Department of Agriculture (2011), in the early 1940s, more than 20 million families planted a victory/war garden which allowed for one third of US commercially grown food to go to the war effort. The “war gardens” and “victory gardens” encouraged during World War I and II brought a resurgence of gardening practices. Also during this time, the promotion of gardening became important because there was a common assumption that urban populations no longer knew how to grow fruits and

vegetables (Cole, 1993; Schupp & Sharp, 2011). Along with patriotic duty, other factors including economic necessity, response to increasing food prices, and food shortages led to the resurgence of gardening at this time (Cole, 1993; Tucker, 1993). According to Schupp & Sharp (2011), “the notion of gardening as a national duty waned after each World War and returned to the historic pattern of declining importance” (p. 95).

Although it took some time, the prevalence and purpose of contemporary home gardens in the U.S. has become salient once again (Schupp & Sharp, 2011). Due to a combination of popular writers, a growing number of specialty gardens, and cooking shows, the promotion of local and homegrown foods has been delivered to the masses. According to Schupp & Sharp (2011), “gardening is arguably prominently in the consciousness of a growing number of US residents” (p. 95).

With climate change, limited oil and phosphate resources, and increasingly unreliable water availability, the gardeners of the 21st century feel that growing their own food could help the environment. By growing food in their home gardens, gardeners of today are growing and eating more sustainable foods, reducing what is imported, cutting down on packaging, and leaving supermarkets (Ruppenthal, 2008). Another motivator behind home gardening is that it is a “powerful natural antidote that promotes better health and allows for the individual to interact with the natural world on an intimate level” (Tozer, 2010, p. 7-8). Tozer (2010) also states “one of the simplest ways we can reconnect with the earth is to grow some of our own food...we need to relearn how to physically sustain ourselves and regain some measure of independence from a system we have no control over” (p. 9).

Farm-to-Fork

Due to industrialization, globalization, life style changes, demographic changes, and technology development, the transformation of our food cultivation, preparation, and retailing has changed over the last century (Guthrie, Guthrie, Lawson, & Cameron, 2006). There is a growing need for better food by increasingly discerning customers which has led to the reassessment of how our food is grown, distributed, and sold (O'Donavan, Quinlan & Barry, 2012). One way that society has responded to this increase in concern is through the farm-to-table or farm-to-fork movement. In 1971, a chef named Alice Waters opened up a restaurant that initiated the farm-to-fork food movement (Steele, 2014). Her goal for starting this type of restaurant was to encourage people to start “eating as seasonally and sustainably as possible, just as Americans did before the rise of modern food production in the 1930s and 1940s” (Steele, 2014).

According to the Center for Environment Farming Systems (CEFS, 2014), the farm-to-table, or farm-to-fork, movement was established in North Carolina in order to build a sustainable, local food economy. The North Carolina Farm to Fork movement is present from one end of the state to the other. This movement involves multiple organizations, each promoting and implementing initiatives to support North Carolina and its communities through sustainable and local agriculture. As part of the farm-to-fork initiative, in 2009, CEFS hosted a summit that gathered 400 stakeholders from across North Carolina in order to develop a Statewide Action Plan and to gain a clearer understanding of the issues and opportunities in the different regions of the state (CEFS, 2014).

Increase in Home Gardening

According to Sinnes (2014), 35% of all households in America, or 42 million households, are now practicing cultivating their own food at home. This percentage has increased 17% over the past five years, and according to a special report given by the National Gardening Association (NGA), this increase represents the highest level of food gardening in over a decade. In 2009, the trend of food gardening showed a 20% increase in first timers starting gardens and there has been steady growth since. Finally that same report also shares that during this five year period, “the total spent on food gardening increased 21%” while money spent on “other lawn and garden activities decreased by 7%” (NGA, 2014, p. 7).

In order to fully understand the dramatic increase in food gardening participation over the past five years, it is important to acknowledge the reasons why people are getting involved with the practice. According to the National Gardening Association (2014), the top three reasons Americans have increased their gardening practices are growing better tasting food, saving money on food bills, and growing better quality food. Other reasons shared for cultivating food gardens included food safety, teaching kids to garden, and getting back to the basics. Although there are a variety of reasons behind the rise of this gardening trend, each contributes to an overall increase of food gardening.

The National Gardening Association (2014) reports that from 2008 to 2013 “the number of home gardens increased by 4 million” and of the 42 million food gardens nationwide in 2013, “37 million gardened at home” (p. 18). With the increase of American food gardens comes an increased need for gardening information. According to Kelley &

Wehry (2006), by having a better understanding of clientele's needs and interests, Extension educators can develop useful information by creating programs, publications, and presentations that specifically address the needs and topics of interest.

PURPOSE

As chef-gardeners grow in number, they will be looking for the kinds of information that will enhance their practice and Cooperative Extension could be serving a new group of clientele. Cooperative Extension's role is to disseminate research based unbiased information. However, to reach this growing clientele group, it is important to understand the population and their educational needs in order to reach them effectively.

The purpose of this study was to understand the gardening practices and educational needs of North Carolina chefs who cultivate restaurant gardens. Providing a roadmap for Cooperative Extension to assist in the development of future educational programs was an important component to this study. This qualitative study is guided by the following research interests:

1. Describe how North Carolina chefs began cultivating restaurant gardens.
2. Describe current restaurant gardens.
3. Identify from where North Carolina chefs receive gardening information.
4. Determine the outcomes of cultivating gardens for the North Carolina chefs.
5. Describe how the language included in menus identifies growing practices.
6. Describe the benefits of cultivating restaurant gardens.
7. Describe the challenges of cultivating restaurant gardens.

8. Determine participant's views on restaurant garden practices in the future of the restaurant industry.
9. Identify future educational needs of North Carolina chefs.

DEFINITIONS

In order to promote understanding of gardening practices of North Carolina chefs, the following definitions must be provided.

- “Gardens” - According to Arndorfer, Kajtna, & Vorderwulbecke (2008), gardens are “sustainable environments for cultivating such “obsolete” varieties as long as they are of value to the grower (p. 7).
- “Home Gardens” - According to Eyzaguirre & Linares (2004), home gardens are “microenvironments within a larger farming system that contain high levels of species diversity and may contain crop species or varieties of species different from those found in surrounding ecosystems” (p. 1). Home gardens may vary in size, structure, and function according to their ecological, socio-economic, and cultural environments (Eyzaguirre & Linares, 2004).
- “Restaurant Gardens” – According to a National Restaurant Association (2014) survey, restaurant gardens show to be within the top 10 list of hot trends. A restaurant garden is an example of “hyper-local sourcing” and is maintained by a restaurant in order to grow food for the establishment for commercial use.
- “Chef” - According to Zopiatis (2010), a chef's profession within the hospitality industry is comprised of two aspects; the scientific mastery and artistic innovation. While discussing chefs, Zopiatis (2010) also discusses how it is “imperative that these

positions are occupied by individuals who possess the appropriate set of skills allowing them to perform with equal success in both culinary, as well as managerial competence” (p. 459). For this study, the interviewed individuals held culinary and managerial positions within their restaurants.

- “North Carolina Cooperative Extension” - According to the NCCE mission (2014), “the North Carolina Cooperative Extension service partners with communities to deliver education and technology that enrich the lives, land and economy of North Carolinians.” The NCCE is in partnership with North Carolina State University and helps reach North Carolina citizens every year through the 100 county Extension centers.

ASSUMPTIONS

For the sake of the study, the researcher assumes that the data gathered during the interviews are the authentic perspectives of the interviewees. For the sake of the study, the researcher assumes that the data gathered during the interviews are the authentic perspectives of the interviewees.

LIMITATIONS

This study was limited to North Carolina chefs who are practicing restaurant gardening in order to use what is grown for and in their restaurants. As a result, factors including work environments, priorities, and values may be distinctive to this particular group of people.

CHAPTER SUMMARY

In 2010, the National Restaurant Association surveyed 2,000 chefs and found that “Gardens” were on the list of top trends for the industry. Although this trend can be found nationally, it is important to note that North Carolina chefs all over the state are utilizing these new practices in order to put grow-your-own products on their daily menus. Along with that, the National Gardening Association released a special report in 2014 that showed food gardens within America increased 17% within a five year period. With the increasing trends of chefs cultivating restaurant gardens, and more Americans keeping food gardens at home, it can be said that there is a growing population of gardeners in search of educational information on gardening practices. Considering that the Cooperative Extension service has built its foundation on providing communities with educational programs, by having a better understanding of North Carolina chefs needs and interest, Extension educators can develop useful information by creating programs, publications, and presentations that specifically address the needs of this population.

CHAPTER 2

THEORETICAL FRAMEWORK AND REVIEW OF SALIENT LITERATURE

This chapter outlines the theoretical frameworks for this study, provides a review of salient literature related to the framework, and finally offers a review of literature related to the research interests.

For the theoretical framework, the researcher chose to cover constructivism and self-paced learning environments in order to effectively demonstrate the flexibility of learning and the development of meaning making processes used by the subjects of this study. After the theoretical framework is covered, the researcher reviews eight pieces of salient literature that provide a deeper understanding of the use of the frameworks a variety of studies. The last section of this chapter reviews literature that provides a depth of information related to the study's nine research interests including; benefits of gardening, different growing areas, and reasons chefs decide to grow their own food.

THEORETICAL FRAMEWORK

Constructivism

Constructivism, a theory based on the works of Jean Piaget and Lev Vygotsky, focuses on cognitive development and deeper understanding “as constructs of active learner reorganization” and the process “is understood to be complex and non-linear in nature” (Fasnot & Perry, 1996). Constructivism has been studied by many different researchers from an array of scientific fields, but the common thread among them is that constructivism “is a learning or meaning-making theory” (Richardson, 2005, p. 3). The objective of constructivism is to have learners create meaning through their interactions with their

environment (Bruner, 1992). Richardson (2005) states that constructivism suggests “individuals create their own new understandings based upon the interaction of what they already know and believe, and the phenomena or ideas with which they come into contact” (p. 3). Within the field of education, constructivist learning can be defined as a “process whereby new meanings are created by the learner within the context of her or his current knowledge...and is to some degree both personally and culturally relative” (Yakimovicz & Murphy, 1995, p. 203). The summation then, of all these ideas, is simply that human knowledge is constructed by the learner, for the learner.

Constructivists believe that learners build their knowledge starting with personal experiences (Bender, 2003). According to Knowles, Holton, & Swanson (2005), one of the important aspects of the Andragogical Model of Adult Learning is “the role of the learners’ experiences” (p. 65). When adult learners enter into an educational setting, they bring with them a variety of experiences and interests that will shape their learning process. While discussing adult learners and the theory of constructivism, Knowles, Holton, & Swanson (2005) state:

“Constructivism stresses that all knowledge is context bound, and that individuals make personal meaning of their learning experiences. Thus, learning cannot be separated from the context in which it is used. Constructivists also stress the cumulative nature of learning. That means that new information must be related to other existing information in order for learners to retain and use it” (p. 192).

Students involved in a constructivist learning environment are more active in building and creating knowledge individually. This creation of knowledge is based on their individual experiences and interpretations (Bender, 2003). Characteristics of a constructivist learning environment include multiple representations of reality, emphasis on authentic tasks in a

meaning context, and encouragement for reflection on personal experiences (Jonassen, 1991). Although there is an array of characteristics within the constructivist learning environment, students within these learning environments are the mediators and have control over their learning (Jonassen, 1991). Learners are encouraged to seek knowledge independently and are urged to manage the pursuit of their own goals (Ernest, 1995). Control over learning and independent pursuit over knowledge and goals are also attributes that can be found in the learning preferences of a self-paced learner.

Self-Paced Learning

Self-paced learning occurs when an interested individual can proceed through informational content at their own rate of speed without trying to keep up with, or being slowed down by, others (Beyer, 1977). Anderson, Annand, & Wark (2005) state “the primary objective of the [self-paced] learning model is to provide the greatest degree of access and flexibility for students” (p. 222). Depending on their circumstances, interests, and motives, learners using the self-paced method may start or complete their courses at any point. Self-paced courses usually can be completed at locations convenient to the learner (Anderson, Annand, & Wark, 2005). Although this learning approach presents a challenge for fostering cooperation with others in the course due to individuals being at different stages of the educational material, Rhode (2009) states “rather than judge the self-paced approach as a failure to provide guidance, it is helpful to acknowledge how the self-paced approach affords learners an increased measure of flexibility in terms of the pace of engagement in the various course activities and in communication with others” (p. 2). Self-paced learning has been studied extensively, usually comparing self-paced methods to traditional methods. In

order to have a successful self-paced learning experience, there are many factors that must be considered including: selection of courseware; variety in learning content; the successfulness of engaging the learner during the process; and, the final product dissemination (Sexton, Schilling, & Taylor, 2009, p. 82). Considering that “self-paced learning implies solitary, on demand learning at a pace that is managed or controlled by the learner” (Singh, 2003, p. 51-52), educational delivery methods can and do vary greatly.

According to Sexton, Schilling, & Taylor (2009), a large percentage of Extension clientele are adults, and with that, they have a unique set of learning preferences. While focusing on the adult clientele’s learning preference, it is suggested that adults are “self-paced learners who prefer immediate application of experiential learning” and that they are “guided by real-life needs” (Sexton, Schilling, & Taylor, 2009, p. 81-82). Dobrovolny (2006) states that “adult learners customize instruction to meet their needs, based on their prior experience, their current responsibilities, and their expectations of future responsibilities. They may skip sections of the course they find irrelevant” (p. 166-167).

REVIEW OF SALIENT LITERATURE

Constructivism in Distance Education

In an exploration of distance education instructional systems, Jonassen, Davidson, Collins, Campbell, & Haag (1995) focus on the theory of constructivism. The authors discuss how interactive technologies are being used to deliver one-way lectures to students in remote areas. The authors go on to state “a good learning experience is one in which a student can master new knowledge and skills, critically examine assumptions and beliefs, and engage in an invigorating, collaborative quest for wisdom and personal, holistic

development” (p. 7). The authors wrote the article to promote well-designed distance educational instruction that will remove the instructor from the front the classroom, and make instructors encouragers of the meaning making process (Jonassen et al., 1995).

According to Jonassen et al. (1995) distance education can be successful by using the concepts of constructivism and new technologies to alter how these educational instructions are conducted. By using constructivist principles in designing distance education courses, the authors state that “students and instructor can then build meaning, understanding, and relevant practice together” and progress past the simple movement of information between teacher and student (p. 8). The authors discuss that, because of new technologies, the traditional instructional methods are moving more towards a resource based approach of instruction that no longer puts emphasis on the teacher as the main source of knowledge.

Jonassen et al. (1995) believed that the constructivist approach to knowledge construction and learning could be supported in a distance education setting through a variety of technologies including computer-mediated communication, case-based learning environments, and computer-based cognitive tools. As long as distance education programs are built to focus on context, construction, collaboration, and conversation, these authors feel that these learning environments can be successful for the learners. Jonassen et al. (1995) state “these constructivist environments and tools can replace the deterministic, teacher-controlled model of distance instruction with contextualized work environments, thinking tools, and conversation media that support the knowledge construction process in different settings” (p. 15). The authors conclude that distance learning environments can be unique and exciting if built on the theoretical bases of constructivism.

Effective Pacing Methods

King (1999) conducted a study to identify effective and efficient pacing methods used to deliver educational materials on soil sampling to Pennsylvania farmers. The author defines pacing methods as “time-dependent methods used by a learner to work through information” and states that self-paced methods are “more flexible since they encourage open entry and exit policies that allow learners to adjust and accommodate other commitments” (p. 1). For this study, the author compared three educational methods including a slide set, a pamphlet, and a combination of slide sets and pamphlets in order to identify which paced method was most effective for educating the 99 farmers on soil sampling (King, 1999).

King (1999) designed a quasi-experimental, non-equivalent, control-group study that used both immediate and delayed post-tests to compare the three paced methods. The population consisted of 99 farmers who attended Extension meetings and were listed on the county Extension mailing lists. The author used key variables in order to choose the three groups for the study; age, educational level, farm income, employment status, crop types, type of farm, and acreage. To investigate attitudes toward soil testing and preferences concerning information sources, the author used Likert-type scales that were adapted off of previous research (King, 1999). King (1999) reports that all subjects were male and that a majority of the participants relied on their farms as their main resource of employment. All of the participants had some knowledge and positive attitude toward soil sampling and testing before receiving treatment.

Although farmers within these groups showed confidence in soil testing, pre-test scores showed that these participants lacked prerequisite skills and information needed in

order to perform soil sampling correctly. After looking at the results of the research, King (1999) found that “the pamphlet (self-paced) is the most efficient method” to deliver educational material (p. 5). King (1999) further points out that future Extension materials do not need to be “new” or “novel” in order to maintain the interest of a population and recommends that “the choice of methods should be based on cost, relevance of the subject matter, and the needs of the learner” (p. 5).

Adults in Self-Paced, Technology-Based Training

Dobrovolny (2006) designed an exploratory, qualitative study to observe adults participating in self-paced, technology-based training. The researcher used constructivist learning theory as their primary conceptual framework. Dobrovolny defined learning as “the process whereby learners personalize and or customize new information; it is the process whereby learners make new information relevant and/or meaningful to themselves” (p. 156). The participants for this study were employed at companies that offered “self-paced, technology-based training” and had the purpose “to improve employee performance” (p. 158). There were 7 individuals who participated in the study and their job roles included managers, technical work with software, and marketing and customer support. Five out of the seven participants were female and the ages of the participants ranged from 32 to 59. Each participant participated in a self-paced, technology-based course that he or she selected themselves. The researcher met with each participant twice during the study, first to interview and discuss each participant’s “knowledge construction process” (p. 159), and second to focus on participant’s journals.

Since Dobrovolny (2006) focused this study on how adults learn, phenomenological methodology was followed during the research process. During the interviews, the researcher audio-taped the discussions and included “a think aloud protocol” (p. 158). The researcher also asked each participant to keep a journal in order to document how they were learning. “Critical journals focus on specific important experiences (Kottkamp, 1990) and for this study were used to document each time participants thought about, talked about, or used the information they learned from the course they selected, after they completed it” (p. 158).

Dobrovolny’s (2006) results indicate that the knowledge construction process took place during and after the time participants took the courses. The researcher also found that once the participants finished their courses, that information then became another “prior experience” and the knowledge gained continued to be used and constructed (p. 161). Further, the researcher found that the participants in this study would return to the information that was learned throughout these courses in order to “refresh their memories” or “answer questions that arose” (p. 166). While considering that factor, the researcher suggests that future instructional designers focus on how to meet requirements for post-course timelines. The researcher concludes that “instructional designers should, therefore, design online distance instruction that is easy for learners to manipulate and personalize” (p. 167).

Comparison of Self-Paced and Traditional Workshops

Sexton, Schilling, & Taylor (2009) conducted a study that compared the usefulness of a self-paced interactive CD-ROM course with the traditional Extension workshop. The topic of the course was how to prevent food borne illness in childcare centers using Extension

services to educate childcare providers and help improve public health. Mississippi State University Extension Service (MSU-ES) and the Mississippi State University (MSU) school of Human Sciences developed a training resource called TummySafe that could be completed at the convenience of the childcare provider. Once they had the two methods of delivery ready, the researchers hypothesized:

“For childcare providers participating in the TummySafe food safety certification program, there will be no difference in group means between childcare providers taught using the traditional method with a live instructor and childcare providers taught using the self paced delivery method” (p. 83).

The population of the study was 2,280 Mississippi childcare providers who: completed the TummySafe program, worked within licensed childcare centers throughout the state, and where at least one person in the center was certified in food safety. Each participant was given a 25 question pretest and a posttest, to fulfill their food safety certification. Of the 2,280 subjects within the population, the researchers were only able to use 1,625 individuals for their sample due to “the refusal of informed consent by participants, testing irregularities, and cases of missing data, such as unanswered test questions” (p. 83).

Sexton, Schilling, & Taylor (2009) chose the traditional, classroom delivery method and the self-paced delivery method. With the traditional delivery method, nutrition Extension agents scheduled face to face educational sessions and marketed those programs statewide to childcare providers. The agents conducted 72 sessions, attendance ranging from three to 29 participants, and each session’s curriculum included a pretest, the instructor-led learning course, and the certification exam. The agents used the TummySafe CD-ROM during their instruction and attendants had the opportunity to participate and ask questions in

order to further understand material. The self-paced delivery method allowed participants to acquire the TummySafe CD-ROM and utilize it “at one’s own convenience and learning pace at a personal computer in a childcare facility or home” (p. 84). Each self-paced participant would answer pretest questions throughout the programs modules. Then, before reporting to the Extension office to complete the certification, the subjects would need to print off a report stating that they completed the self-paced modules.

The researchers found that the participants who were involved with the traditional delivery method scored higher than those who were involved in the self-paced delivery method (Sexton, Schilling, & Taylor 2009). Further, the researchers report that one possible explanation for this finding was that childcare providers “are accustomed to learning in a traditional Extension learning environment” and the self-paced delivery method “did not fit their learning styles or needs” (p. 87). Another explanation for this result might be that the participants in the self-paced group may not have been able to stay engaged and focused on the information of the interactive CD-ROM. This could be due to the possible “busy childcare centers where competing tasks, distractions and responsibilities are prevalent” (p. 87). The researchers conclude that “participants in the self-paced group indicate that it is a learning method that is convenient, meaningful, and compatible” (p. 87).

Comparison of Self-Paced Approaches

Fitzpatrick, Duncan, Williamson, & Smith (1997) wanted to evaluate whether one self-paced approach to in-service training for County level Cooperative Extension Agents would have an advantage over another self paced training method. The researchers compared and evaluated two modes of self-paced in-service training; a written approach and

an audiotape approach for an in-service on working successfully with step families. The researchers selected these approaches because of their common use in delivering learning material to the county agents. The study focused on all 277 agents in the Alabama Cooperative Extension System and netted a 43% response rate with 119 agents completing both pieces of the study included in the data analysis. From the respondents, 29% were home economic agents, 35% were agriculture and natural resource agents, 28% were 4-H agents and 8% did not identify their specialization.

Fitzpatrick, Duncan, Williamson, & Smith (1997) prepared a program that included the two self-paced modes with identical content. The researchers then built an evaluation tool that contained 42 questions and 14 vignettes. Each vignette was used to describe a typical step-family dealing with one of seven challenges. Following each vignette, the agents had to answer questions about the nature and solution of the challenge. The design of the procedure involved a pre-test-post-test control group approach. The agents were randomly assigned to the written, audiotape, or control groups once they completed and returned the pre-test. After a week, post-test were mailed to the participants and the audiotape and written groups were asked to review the program before completing the post-test, whereas the control group was instructed to complete the post-test.

Fitzpatrick, Duncan, Williamson, & Smith (1997) used ANOVA and Scheffe statistical tests in order to analyze data. The researchers found that agents exposed to the audiotape self-paced approach had less gain in knowledge than the agents that used the written approach. They also found that there was no significant difference in the knowledge gained between the agents who were involved in the audiotape and control groups. The

researchers conclude that “the educational program appears to be an effective source of distance education, but in this case only if it is presented in a single (written) mode” (p. 3). Although the audiotape approach appeared to be less effective, the researchers stated that “there were several unique characteristics of this educational program and its use of audiotape which may have hindered the observed effectiveness of this mode” (p. 3). Improvements to the self-paced audiotape included having each unit of an educational program to be recorded on one side of the tape in order to help improve access to the information. The researchers also suggested having a written guide to correspond with the audiotape so that the agents had an outline of the content and they could read along with the tapes.

Self-Paced On-line Environments

Rhode (2009) developed a mixed methods study in order to evaluate interactions within a self-paced online learning environment. The researcher recognized that “online learning initiatives that incorporate open and self-paced approaches create unique learning environments that differ significantly in format and structure from instructor-led modes” (Rhode, 2009, p. 2). The study was used to determine what learners in a self-paced online course consider to be their most valued forms of interaction and to understand what sort of impact these interactions have on the participants overall learning experience. In order to examine the adult learners’ interactions in a self-paced online course, the researcher constructed four primary research questions to guide data collection.

“1. What forms of interaction do adult learners engage in most in self-paced online courses?”

2. What forms of interaction do adult learners value most in self-paced online courses?
3. What forms of interaction do adult learners identify as equivalent in self-paced online course?
4. What impact do adult learners perceive interaction to have on their self-paced online learning experience?" (p. 3).

For this study, the researcher focused on 10 adult learners who were participating in a professional development certificate program that was being conducted on-line. The certificate program took place over one-year and allowed the participants to gain material while practicing a self-paced approach. The researcher reports that "the course was constructed within the Blackboard learning management system (LMS) and incorporated a variety of asynchronous computer-mediated communication tools standard in the LMS" (p. 4). Along with the LMS, the researcher also found that the course contained various social networking including blogging and learner-driven communities.

Rhode (2009) collected the data through a semi-structured interview process which he conducted towards the end of the course. The interviews, with 10 participants, were conducted over the phone using a 94 question protocol. During the interview process, the researcher was able to address student-student interactions, student-instructor interactions, and student-content interactions in order to the best understanding of both formal and informal learning experiences.

Data analysis was carried out on the interviews in order to construct and organize emerging themes. Rhode (2009) found that interactions are possible in online learning environments. When discussing the forms of interactions that the participants engage in the most during their course, the researcher states "participants self-reported that they engaged most frequently in interactions involving either the course content or course instructor, on

both formal and informal levels” (p. 5). Further, the researcher found that the participants rated interactions with their instructors and the course content as the most important aspects of a self-paced course. The researcher also mentions that participants discussed how the social activities were an essential aspect of the overall learning experience. On the topic of equivalent forms of interaction in self-paced online course, the researcher found that participants identified interactions with the instructor and content comparable in a self-paced online course. Rhode (2009) also found that participant’s interaction with content is “indispensable” in the self-paced learning environment (p. 8). During their interviews, the researcher states that participants reported on their experiences of the various types of interactions they engaged in and indicated that the important part of the interactions with the instructor and course content influenced their overall online learning experience. The researcher notes that although the participants reported on the importance of their formal interactions, their informal interactions were “as important as formal interactions in determining the quality of the online learning experience” (p. 9). Rhodes (2009) concludes that “participants also maintained that the flexibility and independence characteristics of self-paced learning opportunities supplanted the need for certain types of interaction” (p. 9).

Effectiveness of Web-Based Training for Students

Kenny (2007) designed a study to evaluate the effectiveness of web-based training for graduate and undergraduate students. The on-line module, for education and counseling students, was focused on child maltreatment in conjunction with child abuse reporting practices. The participants in the study consisted of 105 university students, 76 were master’s students and 29 undergraduate students. Ninety five percent of the participants were

female and their ages ranged from 20-59 years. According to Kenny (2007), the undergraduate students “completed the self-paced tutorial during their student teaching seminar” and the graduate counseling students “did so as part of an ethics course” (p. 673). The self-paced instruction included 87 pages of information divided into several modules.

Kenny (2007) analyzed data using both qualitative and quantitative methods. Through quantitative analysis, the researcher found that participants scored higher on their post-test than their pre-test. For qualitative analysis, the researcher found that “statistical data, reporting procedures, and legal issues/penalties” were all considered “the most important piece of information” that the participants learned (p. 675). The researcher also reports that participants found the self-paced, tutorial approach easy and convenient to use. Kenny (2007) concluded that by using self-paced web based training, the needed information is delivered in a “convenient, effective, and enjoyable” manner which allowed for participants knowledge to be tested (p. 677).

Older Adults and Self-Paced Training

Dunlosky, Kubat-Silman, & Hertzog (2003) conducted a study that focused on the older adult in order to train them “to accurately monitor learning and to use the output from it to achieve effective control of learning” (p. 340). The researchers assumed that with self regulated study, the participants would use monitoring in order to organize and assess how and what they are going to study. Through this study, the researchers believed that the self-paced associative learning tasks would show the most benefits for this monitor skills training.

In order to carry out their study, the researchers had 95 older adults, with ages ranging from 65-85, participate in the study, and each participant was assigned to one of three groups. The three groups were:

“A *wait-list control* group received no training between the pretraining and posttraining tests. A *strategy-control* group was trained to use interactive imagery and sentence generation to learn paired associates. The experimental *regulation* group was also trained to use these two mnemonics, but more critically, their training featured the use of delayed self-tests to regulate learning” (p. 341).

As reported by the researchers, 33 participants were included in the regulation group, 31 in the strategy control group, and 31 in the wait list control group. Participants were not informed of their group assignments.

Pre-testing and post-testing consisted of memory tasks that involved “studying pairs of either unrelated words or single words” (p. 342). For each trial, it was administered in either a self-paced method or an experimenter-paced method in order to have different versions of each test. For the experimenter-paced method, participants were given a set amount of time (5 seconds per pair) to study their 40 word pairs, while for the self-paced method, they were given 20 minutes to study their word pairs any way they wanted. The regulation and strategy control groups received pre-training tests, two training sessions, and then their post-training test. The wait list control group received both their pre and post training test before being involved in the training sessions. The training sessions were conducted a week apart and they were held in classrooms with no more than 6 participants to a room. For this study, the researchers also looked at participant study time. The researchers used ANOVA to analyze the participants’ overall study time and found that

“For associative learning, mean study time for the regulation group was 19.5 min for the pretraining test and 20.8 min for the posttraining test. For the strategy-control group, mean study time was 20.0 min for the pretraining test and was 20.7 min for the posttraining test. And for the waiting-list control group, mean study time was 19.5 min for the pretraining test and 19.5 min for the posttraining test” (p. 344). With that, the researchers could conclude “these outcomes indicate that any differential gains between groups cannot be due to difference in the amount of time used to study...instead, how the regulation group used study time to control learning was responsible for their gains” (p. 344)

After analyzing the data, Dunlosky, Kubat-Silman, & Hertzog (2003) found that when individuals used self-paced associative learning, the skills gained were larger than those who received no training at all or had done strategy training alone. The researchers also report that “gains in performance for the experimenter-paced associative-learning task were relatively minimal” (p. 343). To conclude their study, the researchers summarize that there will be performance gains for future participants if they are given the choice to control their associative learning through self-paced study.

REVIEW OF LITERATURE RELATED TO RESEARCH INTERESTS

In a short article written by Measure (2010), the author describes different restaurants growing their own food across the world. According to the author, “nothing tastes as good as a home-grown vegetable,” therefore, some of Britain’s best restaurants are starting to cultivate their own kitchen gardens in order to keep up with the popularity of clientele wanting locally sourced food (p. 1). Throughout the article, Measure (2010) discusses multiple chefs and their locations while writing about why and where they cultivate their gardens. One chef in London is growing their own produce in order to supply their kitchen

with products that are difficult to source. Besides necessity, Measure (2010) also reports that chefs garden for cathartic aspects, cost effectiveness, and quality control. One chef reports “we had lost our connection with food, so this is about trying to get closer to what we eat” while another chef states “the organic produce we serve now just costs us the price of the seed. For us, it’s a quality thing: we can pick things out of the ground when we want” (Measure, 2010, p. 1).

Along with benefits of growing their own food for their restaurants, Measure (2010) writes about these different chefs’ garden locations and varieties. The author reports on a London chef who has planted a garden on the roof of his restaurant while other chefs who “lack the space to get planting” are finding other methods of growth (Measure, 2010, p. 1) including off site growing areas and partnerships for land.

Karetnick (2014) wrote an article discussing U.S. restaurants with chefs that are growing their own food. Throughout the article, the author describes why these different chefs started to grow their own food, the popularity of this movement, and the different varieties of these gardens across the U.S. According to the author, chefs and mixologists initially started these gardens out of necessity and soon found themselves gardening in any space that they could find. One chef in Miami reports “we always want to give our customers the freshest of produce we can source” (p. 2). While discussing their garden on a New York rooftop, another chef included in the article states “but it’s worth it to be able to take advantage of the full sun I get up here. And the customers appreciate the freshness of everything...” (p. 2). Karetnick (2014) also reports that, along with the resurgence of these gardens, comes a “quiet satisfaction for the grower that translates to the customer” (p. 1). As

the author reports on these chefs and their decisions to supply the freshest produce to their customers, it is also brought to the reader's attention that there are chefs who are not only growing food for their restaurants, but also allowing the customers to take tours of the garden and pick out the produce that they want in their dishes. One chef in particular reports:

“We have some regulars who like to come and pick their own kale or herbs for their dinner. Other guests have requested a custom dinner made from garden-picked ingredients. On a more regular basis, it gives me the chance to connect our guest with the process, and talk about seasons, growing, and why it's critical to know where our food comes from. I like to offer a lot of specialty ingredients that people wouldn't find in a grocery store, introducing new sights and smells to excite them. It's exciting to discover new foods with people, and get them involved in the process” (Karetnick, 2014, p. 2).

Along with the reasons behind starting these gardens, Karetnick (2014) also writes about the different varieties of growing areas, garden contents, and menu options of these chefs. One restaurant discussed in the article simply “snips and plucks” (p. 3) ingredients from its surroundings while another establishments reports to grow everything from lemongrass to white eggplants.

Kaplan (1973) conducted a study in order to examine the psychological benefits that different people experience during the act of gardening. The researcher felt that “if nature in general, and gardening in particular, can lead to involuntary attention, this has several obvious benefits” (p. 146). Besides wanting to find the benefits of gardening, Kaplan (1973) also desired to find the variables that predict these benefits.

In order to conduct the study, Kaplan (1973) based the data on two major groups of subjects; community gardeners and home gardeners. When describing the community gardeners, the researcher reports “It was clear that the attraction of the community garden was both social and gardening-related” (p. 148). To collect the needed data from the

participants in the community garden, two interviewers would go out to the community gardens daily to ask those working in these particular gardens to fill out the questionnaire. The researcher was able to collect data from 29 participants. Kaplan (1973) found that because the home gardeners were less social, in order to collect data from this particular group of gardeners, soliciting participants through the local newspaper was going to be the easiest way of contacting the group. The researcher was able to obtain 50 individuals to participate in the interview process.

Kaplan (1973) finds that “gardening emerges as a powerful source of fascination” (p. 160). The researcher reports that “it [gardening] not only permits, but actually invites recognition, prediction, control, and evaluation. It [gardening] does this by both providing knowledge and requiring it” (p. 160). Benefits of gardening found through this study include satisfaction, rewards, and getting back to nature. The researcher concludes that the strength of gardening interests are evident through the increase in community based opportunities and encourages future studies to explore the population and subject matter.

CHAPTER SUMMARY

Constructivism theory and self-paced learning were the theoretical frameworks used to base this study. Constructivism theory is a complex, non-linear process that finds its roots in the works of Jean Piaget and Lev Vygotsky (Fasnot & Perry, 1996). Although constructivism has been studied by various researchers, the broad objective of constructivism is that “individuals create their own new understandings based upon the interaction of what they already know and believe, and the phenomena or ideas with which they come into

contact” (Richardson, 2005, p. 3). In summary, constructivism means that human knowledge is constructed by the learner, for the learner.

The second piece of the theoretical frame was self-paced learning. Self-paced learning occurs when an interested individual can proceed through informational content at their own rate of speed without trying to keep up or being slowed down by others (Beyer, 1977). Self-paced learning has been studied extensively and many studies have been done comparing the self paced methods to traditional methods. When comparing it to the traditional method of content delivery, the self-paced learning approach can present the challenge for developing interactions with others. This may be due to the participants being at different stages of the educational material, because with self-paced learning, an individual may start or complete their educational course at any point. Rather than judging this approach for these challenges, researchers need to acknowledge self-paced learning for allowing learners to increase their measure of “flexibility” with course work, pace of engagement, and interactions with others (Rhode, 2009).

The last section of the theoretical framework covered literature related to the research interest for this study. Based off of the reviewed literature, chefs cultivating their own restaurant gardens are not only located all over the U.S., but they are also maintaining growing areas overseas. Along with this unique cultivation practice, different reasons and locations for their restaurant gardens vary. Throughout the articles, the authors discuss chefs starting gardens due to necessity, cost effectiveness, and quality control. One author, Kaplan (1973) reports that gardening can benefit the grower by supplying satisfaction, rewards, and the sense of getting back to nature. The authors also inform the reader on the different

locations of the growing areas which included rooftop gardens as well as on and off site gardens.

CHAPTER 3 METHODOLOGY

This chapter will discuss the methods used in completing this study of North Carolina chefs who cultivate restaurant gardens including a discussion of the population, research design, and participant selection. The data collection and analysis process will also be discussed along with an explanation of the trustworthiness procedures.

GUIDING RESEARCH QUESTIONS

A qualitative study of North Carolina chefs who cultivate restaurant gardens was accomplished using the theory of constructivist learning and self-paced learning as theoretical frames for the research. In order to guide this qualitative study, the following interests were established:

1. Describe how North Carolina chefs began cultivating restaurant gardens.
2. Describe current restaurant gardens.
3. Identify from where North Carolina chefs receive gardening information.
4. Determine the outcomes of cultivating gardens for the North Carolina chefs.
5. Describe how the language included in menus identifies growing practices.
6. Describe the benefits of cultivating restaurant gardens.
7. Describe the challenges of cultivating restaurant gardens.
8. Determine participant's views on restaurant garden practices in the future of the restaurant industry.
9. Identify future educational needs of North Carolina chefs.

EPISTEMOLOGICAL POSITION

The interpretive, or constructivist, philosophy was used in order to conduct this study. According to Merriam (2009), a researcher uses the constructivist/interpretive philosophy in order to “describe, understand, and interpret” the research data collected, and that the information collected has “multiple realities” and is “context bound” (p. 8). In qualitative studies, the researcher is to “interact with those they study” and those interactions can include “living with or observing informants” (Creswell, 1998, p. 76). Given that this study was conducted in order to understand the gardening practices and educational needs of North Carolina chefs who cultivate restaurant gardens, the constructivist perspective was the most appropriate epistemological approach to guide the study.

BIAS STATEMENT & RESEARCH CONTEXTUAL CONNECTION

Strauss & Corbin (1998) state that it is important to “recognize when either our own or the respondents’ biases, assumptions, or beliefs are intruding into the analysis” (p. 97). In the case of this study, the researcher must note she was a graduate student at North Carolina State University studying extension education. This allowed for a deeper understanding of the tenants and philosophies of non-formal adult education. The researcher also worked full-time within the North Carolina restaurant industry. In this capacity, the researcher worked both directly and indirectly with the chef of the restaurant, witnessing [her] interactions with other chefs, customers, and commodity representatives. These experiences influenced the decision to study this topic and also informed the inductive nature of the data analysis process.

RESEARCH DESIGN

According to Merriam (2009), in qualitative research, “the focus is on process, understanding, and meaning; the researcher is the primary instrument of data collection and analysis; the process is inductive; and the product is richly descriptive” (p.14). In qualitative research, the researcher is placed in the participants’ “world” in order to interpret the subjects’ surroundings and situation (Denzin & Lincoln, 2003, p. 4-5). This basic qualitative study used semi-structured interviews and document analysis in order to make meaning of the experiences of chefs in North Carolina currently engaged in growing food that is then used in their own restaurants.

Semi-structured interviews involve “the implementation of a number of predetermined questions” and allow the researcher the “freedom to digress” through the interview process (Berg, 2001, p. 70). The ability to react to responses during the interview was key to the data collection process, leading the researcher to choose semi-structured interviews for data collection. Based on the interview conversation and progression, the researcher had the capability to change and move questions as needed. A 32 question protocol written by the researcher, guided by the theoretical framework of constructivist learning (Fasnot & Perry, 1996) and the conceptual framework of adult learning (Knowles, Holton, & Swanson, 2005), guided the interviews and served as the primary method of data collection for this study.

As public-facing documents such as menus are available from this population, the researcher used document analysis as a supplemental method of data collection. Documents have been described as just as important to a qualitative study as interviews and observations

(Merriam, 2009; Glaser & Strauss, 1967). According to Lincoln & Guba (1985), “documents and records are singularly useful sources of information” (p. 276). Menus from each interview participant’s restaurant were collected and reviewed to provide context to the food they described in the interviews. Most menus were available online, with the remaining being only available in hard copy for a short period of time due to the rotation of menu items.

PARTICIPANT SELECTION

The participants in this study were selected using a purposive sampling technique. According to Erlandson, Harris, Skipper, & Allen (1993), a typical purposive sample “seeks to maximize the range of specific information that can be obtained from and about that context” and it “requires a sample procedure that is governed by emerging insights about what is relevant to the study” (p.33). Because the research sought to understand how chefs who cultivate restaurant gardens began gardening, where they get information on gardening and what kind of information they would like as they continue the practice, the population for this study needed to include North Carolina chefs who grow food that is then used in their restaurants, and those were the only individuals selected for this research.

POPULATION

Using thick description when describing a population “goes beyond mere fact and surface appearance. It presents detail, context, emotion, and webs of social relationships that join persons to one another” (Denzin, 1989, p. 83). The population for this study was North Carolina chefs who cultivate restaurant gardens. The researcher was provided with a list of North Carolina chefs who were gardening and using their harvest in their restaurants and 12 chefs were interviewed representing regions from across the state of North Carolina. The

length of time within the culinary profession, how the individuals are growing products, and what they are growing all contribute to the larger description of the population. The participants' ages and cultural backgrounds varied; however all reported cooking for longer than 10 year professionally. Participants' growing areas range from 22 acres of farm to 20 containers being maintained behind the restaurant. Participants are cultivating various types of produce including, but not limited to, herbs, tomatoes, squash, and leafy greens. By thickly describing the chefs in this population, "the voices, feelings, actions, and meanings of interacting individuals are heard" (Denzin, 1989, p. 83).

DATA COLLECTION

"The primary purpose of gathering data in naturalistic inquiry is to gain the ability to construct reality in ways that are consistent and compatible with the constructions of a setting's inhabitant" (Erlandson, Harris, Skipper, & Allen, 1993, p. 81). According to Merriam (2009), while conducting a qualitative study "the focus is on process, understanding, and meaning" and the researcher is "the primary instrument of data collection and analysis" (p. 14). Considering that humans are the best instrument for qualitative studies, the researcher had to first get approval from the Institutional Review Board, or IRB. Once the study was approved, the researcher contacted 12 North Carolina chefs via email or phone to ask for their participation in this research. Each chef was given the choice to conduct their interview over the phone, via Skype, or face to face. Every chef was informed of their rights as a participant in the study and was provided an electronic copy of the participant consent form. The researcher took field notes and used an audio device to record the interviews. A running list of contact points (emails, phone calls, and interviews)

throughout the research was recorded and each individual was assigned a code for purposes of confidentiality (Merriam, 2009). Codes used for the interview portion of data collection included I (Interviewee) and a number associated with the order in which the interviews were conducted. Each audio recording was used to transcribe the individual interviews.

At the conclusion of each interview, the researcher requested copies of the most recent menus from the participating chefs' establishments. Each menu received was coded and saved in an electronic file. This researcher created coding system allowed for organization while retaining confidentiality. The code used for menu data collection included C (Chef) and a number that corresponded to the order of the participant's interview.

DATA ANALYSIS

Lincoln & Guba (1985), state "data analysis must begin with the very first data collection, in order to facilitate the emergent design, grounding of theory, and emergent structure of later data collection phases" (p. 242). In the case of this study, the researcher used the constant comparative method (Merriam, 2009), comparing new data to previously collected information, beginning with the first data collected. As the constant comparative process was followed, the researcher found emerging categories, themes, and impressions that coincided with the developing research.

Creswell (1998) established that one of the first strategies involved in data analysis involves doing "a general review" of the collected data while "jotting down notes" on the information (p. 140). During the interview process, the researcher took notes in order to help with recall for later analysis. Then, while reviewing the interview transcripts, the researcher would highlight words and phrases in order to get a general idea of common uses of language

and ideas. Simultaneously, the researcher was also unitizing the data, setting apart each piece of standalone information (Merriam, 2009, p. 177). According to Merriam (2009), the researcher should unitize the data in order to “compare one unit of information with the next in looking for recurring regularities in the data” (p. 177). In order to unitize the collected data, the researcher used various colored pencils to denote each stand alone piece of information.

After the collection, review and unitization of data, the second step was to sort the information into codes and categories. According to Merriam (2009), “coding is nothing more than assigning some sort of shorthand designation to various aspects of your data so that you can easily retrieve specific pieces of data” (p. 173). Throughout the second stage of data analysis process, the researcher used a color code system. For example, the word “vegan” was circled in berry pink. The researcher would then mark the coinciding color onto a color coordinated research key. The research key allowed the researcher a visual representation of the data and emerging categories which promoted a better understanding of the information being analyzed. Merriam (2009) states that “assigning codes to pieces of data is the way you begin the construct of categories” (p. 179).

The construction of categories, the final step in the constant comparative method, is an inductive process where the categories contribute to the finding and theory of the study (Merriam, 2009). According to Richards & Richards (1998), “the generation of categories, even the simplest descriptors...is a contribution to theory” (p. 215). As the researcher combined and compared the categories throughout the research process, larger and clearer

themes developed, and a more effective understanding of these chefs and their gardening practices emerged.

CONTENT ANALYSIS

According to Berg (2001), “in content analysis, researchers examine artifacts of social communication. Typically, these are written documents or transcripts of recorded verbal communications” (p. 240). Researchers use content analysis in order to learn about how their participants use these forms of information to view their social settings (Berg, 2001). For this study, the researcher used the collected menus to examine the use of North Carolina chefs’ language. By conducting content analysis on the menus, the researcher found common words, themes, and concepts being used amongst the population.

Merriam (2009) states that “the process [of content analysis] involves the simultaneous coding of raw data and the construction of categories that capture relevant characteristics of the documents content” (p. 205). According to Altheide (1987), content analysis “looks for insights in which situations, settings, styles, images, meanings and nuances are key topics” (p. 68). For this study, the researcher used latent content analysis. During latent content analysis, according to Berg (2001), “the analysis is extended to an interpretive reading of the symbolism underlying the physical data” (p. 242). In other words, the researcher used this process in order to construct a deeper structural meaning conveyed by the language in the menus.

An important step to the content analysis process, according to Berg (2001), is the practice of open coding. Berg (2001) states that the central purpose of open coding is to “open inquiry widely” (p. 251). Corbin & Strauss (1998) define open coding as “the

analytical process through which concepts are identified and their properties and dimensions are discovered in data” (p. 101). During this stage of content analysis, the researcher reviewed the menus and assigned different colors to key concepts in order to signify the different emerging words, themes and categories being used throughout the menus. The researcher continued with this open coding process until all the menus had been analyzed.

Once the researcher assigned the content information into separate categories, the categories were reviewed and reorganized in order to combine them and form broader themes and concepts. According to Berg (2001), this stage of content analysis is the coding frames process and is often a “multileveled process that requires several successive sorting of all cases under examination” (p. 253). After the coding frames were reorganized and combined into broader themes and concepts, the researcher was able to establish an emerging theoretical construct for the study. Once the researcher reformed the categories into larger themes, an enhanced understanding of the participants was constructed and there was a better understanding of how they were using their menus to communicate their gardening practices. For a more in-depth look at Menu Language see Appendix G.

TRUSTWORTHINESS

When discussing validity, generalizability, and reliability of qualitative research, Denzin & Lincoln (2003) state “rather than take terms from the quantitative paradigm, qualitative researchers have correctly offered alternative ways to think about descriptive validity...” (p. 69). The researcher practiced trustworthiness in order to document the steps taken throughout the research and to help persuade the reader that the findings are worth taking into account (Lincoln & Guba, 1985). In order to provide for the trustworthiness of

this research, the researcher took steps to demonstrate credibility, dependability, confirmability, and transferability.

Credibility

Krefting (1991) states that “in qualitative research, truth value is usually obtained from the discovery of human experiences as they are lived and perceived by informants” (p. 215). Lincoln & Guba (1985) termed this as credibility (p. 301). For this study, the researcher performed triangulation, member checks, and peer debriefs in order to demonstrate credibility throughout the research. “Triangulation leads to credibility by using different or multiple sources of data, methods, investigators, or theory.” (Erlandson et al., 1993, p.137-138). The researcher was able to compare the information gained via both the semi-structured interviews and the document analysis in order to gain a better understanding of the data collected on the research participants.

The researcher also demonstrated credibility by performing member checks with all of the participants. According to Lincoln & Guba (1985), a member check is when “data, analytical categories, interpretations, and conclusions are tested with members of those stakeholding groups from whom the data were originally collected” (p. 314). After each interview, the researcher transcribed the session and sent a copy of the transcript back to the participant. Each chef was asked to review the information and approve the accuracy or discuss the content in order to ascertain that the document was a fair representation of the communication during the interview process. Early emergent themes were also shared and confirmed with participants via added interview questions.

The final step used by the researcher in demonstrating credibility was through peer debriefing. Erlandson, Harris, Skipper, & Allen (1993) state that “peer debriefing helps build credibility by allowing a peer who is a professional outside the context and who has some general understanding of the study to analyze material, test working hypotheses and emerging designs, and listen to the researcher’s ideas and concerns.” (p. 140). According to Lincoln & Guba (1985), peer debriefing “provides an initial and searching opportunity to test working hypotheses that may be emerging in the inquirer’s mind” (p. 308). As the researcher moved through the data collection process, an external panel of qualitative methodologist and an internal panel of researchers were used to help guide the course of the research.

Throughout the analysis process, the researcher would be forming, reorganizing, and finding emerging categories and themes within the data. The researcher would simultaneously construct peer debrief memos sent to the panels for independent review to affirm categories and themes, suggest revisions where necessary, and to guide decisions. Lincoln & Guba (1985) state that the aim of the peer debrief memo is “to uncover the properties of the category” and to allow the peer debrief panel to “get the ideas down, in order to tap their initial freshness” on the document (p. 342). Once feedback was returned to the researcher, changes and corrections were made to further the research.

For more information on peer debrief memorandums sent to the peer debrief panels, please see the Appendix.

Dependability

While discussing dependability, Shenton (2004) states that the researcher should utilize “techniques to show that, if the work were repeated, in the same context, with the

same methods, and with the same participants, similar results would be obtained” (p. 71).

The researcher used two methods to demonstrate dependability: dependability audit trails and journaling. The intent of a dependability audit trail is “to track the process by providing a trail with documentation on methodological decisions and reflections” (Dooley, 2007, p. 39). The researcher took extensive notes throughout the research process in order to increase the dependability of the study and to create a more effective understanding of how information was gathered and analyzed and to describe the researcher’s understanding of how categories evolved throughout the study. The researcher composed this dependability audit trail in order to describe what was planned for the research and how the study was executed on a strategic level. The researcher’s thoughts and decisions germane to the research process were also documented including the research design plan, methodological decisions, and changes in category names. The dependability audit trail was updated throughout the research process.

Journaling, according to Lincoln & Guba (1985), is a “kind of diary in which the investigator on a daily basis, or as needed, records a variety of information about self and method” (p. 327). Journaling allowed the researcher to keep track of major research decisions on participants, changes in word usage, document analysis procedures, citations, and literature choices throughout the research process. Since the researcher maintained a journal, she was also able to articulate opinions on interviews and it allowed for the researcher to reflect on different internal and external influencers that might have been affecting the research process.

Confirmability

According to Lincoln & Guba (1985), “an inquiry is judged in terms of the degree to which its findings are the product of the focus of its inquiry and not of the biases of the researcher” (p. 290). The researcher demonstrated confirmability in two ways. First, the admission of the researcher’s biases and beliefs were disclosed. According to Creswell (1998), clarifying researcher bias “is important so that the reader understands the researcher’s position and any biases or assumptions that impact the inquiry” (p. 202). By recognizing the biases, the researcher is reducing any questions the reader might have about the researcher’s disposition and beliefs on the subject.

The other way the researcher demonstrated confirmability was through the construction of a confirmability audit trail. According to Erlandson, Harris, Skipper, & Allen (1993), a confirmability audit trail is “established to ascertain dependability by looking at the processes that were used in the study and also enables an external reviewer to make judgments about the products of the study” (p. 35). Merriam (2009) states that an audit trail “describes in detail how data were collected, how categories were derived, and how decisions were made throughout the inquiry” (p. 223). The confirmability audit trail was developed to track research procedures and provide organization to the study. The researcher composed a confirmability audit trail that contained information including when and how each participant was contacted, how and when they were interviewed, and when member checks were sent and returned. Further, all communication between the researcher and their peer debrief panel, and committee members was also maintained in the audit trail.

Transferability

The main concern for transferability is “the extent to which the findings of one study can be applied to other situations” (Shenton, 2004, p. 70). In order to successfully achieve a degree of transferability for this study, the researcher provided a sufficient thick description throughout the written report. Thick description is an important component of qualitative research because it allows the readers to have a proper understanding of the study. By providing a thick description, the researcher allowed the readers to compare the circumstances described in the study with those they have seen emerge in their own research (Shenton, 2004, p. 70). Lincoln & Guba (1985) suggest that it is the “responsibility of the investigator to ensure that sufficient contextual information about the fieldwork site is provided to enable the reader to make the transfer” (p. 316). Throughout the study, the researcher used rich details about the population, interview process and context in order to provide enough details for transfer of information.

CHAPTER SUMMARY

In order to carry out this research, the researcher designed a basic qualitative study in which the research was conducted under the interpretive or constructive philosophy. The population for this study was chefs in North Carolina currently engaged in growing food that is then used in their own restaurants. 12 individuals were interviewed and represented regions from across the state of North Carolina. The participants in this study were selected using a purposive sampling technique (Erlandson, Harris, Skipper, & Allen, 1993). The researcher was a graduate student at North Carolina State University, and therefore had a deeper understanding of the tenants and philosophies of non-formal adult education. The researcher

also worked full-time within the North Carolina restaurant industry. Both of these experiences influenced the decision to study this topic and also informed the inductive nature of the data analysis process.

Data collections started when the researcher contacted the 12 participants via email or phone to ask for their participation in this study. Each interview was recorded, transcribed, and coded. The study was conducted by using semi-structured interviews and the 32 question protocol that was written by the researcher. The documents used for document analysis in this study included menus from each interview participant's restaurant. After each interview, the researcher would then collect the menus from the participating chefs' establishment and code them C (chef) and a number affiliated with the order of the participant's interview.

Data analysis and content analysis were accomplished through the use of the constant comparative method (Merriam, 2009). Throughout the data analysis process, the researcher was able to find common use of language amongst the different participants, and start unitizing the data being analyzed. In order to unitize the collected data, the researcher sorted the reviewed notes into emerging categories, themes, and impressions. As the researcher combined and compared the categories, larger and clearer themes developed, and a more effective understanding of these chefs and their gardening practices emerged. For this study, the researcher used the collected menus for the content analysis process. During content analysis, the researcher reviewed the menus and assigned different colors to key concepts in order to signify the different emerging words, themes and categories being used throughout the menus.

Trustworthiness of this study was established by using alternative of credibility, dependability, confirmability, and transferability. Audit trails, journaling, member checks, and peer debriefing were all techniques used throughout the research process to help demonstrate trustworthiness.

CHAPTER 4 FINDINGS

The following chapter will report and discuss the findings of the research. Where direct quotes are used, the coding associated with that individual is provided (C for chef, and number for which interview they were, chronologically). The findings for this study are based on the semi-structured interviews carried out by the researcher and quotes from each interview will be used in order to effectively deliver the results. Some findings for this study are also based on the menu content gathered from participants' establishments. The findings of this study are arranged by research interest.

1. Describe how North Carolina chefs began cultivating restaurant gardens.
2. Describe current restaurant gardens.
3. Identify from where North Carolina chefs receive gardening information.
4. Determine the practice outcomes of cultivating gardens for the North Carolina chefs.
5. Describe how the language included in menus identifies growing practices.
6. Describe the benefits of cultivating restaurant gardens.
7. Describe the challenges of cultivating restaurant gardens.
8. Determine participant's views on restaurant garden practices in the future of the restaurant industry.
9. Identify future educational needs of North Carolina chefs.

INTRODUCTION TO NORTH CAROLINA CHEFS

When beginning this study, the researcher was interested in learning about North Carolina chefs who had decided to cultivate gardens in order to produce food for their restaurants. After the data collect process of this study, the researcher has discovered that

there is much more to these 12 individuals than just being “North Carolina chefs.” Although these 12 men all have the common denominator of cultivating gardens for their North Carolina restaurants; their restaurant locations, upbringing, duties, and visions vary.

All three regions of North Carolina are represented; chefs for this study were located at restaurants spread from Asheville to Morehead City. The different regions of North Carolina affected these chefs’ growing seasons, availability of products, and access to growing area. Some of the chefs interviewed were able to grow their products outside of the restaurant while other participants reported that they had to travel up to 40 miles a day to their restaurant growing areas.

The 12 interviewees also had different restaurant experiences and educations. Two had graduated from a culinary program before entering into the professional position of chef while others had been raised in the restaurant industry and slowly moved up from line cooks or other kitchen staff positions. Each interviewee viewed themselves as the chef or sous chef of their kitchen. These chefs’ years in these positions also varied. While some of the chefs had only been in that position for a few years, others that were interviewed had been chefs for up to 20 years or more.

Along with the different growing areas and experiences comes the difference in these chefs’ establishments and clientele. The establishments differ not only in size, but also in restaurant concept. Through the chefs interviewed, the researcher covered a vast selection of food concepts that included Mediterranean cuisine, gastro pub fare, southern cuisine, and even tapas seafood. One chef interviewed started his establishment in order to target the unique population of vegetarians over 30 years ago and has maintained the concept and

reputation throughout the years. Because of the different restaurant cuisine, the clientele for these establishments are also going to vary. Although a few of the chefs describe their clientele as “across the board” and ranging from blue collared to white collared, a majority of the chefs described their clientele as foodies, well educated, or socially responsible when it comes to their health and the farm-to-fork movement. Some of the chefs also described their clientele as individuals with disposable income and upwardly mobile. Along with the visual of the type of consumer at these establishments, the researcher also found that each restaurant served a different number of clientele on a daily or weekly basis. One chef reports serving anywhere from 300-500 customers a day while another chef talked about serving up to 80 customers on a daily basis. Although it depends on the day of the week, these chefs can be serving anywhere from 300 to 1500 patrons on a weekly basis.

These chefs have also found various ways to maintain their growing areas for their restaurants. In order to accommodate for their different establishments, these 12 individuals have had to conform to their available space and maintain their restaurant gardens in various locations and spaces. One chef interviewed has the opportunity to cultivate his restaurant garden on 22 acres of land, but that leads to him maintain a restaurant garden off-site from his establishment. Another chef interviewed maintained his garden off-site as well, leaving him up to 40 miles away from his restaurant and adding to his daily travel time. Along with chefs growing their restaurant gardens off-site on large plots of land, the researcher also found that many of the chefs maintain their growing areas in, around, and on top of their restaurants. These particular growing areas include anything from herbs to citrus trees and can be maintained through raised beds, various pots, or even refurbished wooden barrels.

Responsibilities of these participants were diverse as well. A majority of the chefs had full control over the menu choices and controlled daily operations throughout the kitchen and restaurant. Eight out of the participants were not only the chefs within their restaurants, but were also owners of the establishments. Many of the participants not only prepared the menus and daily specials, but they also controlled the hiring and firing of employees, inventory for the bar, oversaw the food safety practices, and also did all the networking with other businesses and the community for the establishment.

RESEARCH INTEREST ONE

Describe how North Carolina chefs began gardening for their restaurants

Although they are all North Carolina chefs who cultivate restaurant gardens, their reasoning behind their gardening practices varies. The researcher found that some chefs started these gardens because they were unable to locate needed produce anywhere else; for example the varieties of a particular produce they were looking for might be unavailable. Others continued a practice they learned in previous work at other restaurants. Some of the chefs were raised in homes where growing food was part of their everyday routines, leading to a belief that cultivating the food for their clientele is just the right thing to do.

Necessity

Every chef interviewed had a different style and approach to what they were producing in the kitchen; no two restaurants served the same type of cuisine the same in way. With variation of cooking style and menu approach to development, comes the need for distinct ingredients for the dishes. Two of the chefs were having a problem locating needed ingredients, so they started gardening in order to obtain what was required (C3, 9). With certain varieties of produce being more difficult to find, these chefs started to grow their own

products out of necessity. Chef 3 describes it this way “when there are specific ingredients that you want to use for your menus that nobody is growing, you just take the reins. If you have the resources, you can just do it yourself.” Chef 3 also goes on to state,

“For me, personally, when I started to grow my own products, it would typically be herbs or things like that because that is what I found was the hardest to get my hands on. Certain herbs found more worldwide are not necessarily the easiest things to get your hands on.”

Chef 9 simply stated “years and years ago when certain items that I wanted for the restaurant were unavailable, I found seeds and started growing them.”

Previous Restaurant Practices

Many of the chefs interviewed shared that they got started gardening because of previous work experiences in other restaurants (C2, 3, 4, 6, 8). When working at other restaurants, these chefs witnessed peers cultivating restaurant gardens, and carried these practices into their own kitchens and restaurants. Previous coworkers’ cultivation practices and beliefs can also be inspirational for different chefs. According to chef 4,

“I had the opportunity to work in a restaurant and help in the kitchen in a place called [restaurant] in Colorado, and they devoted about an acre and a half of their land to farming for the kitchen, and that was kind of an eye opener for me for what you could actually bring into the restaurant and how to create something totally unique.”

Chef 8 states,

“When I worked in Charleston, the chef I worked for there was really big into the local food movement and he had a little plot, a couple of acres, where they grew stuff for their restaurant and that kind of gave me the idea here. We started with a roof top garden and we are kind of learning the ways of that. I guess, one day, eventually, I would like to have a couple of acres and grow specific things.”

Chef 2 states “I have always done container gardens everywhere else that I have been...and all the country clubs that I have been at we have grown our own stuff.” While talking about previous restaurant practices, Chef 6 says,

“Its just something that I have always done. We did it at the vegetarian restaurant that I was the head chef at for a while, but uh, I mean, I have been doing it for probably 15 to 18 years where I have just had some sort of herb garden. At the vegetarian garden, we had squash, peas, watermelon and all kinds of stuff, and there we could grow it at the back of the restaurant”

Chef 3 describes “when I was at [previous restaurant], we had a small garden at the restaurant and I was in charge of that.”

Family Connection

Many of the chefs got started gardening because they were raised in an environment where generations before them practiced cultivating food (C3, 4, 5, 6, 12). Chef 6 describes “I have always done some kind of growing. Even when I was a little kid, my mom and grandma always had massive gardens in the backyard.” Chef 12 states “my mom was a small scale farmer and I ate some of the best food around my mother’s kitchen and my dad’s restaurant.” Chef 3 states “when I was growing up, my grandmother had a small garden, and that nostalgia kicks in at a certain age and you kind of want to do those things.” While discussing being raised around gardening, Chef 4 explains

“We always had tomato plants and squash plants, and peppers and my dad had a big garden. There wasn’t a season that went by where we didn’t have some sort of vegetable growing in the garden. Um, for me, it was kind of like, normal that everybody had plants. So, I grew up with that.”

According to Chef 5, while growing up, cultivating food was an important aspect to feeding the family, therefore, he allows those practices to inspire his growing for the restaurant. He goes on to state,

“My grandfather, my dad’s dad, had a huge garden growing up as a kid. I remember the garden being huge and it was just so much fun to see him grow all that stuff. That really swarmed an interest on the things that they grew. My family was always super resourceful. My great grandparents lived in the swamps. You had to be resourceful and trade tomatoes for a cow...haha...that’s just how it was.”

Niche Market

Some of the chefs that were interviewed revealed that one of the reasons they got started in gardening was because of the increase in demand for this practice by a particular demographic (C2, 11). These chefs started to cultivate restaurant gardens to market to a particular clientele. Chef 2 details “I think it is something that people now a day’s look for. It is a niche market and it is cool that you are growing your own stuff and using our own stuff on site.” Chef 11 states that his garden is “very visual” and knows that it is “visually pleasing” to his clientele.

RESEARCH INTEREST TWO

Describe current restaurant gardens

Along with the differences in restaurant concepts, the chefs’ restaurant garden’s content, locations, and set ups also differ drastically. Many of these factors are influenced by restaurant location, space availability, and seasonality of the different areas.

Garden Content

These chefs are cultivating a large variety of produce that can be grown, picked, and placed onto their customer’s plates. A few of the chefs are growing only herbs (C3, 6, 10). Chef 6 states “At the moment, we only grow herbs and things like that because we have only

been open for about a year. For now, all I grow is just herbs.” Chef 10 lists his herbs and details, “Rosemary, thyme, basil, chives, we grow sage.” Other chefs are growing herbs and a few small vegetables (C2, 4, 11). Chef 2 states,

“You always want to grow something that you are going to use, so primarily I grow jalapenos, two types of bell peppers, tomatoes, and I also did okra this year as well as basil, chives, and rosemary.”

Chef 4 details,

“This year, it was basically just herbs, and we have already had two or three frosts already. We grew thyme, three different types of parsley, two different basil. We grew jalapeno, habanera, chili peppers, rosemary.”

Chef 11 describes “we grow a lot of herbs, five varieties of thyme, basil, tomatoes, radishes, beets, once in a while we will do squash.” Some chefs, (C8, 9) have found the space and time to keep up with herbs, vegetables, and different variations of citrus trees, fig trees and apple trees. Chef 8 states

“Right now, I have a couple of citrus trees, and a fig tree that are not really producing anything... Basically with herbs, I have thyme, chives, parsley. Things like that are a bit hardier and will hold up in the winter. In the summer, we try to grow tomatoes and okra, peppers and squash.”

Chef 9 details “I have got a lemon tree, a fig tree, rosemary, sage, thyme, lemon thyme, oregano, taragon, and two apple trees.” Chef 5 disclosed that not only did he have berry bushes and herbs, but there was a time when he also attempted to keep bees on the rooftop of the restaurant.

A few chefs cultivated a much larger variety of produce within their restaurant gardens. When describing content, Chef 1 tells us,

“Zucchini, yellow squash, tomatoes, Brussels sprouts, peppers, broccoli...Herbs, we have thyme, rosemary, oregano, cilantro, sage. We have a few melons...we tried to grow spinach. We did edible plants.”

Another chef that listed a large variation of products was Chef 12, who shares,

“I grow garlic, collards, arugula, and salads...eight different types of salads. I grow mints, oregano, sage, basil, thyme, parsley, cilantro, watermelon, Russian kale, I grow beans, squash, zucchini, I grow yellow squash, eggplant, okra, tomatoes, corn, spinach, rosemary, scallions, bay leaf, pumpkin...I grow onions. I have all kinds of stuff. I have chickens and roosters too.”

Chef 12 also discloses that “during the peak of my garden, I probably have close to 35 different things in my garden.”

Location and Growing Area

Along with the variation in what is being grown, these chefs are also cultivating restaurant gardens in very different locations. For some of the chefs, in order to get to their restaurant gardens, they must travel off site to a completely different location (C 1, 3, 7, 12). When asked the distance of his garden from the restaurant, Chef 7 states “it’s about three miles” Chef 1 describes “45 minutes. I drive 45 minutes every day.” Chef 3 maintains his garden at home and states “I live an hour away from the restaurant, roughly 40 miles.”

For the rest of the chefs, their restaurant gardens are located at the establishment. For some chefs, their gardens can be found behind the restaurant (C2, 4, 11). Chef 4 states “If I walk out the back door, it [the garden] is right there.” Some chefs’ gardens are located on the patio (C9, 10). Chef 9 states “On the patio, we are growing on location.” Chef 10 describes “we have a nice area on our porch and I like to grow that stuff [herbs] because it looks nice and it smells nice.” A few chefs maintain their restaurant gardens on the rooftop of their establishments (C5, 8). Chef 8 states “we have a garden on top of the roof at [restaurant].”

Other chefs have growing areas in planters around and within the restaurant (C5, 6, 8). Chef 6 describes “we have containers around the restaurant and natural areas around the restaurant that we have herbs growing.” Chef 8 states “we also have some planter boxes inside the restaurant in the windows that we were growing herbs.”

The researcher also found that each chef is cultivating their restaurant gardens in various ways. Each chef has found a different way to grow their products in the space that is available to them. For a few of the chefs, they have acreage available; therefore, they maintain their restaurant gardens on larger plots of land (C1, 2, 3, 7). Chef 1 states “we have 22 acres here, we work in the mountains.” When describing his growing area, Chef 2 details “right now, it is about an acre, and then next year it will probably go to three acres.” Chef 3 not only has a greenhouse available for use, but he also states that he “has roughly 100 acres right now where we have various pastures and things like that.”

RESEARCH INTEREST THREE

Identify from where North Carolina chefs receive gardening information

In order to gain more information on gardening, these chefs have reached out to many different resources for help, including written publications, the internet, University sponsored programs, and local farmers. Each chef had their particular approach to gaining more information, and their resource choices were influenced by time and availability.

Written Publications

A majority of the chefs interviewed used some sort of publication in order to gain more information on their restaurant gardens (C1, 2, 3, 4, 6, 9, 10, 11, 12). These publications could include magazines and books. Certain chefs used publication during the beginning stages of their restaurant gardens to help guide and direct them in proper

procedures (C4, 10). Chef 4 states “I got some books, like homesteading type books, and some gardening books...and started to grow things. Herbs, vegetables, and anything that we could grow under hand tilling.” Chef 10 also mentions first receiving information on gardening through books and reading and later states “my mother in law gives me books and stuff all the time to read.”

Some of the chefs use publications in order to help maintain and prepare current restaurant gardens (C2, 3). Chef 2 tells us “you have to read a lot of publications. You are constantly readings publications to see what is going on out there, to see what is happening.” He also uses publications to see what other chefs are growing in order to decide “okay, maybe next year I need to have that on hand, and mess around with that.” When discussing his quest for knowledge on cultivation chef 3 shared this:

“Reading never stops. You always have to stay ahead of the curve, and I think information is the only way to do that so, books. Whether it is information or publications online, or you know, actually just books...”

For a list of written publications used by participants see Appendix H.

University Sponsored Programs

Several of the chefs are engaged with the state’s land grant university through a variety of programs and services. One resource that is being used by the chefs is the North Carolina Cooperative Extension service (C2, 5, 7, 12). The chefs are using the Extension service for different information. Chef 2 discusses

“From the agriculture extension agency. It seems to be the easiest and the most local thing to figure out what is going to be your growing area and what things will grow in your area.”

He also goes on by stating that the “agriculture extension agency is always a great resource because they have a lot of information for you.” Chef 5 discusses attending different programs offered by the NCCE and states,

“I am part of the Beekeepers association and I have done a canning program where you can get your license for canning. It is a really good network to get into and you want to be able to get into those circles.”

Chef 12 says “I have done workshops and conferences” within the county extension office.

The CEFS program, or the Center for Environmental Farming Systems, is in partnership with the North Carolina Cooperative Extension program, and it allowed one chef (C7) to keep in contact with people who can help him with needed information. Chef 7 uses this resource for information and for networking. Chef 7 describes,

“Through this CEFS organization. Through them I have networked with all kinds of wonderful people. They have seminars on particular items that they are growing and you can go to those.”

It is important to note here that some of these chefs are aware of the NC Cooperative Extension Service, but have not utilized it as an information source (C8, 9); and some chefs were not aware of the NCCES at all (C3, 6, 10, 11).

Internet

The chefs were also using the internet. Some chefs are using the internet for information gain via search engines, such as Google, (C1, 2) while others are reading online publications (C2, 3, 4, 5). When chef 1 was asked what he was doing to gain more information on gardening, he responded “it is like anything, you know with the internet now, you can Google it.” Chef 2 discusses

“You can just Google stuff and read up on stuff. There is a lot of hospitality publications that have specific blurbs on it [gardening]. There are a couple chef websites that you can get a lot of information on [pause], not necessarily on what they are growing, but on what other chefs are doing to kind of give you an idea.”

Online blogs are also a form of information for chefs, and chef 4 states “*International* is an online blog type publication that really has a lot of stuff going on...I don’t really read these days to to much. When I am feeling inspirational, I will start looking up stuff.” The Department of Agriculture’s website has also been used for information, and Chef 5 states “The department of Ag, there is a ton of stuff online.”

Farmers

Most of the chefs were using local farmers as a resource for information on gardening (C1, 2, 3, 4, 5, 6, 8, 9, 11). Chef 1 states “They [farmers] are going to tell you better. They know about the ground and they know about the environment. That’s important.” Some of the participants use the farmers for advice. Chef 8 states “I have talked to all my farmers who, you know, have a lot more experience and I tell them what I am growing, and ask them for their advice and that sort of thing.” Chef 3 uses local farmers to figure out trends in growing and says “I can call any of those people at any time and say ‘What is going on with this year?’” When chef 5 was asked what he was doing to gain more information on growing, he stated “talking to different farmers.”

The researcher also found that chefs value the relationships they are developing with the farmers. Chef 6 discusses:

“We have community farmers markets and you have to educate yourself with what farmers are available. It’s not just a question of availability, it is also a question of your relationship with the farmers themselves.”

By building these relationships with farmers, the chefs are building resources that they can use at anytime. Chef 9 says “I pretty much just keep talking to my farmers. They are the experts, so if I ever have any questions, I just pick up the phone and call them.” He also states,

“As far as making contact with one farmer, whether it be the market or a road side stand, and then that person tells you about another farmer who is growing other things...you know...it kind of progresses that way.”

RESEARCH INTEREST FOUR

Determine the practice outcomes of cultivating gardens for the North Carolina chefs

By cultivating restaurant gardens, these chefs face practice outcomes that would not be present otherwise. These outcomes include the increase of creativity, paying closer attention to food safety procedure, and increasing the attention being paid to the products themselves.

Creativity

Many of the chefs involved with this study felt that cultivating their own restaurant gardens allows them to be more creative within their kitchens (C4, 5, 6, 8, 11, 12). Chef 4 states that growing his own products “might lead to me creating something that I probably would not have created normally.” Chef 5 also feels that cultivating a restaurant garden effects his creativity and allows him to look at the utilization of the product more carefully.

Chef 5 states,

“You are going to want to showcase the product more and you are going to want to make sure that you are using them all and utilizing every aspect of the [product]. If you grow the tomato, you are going to use every piece of that plant outside of the core. That place will go into every aspect, like a sliced presentation or the stock pot or it goes into another sauce or you can use the dried skins and use them as a garnish...or even tomato dust. You can keep the seeds and plant them again.”

Chef 6 also feels that his creativity and product utilization have increased through growing his own product.

“If you invest in the ingredient, then you have personally invested your time, and then you are going to respect it more and you are going to want to utilize it to the best of your ability...A guy who grows his own food, and realizes how many things could go into that product, he will make sure to utilize that more” (C6).

Along with the increase of creativity comes the inspiration that some of the chefs find in their gardens (C8, 11). Chef 8 states “It can inspire you in some ways, and it allows for holding off on certain dishes and it can help with different flavor profiles.” While discussing the creativity allowed through cultivating a restaurant garden, chef 11 states,

“It is very inspirational, because you see something fresh, it might be simple and plain, but it is really tasty because it was literally in the dirt 30 minutes before you put it on someone’s plate...You can produce more of what you got, and you look at it differently because you have seen it grow. You smell it, and you watch it change colors. I mean, it will change your creativity and I find it really inspiring.”

Food Safety Procedures

When it comes to cultivating their own restaurant gardens, many of these chefs described how that changes their food safety measures (C2, 4, 5, 6, 7, 11, 12), including their washing procedures and dealing with different rules and regulations from the health department. Chef 2 describes how his washing procedures have changed since he started to grow his own produce and mentions that he “always uses a hydrogen peroxide rinse to make sure that everything is done.” Chef 4 acknowledges that growing his own products influences how he handles the produce and states “typically when you get food from different areas, it’s not covered in dirt, but when you grow it, it is covered in dirt and you have to wash it yourself.” Some chefs are extra cautious, washing their garden products many times. “We

are still very careful. Everything is washed twice before it is brought to the restaurant and then once it is brought to the restaurant, we wash it a third time” (C7).

Chef 6 is careful about washing procedures, but also pays close attention to the rules and regulations on plants within the establishment.

“When you grow your own food, you need to make sure that you are following and meeting the wash standards. Another thing is that I have to be careful about where I put the plants and it is all about being aware of regulations” (C6).

When chef 11 also mentioned the regulations from the health department, and states,

“If you ask me, the health department does not like it [chefs cultivating restaurant gardens]...because it is not regulated, it is harder. They can’t watch over us, therefore they don’t want you to do it. They prefer you to use a big farm or something rather than you growing your own stuff.”

Although these chefs have to take extra precautions when handling their products, not all of the chefs see it as a negative thing. While discussing food safety procedures and growing his own products, chef 5 says “I think that it actually makes them [food safety procedures] better because you are starting to hear that the USDA is really starting to crack down on a lot of these mass production farms.” Chef 12 also feels that food safety procedures are a positive outcome of cultivating a garden and says,

“Safety is one of the reasons I started to grow my own food, because you don’t want to buy and eat food that has chemicals all over them. There is no other safer food than the food that you grow yourself. Also, by growing my own food, I reduce the amount of hands that touch my food. It lowers the chances of your food becoming contaminated.”

Attention to Products

When cultivating their own gardens, many of the chefs said that it resulted in paying more attention to their products (C2, 3, 4, 12). Chef 12, when discussing growing his own

products, states “I am taking an extra extra effort to make a finer product. I am taking ownership and authority over it”. Chef 2 shares that growing his own products requires more attention and says “it affects it to the stand point that you have to pay more attention because you have to go out and harvest quicker so that the critters don’t eat everything.” Chef 4 discusses paying closer attention to harvesting as an outcome of gardening:

“Sometimes it also makes you use products, um, at a certain time that you were not expecting to. So, there was a frost the other day, so we had to harvest everything, and when you do that, you have to all of a sudden preserve that or it is going to go bad. You can pickle it, or make some kind of sauce out of it... You just have to find some way to preserve it... It makes you a better chef, to be able to take something and make something out of it that people are going to like.”

Chef 3 discusses how paying closer attention to the product is an outcome of keeping a restaurant garden because he not only has to watch his products, but he has to pay closer attention to how others are treating his growing area and produce. Chef 3 states,

“You pay more attention to it and you definitely pay more attention if you have an intern in the kitchen as well. You pay more attention to how they handle it. If you have an intern, you look over how they handle certain products. You care more about the material, um, because you understand and think a little bit more about what goes into them and it makes you appreciate it a lot more.”

RESEARCH INTEREST FIVE

Describe how the language included in menus identifies growing practices

These chefs know that their clientele are looking for specific food options on their menus. In order to successfully market their growing areas, North Carolina chefs who are growing their own food for their restaurants are all finding different ways to advertise their growing practices to their customers. Whether it is daily specials or rotating menus, the researcher found that these chefs all use specific language and word choices on their menus

to identify cultivation practices. The different categories of language choices include grown in house, locally grown, or other trend identifiers⁸.

Grown In House

The participants use specific words and phrases throughout their menus to help signify to their clientele about what they are doing in their gardens and kitchens. For example, the researcher found that most of the participants (C1,2, 4, 7, 8, 9, 10, 11) use words such as fresh, homemade, or rooftop while pairing them with items on their menu to let the clientele know that those dishes include products grown and made within and around the establishment. These particular words sparks an interest in the clientele and are intended to let the customer know that certain products are only a few hours old and coming straight from the restaurant growing area. Chef 7 lists “fresh tomatoes”, “fresh steamed asparagus”, and “fresh vegetables” throughout his menu in order to let his clientele know the quality of his products in house. This particular chef also lists a whole section of homemade salad dressings that include everything from lemon tahini to raspberry vinaigrette. Another chef that lists homemade products is Chef 1, who includes “House Made Salsa” throughout his whole menu and also includes the phrase “fresh is the word here” in various parts of the menu. Chef 8 was listing “Rooftop Pistou” on his menu in order to signify his growing area located on the top of his building.

Locally Grown

The researcher also found that many of the participants (C3, 4, 7, 8, 9, 10, 11) list local farmers on their menus or categorize specific foods as “local” or “North Carolina” products. By listing the names of local farmers and resources, the chefs are still able to

recognize that they are utilizing others “healthier” growing practices while delivering the product that their clientele are looking for. For example, in the bottom, right hand corner of his menu, Chef 4 writes “We use as much local produce and products as we can get our hands on.” Chef 8 not only lists North Carolina flounder, duck, and shrimp on his menu, but he also takes the time to list the actual farms that he purchases his pork, seafood, cheeses, and other products from. Chef 3 also takes the time to list the farmers he purchases from and has included various “wild caught” seafood and fish options to match his locally grown concept throughout his menu. Considering that the farm-to-fork movement does not only include growing the foods for your own restaurant, these chefs are still reaching their targeted customer by listing words such as “local” and “North Carolina Grown.”

Other Trend Identifiers

Besides listing in house products and locally grown options, a majority of the chefs were offering other trendy options throughout their menus (C1, 2, 3, 4, 7, 8, 9, 10, 11). Examples of these options include “vegan”, “vegetarian”, and “gluten-free” choices along with “organic” options and “seasonal” foods. When Chef 9 releases his weekly menu, he includes “organic field greens” with his array of house made options. Chef 3 has also set aside whole sections of his menu for nothing but vegan and vegetarian options and also markets various items on the menu with a gluten-free symbol. The gluten-free symbol can also be found throughout Chef 2’s three different menus. For a more in-depth look at menu language see Appendix H.

RESEARCH INTEREST SIX

Describe the benefits of cultivating restaurant gardens

“You know, once you grow your own food, you have a different confidence in your food. I feel comfortable with working with the food that I grew myself. I can look the food straight in the face and know what is in there. There are no chemicals in there, and I know this, not because somebody told me, but because I did it! I grew it! I know when I planted it, and when I picked it. I did it, so I am confident in it, and I find that very powerful” (C12).

North Carolina chefs who chose to cultivate restaurant gardens are all doing so for many different reasons. The perceived benefits of maintaining these specific gardens vary greatly, but in the long run, all the chefs find positives in growing their own products. Perceived benefits identified of cultivating restaurant gardens include cost effectiveness, freshness, quality control, pride, marketability, aesthetics, and therapeutic. Some chefs interviewed found multiple benefits in keeping restaurant gardens, while other found their one driving force and kept with that.

Cost effectiveness

For a few of the participants, cost effectiveness was perceived as a large benefit of cultivating their own restaurant garden (1, 5, 9, 12). Chef 1 says “one of them is that it is cheap.” Chef 5 also states that he benefits from cultivating his own restaurant garden because it is cheaper. “Financially it definitely makes sense, as long as you can utilize all that you can. It makes the most sense” (C5). Chef 9 tells us “well, first and foremost, it is cost effective.”

Freshness

For most chefs, being able to use fresh products is the leading benefit behind their restaurant gardens (C1, 3, 4, 5, 6, 7, 9, 10, 12). According to chef 1, “the ability to use

something fresh, that to me is the biggest reward...I know it is good and it is fresh.” Chef 4 also finds freshness as a huge benefit to growing his own food and describes,

“From a chef prospective, it’s the best and freshest way of getting something. You know how it is treated. There is nothing better than being able to actually take a piece of basil right off the plant and use it. It doesn’t get better than that. It doesn’t get fresher than that.”

Chef 10 states “When you are out there trimming herbs and bringing it in, people pay more attention to it and they think it is cool. It’s good and its fresh. You can’t get any fresher than that.” Chef 9 also acknowledges freshness as a benefits and states,

“It’s just nice to be able to go outside and be able to clip some fresh herbs for a dish as opposed to walking in your cooler and grabbing something out of a bag that you have no idea how long it has been in there for.”

For some chefs, freshness means being able to use the produce at the right moment, and not having to wait on boxes of produce to arrive at their back door. “There is always the fact that it is going to be super fresh and being able to use the food right at its peak without it being shipped in a box and having to wait for it to become ripe” (C6). Chef 7 also feels that freshness is a benefit because, by maintaining a restaurant garden, he is reducing the shipping time of products being used on his menu.

“Well, everything tastes so much more fresh. Instead of it being grown in California and it’s a five to six day truck, you have lost a lot of the nutrients. If you cut something today and put it on the menu tonight, it’s like you are eating the compost again...it’s the next stage. It adds such vitality to the menu” (C7).

Quality Control

Each participant found quality control to be a benefit of growing their own food (C1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12). Some participants find it beneficial because they can watch over their products and know what and how they are being treated throughout the growing

process (C4, 5, 7, 10). Chef 12 describes “I have the most control. Everybody wants control; why not control what you put in your mouth.” Chef 1 agreed stating,

“I like knowing where it came from. Now a days, you get stuff and you do not know where it is coming from or how it was treated. It’s a matter of where you get it from, and I know if it comes from here, it is good...” (C1).

Chef 2 believes that by keeping a restaurant garden, he has more control over the future menus of his establishment.

“You can plant what you want to use. If you decide you are going to use rutabaga, you know, and then you develop stuff around rutabaga. You have more control over what your thoughts are going to be in the next 90 days” (C2).

Chef 2 also acknowledges that growing his own products allows him to control chemical treatment of his products. He states “you know what chemical is there and what is not there.” Chef 8 also believes that, by growing his own food, he can control how his products are treated.

“When you buy stuff from the supermarket, you have no idea, even if it is organic, you still don't really know who grew it or what kind of fertilizers that went through it. Those are definitely key benefits.”

While discussing quality control, Chef 6 finds growing his own food helpful because he can control and “tweak” the products to his benefit. Chef 6 says “Just being a chef, you want it [product] to be as best as you can, and you have that ability to tweak it the way that you can.” He also stated that “being able to use the food right at its peak” is another way in which quality control is beneficial. Chef 9 also feels that controlling the growth process of his plants can be beneficial, “being able to control growth and being able to pick when the size is right, at their peak obviously.” By being able to “go out and pick what you can,” Chef 11 also feels that this allows for “better quality and better variety.”

For Chef 3, controlling his unique products is the biggest benefit of cultivating a restaurant garden.

“When you start talking about Asian greens, uh, once they passed the certain point and they are more mature, they are extremely spicy and hot and that is not necessarily what we are looking for. We don't want our people to be overwhelmed. We are looking for flavors that are bright and nothing is going to mask any of the other flavors on the plate. So when it comes to growing, I think I can control things like that a little bit better, and I know what I am looking for...it's a huge benefit” (C3).

Marketability

While listing benefits of cultivating restaurant gardens, multiple chefs mentioned being able to market their gardens (C1, 2, 4, 5, 6, 8, 10). These chefs feel that by advertising or making these gardens known, they can please current clientele, or bring in a new type of customer. Chef 1 states,

“I sometimes make sure to tell the servers, anytime I make soup or I make something, to let them know that it came from my house. You know, people seem interested in it. They like it. They ask if it is organic, and I let them know that it is not organic, it is just cooked with lots of love.”

Chef 2 advertises that he grows menu items on site because he believes that “it is something that people now a days look for...and it is cool that you are growing your own stuff and using your own stuff on site.” Chef 2 also states “I think the clientele thinks it is interesting” and he explains that “where you position your garden is key so that everybody can see it as they are coming in or while they are on the property so that it is not hidden.” By advertising his products and positioning his garden in the right area, Chef 2 believes that it shows the clientele that he is interested in their well being and bringing them “the best quality product.”

Chef 5 also enjoys having a restaurant garden that is visible to clientele as they dine at his establishment because he can market the freshness of his products. According to chef 5,

“It is neat to be able to walk out to the deck and get a hand full of oregano and walk back in and throw it in the pan. Then the people will go ‘holy crap, that is fresh, you can’t get fresher than that’. That is what we are shooting for.”

Chef 5 also uses media to spread the word about his establishment and what they are doing within the restaurant and his restaurant garden.

“We didn't pay for a lot of advertising, so we were able to get a lot of media that kind of said it [growing own food] for us and were able to (pause), you know, we did our interviews and we were in a couple of publications, and that helped out because we were able to tell people about what we do, and why we do it” (C5).

Chef 6 also listed marketability as a benefit to cultivating his garden, “I would definitely say that the public relations because everyone sees a chef going outside and pulling food out of the container to cook it and I think that is pretty cool.” Similarly, Chef 10 also states “when you are out there trimming herbs and bringing it in, people pay attention to it and they think that it is cool.”

Considering that his garden is not easily seen by the customers, Chef 8 finds different ways of letting his clientele know that he is growing menu items at his establishment. In order to market his restaurant garden, Chef 8 uses the menu as a message board to let his customers know about his cultivation practices.

“Local people make a big deal at giving credit to food sources. It would be cool to put “Roof Top Herbs” on the menu and so it’s kind of a novelty idea in some ways. It definitely looks good and people like to see it. It triggers the fresh response quite often if they know that it is growing right there” (C8).

Pride & Fulfillment

Some of the chefs revealed to the researcher that they felt that, by being able to grow their own food for the restaurant, it can result in a sense of pride and fulfillment (C2, 4, 10, 12). Chef 2 states “I just think that it is a personal pride thing. I think that it shows them

[customers] that you are interested in providing the best quality product that you personally can” (C2). According to Chef 4, cultivating a restaurant garden “provides a sense of worth for the employees, um, they care more for their jobs I think because they have interaction with the lay of the land.” Chef 10 also feels pride in his products that he himself has raised. He enjoys being able “to take something that you have raised, from the earth, and feed someone with it. I think it is a really cool concept.” By keeping a restaurant garden, Chef 12 feels it builds confidence in his food “Once you grow your own food, you have a different confidence in your food...so I am confident in it, and I find that very powerful” (C12).

Aesthetics

Participants benefitted from their restaurants gardens because they felt that their growing areas were aesthetically pleasing to both the clientele and the staff (C4, 11). While listing different benefits of his restaurant garden, Chef 4 states “It beautifies the location.” Chef 11 agrees with his garden being aesthetically pleasing and states “it is visually pleasing whenever my customers walk in.”

Cathartic

A few chefs find that cultivating a restaurant garden can be therapeutic (C5, 7, 12). Growing food means having a getaway location when the day gets too stressful and can be a way to get back to their roots and allow them to get their hands dirty. For Chef 5, maintaining a restaurant garden was a stress reliever and it allowed him to get away from the hustle of the busy kitchen and think about the future menu items.

“It is therapeutic for me, if it got stressful, I could say “Hey, you know what, I am going to go out to the garden to tend to this, or whatever.” It kind of gave me an out and allowed for me to get my hands in the soil, and then I could think about the dish

that I would make from this and think about what was going to go on the menu the next week” (C5).

Chef 7 not only finds cultivating his garden to be therapeutic but it also allows him to get closer to nature. Chef 7 states,

“Going down there [CEFS] and transplanting seedlings and planting seedlings, and just seeing the vitality of nature, connected me with my spiritual side...uh...knowing God, and so, at that point, I combined that with my business background and decided to start looking for a decent way in the inside of [city] that I could convert into a urban garden.”

RESEARCH INTERST SEVEN

Describe the challenges of cultivating restaurant gardens

Although the chefs have found many benefits to keeping a restaurant garden, they have also faced different challenges while cultivating their growing areas. Each chef was able to articulate challenges in maintaining their restaurant gardens including staffing and labor, weather, time, pests, keeping up with demand, and dealing with customers.

Labor and Staffing

Although many of these chefs are maintaining these gardens themselves, it was surprising that only one chef listed labor as a challenge. Chef 1 states “labor and work definitely. Its labor intensive and it is not easy. You have to watch carefully.”

One chef mentions having different staffs that maintain the restaurant gardens as a challenge. This chef faces different staffing and labor challenges while cultivating his restaurant garden. Chef 2 states “Staffing. The ability to staff people to actually help with it [the restaurant garden].”

Weather

Weather was listed by several of the chefs as a challenge of cultivating restaurant gardens (C1, 4, 6, 10, 11). Weather is one of the hardest to deal with because of lack of control. Chef 1 disclosed that, because of the rain, they had lost quite a few different products throughout the growing season.

“This year we had hardly any tomatoes because of all the rain we had. Last year we had this huge elephant spinach, and this year we didn't have any this year because of the rain. Asparagus, we have had asparagus, but this year they were so stringy, and they wouldn't be any good” (C1).

Chef 6 also uses the rain as an example of a challenge and goes on to say “this past year can be a great example. We had way too much rain, so, the weather can be detrimental...nature can be a huge challenge.” Chef 4 talked about how the weather could impact his growing process and describes “There was a frost the other day so we had to harvest everything, and when you do that, you have to all of a sudden preserve that or it is going to go bad.” Along with the frost and the rain comes the spring and summer months that are usually accompanied with higher temperature. Both Chef 10 and 11 list the heat as a challenge of cultivating their restaurant gardens and Chef 11 says “keeping it [the garden] alive during the summer when it is so hot” can be a challenging factor behind maintaining the establishments growing space.

Time

Cultivating a restaurant garden is time consuming. Several participants struggle with finding the time to maintain these gardens, and listed time as a major challenge (C1, 3, 4, 8,

12). Chef 4 also mentions sacrificing convenience and time in order to deliver a better quality product.

“It is time consuming and it is less convenient in the kitchen because you have to process the product more than you would if you had just bought it from someone who had processed it for you” (C4).

Chef 3 states,

“Time. It is completely and utterly against me in every way. Because of not only how much time I have to commute as well, how little time I actually have to commit to this [the garden]”

Chef 8 also discussed how other daily responsibilities can create time constraints on the restaurant garden. “With all the responsibilities I have, it is hard for me to put in any extra time into it [the garden]”. Chef 12 thinks that time is a challenge because he looks at his garden as more of a process than a task. Chef 12 states “I would say that it is a full process. By growing food, it takes a lot of time.”

Pests

Because a majority of the chefs gardens are located out in the open, a few of the chefs listed pests as a challenge to cultivating restaurant gardens (C2, 4, 9, 11). These pests can vary from bugs to animals, and even to the customers that are visiting the restaurants. Chef 2 finds that animals are a challenge because “they want to eat everything.” Chef 11 has a serious issue with one animal in particular.

“We have groundhogs in the neighbor’s yard next door, so um, whenever we planted Brussels sprouts, those groundhogs ate every single one of them. To be honest with you, groundhogs are the biggest challenge. There is residential right next to the restaurant, and then behind it, there is an open field, so there are tons of groundhogs. They will crush whatever I have out there. You can actually see where they have climbed into the raised bed, walked around, and eat everything before they lay back down in it” (C11).

Chef 9 also has a peculiar pest that disturbs the restaurants garden on a regular basis, “Having people walking by and taking it [herbs].” Because the customers walk right by the herbs as they come and go from the establishment, he has found that “98% of them takes at least one leaf off every plant when they leave.” Chef 4 also includes theft in his list of pests and states “you lose things due to theft, and or bugs.”

Expense

Although some of the chefs feel that their restaurant gardens are cost effective, a few of the chefs feel that the gardens expenses can be a challenge behind their cultivation (C7, 8). While describing his garden as an expense, chef 8 explains “buying food, you know, you are only buying a finished product, and when you grow something, you are taking a risk. You are buying the seed and the soil.” Chef 7 had a much more complex explanation as to why expenses are a challenge to growing food for the restaurant.

“The challenges are that it is, its capital intensive to get it started. It takes 5-6 years to turn dirt into soil. By putting organic material back into it or bringing it back to life. So that means you have to be able to afford to take in no money for about five years, but then the expenses are urban, but anywhere else you have to put in fencing that is going to keep the deer out, so that is expensive, because you know, you don’t want to do all that work and then have something eat it. Secondly, for us, there was a well on the property but we had to re-dig the well, so that was another expense. It’s not just a hobby at that point, it has become a legit enterprise” (C7).

Demand

Even though these chefs enjoy being able to provide their clientele with food cultivated specifically for the restaurant, some of the participants did say that keeping up with the demand of the produce was a challenge (C5, 8, 10). Chef 5 describes “Demands, I mean, it’s the commitment aspect of it; you have to be real aware of the yield. That probably

is the biggest thing to be active in.” While listing different challenges to garden cultivation for his restaurant, Chef 10 states “not being able to keep up restaurant demand.”

Chef 8 discusses that he finds it challenging to grow products that could feed enough people on his menu with the amount of space that he has for his restaurant garden. He feels that by using a different concept, he can get more products in less space.

“...it is a challenge to get a significant quantity. If you are growing for a family, you don't really need to grow that much, but when you are growing for a menu, a 20 foot row of carrots would last one night for one dish, so it's a lot of time and effort and you of course have to do stuff on a large scale in order to be able to do it for a restaurant. We try to take in the micro idea of doing herbs and stuff that takes a lot less space and goes a lot longer” (C8).

RESEARCH INTEREST EIGHT

Determine participants' views on restaurant garden practices in the future of the restaurant industry

When it comes to the restaurant industry, upcoming trends or fads are key to the future of the industry. These chefs mentioned trends within the industry that included buying local and sustainability. A majority of the interviewees said that they saw this practice becoming more popular, but there were also a few chefs who said that time and money would be constraints for the future of restaurant gardens.

Rise in popularity

Many of the chefs interviewed feel that the practice of cultivating a restaurant garden will gain more popularity in the future (C1, 4, 5, 7, 8, 10, 11, 12). With today's population becoming more aware of their food and where it comes from, these chefs feel that cultivating restaurant gardens is a great way to please their patrons. Chefs also see areas of their state becoming more populated, and they feel that this is a key practice in order to maintain sources of healthy food. Chef 1 says

“Yeah, totally. People want to live in the cities and there is no more gardens, here in [town] it is so popular because there are still places for people to grow. This has to continue, otherwise, we will not be able to survive. This is something that we have to do. People are more conscientious of what they are eating and where their food is coming from. People want to know. Sometimes, as a chef, its nice to know where your food is coming from”

Chef 4 also feels that this practice is going to gain more popularity and he hopes to see it flourish for the future of the industry. He stated,

“I hope so. I think so. Its, from my stand point, there is nothing more romantic then a chefs passion for his food, so I think that if people really do want the best stuff, then they need to grow it. I think that people want to see the connection between where it was grown and they want to feel like it is safe. In this world where everyone is getting sick from things like peanut butter, they want to feel like their food is safe. I think if they see it, they will think it is safer.”

Chef 5 believes that popularity will increase and states “I think people are becoming more aware of it [growing products]” and feels that “people will start growing their own stuff.”

When it comes to their customers becoming more aware and this practice becoming more popular, chef 8 states,

“I think it’s becoming more popular for individuals and I think people are becoming more aware of it as a trend and becoming more aware of where their food comes from. I think more people are starting to have gardens for themselves and I think one of the biggest trends in the restaurant industry over the last 10-15 years is this farm to table and having people doing what I am doing.”

Chef 7 describes his views this way,

“Oh, no question about it, it is just the tip of the iceberg. I am coming into contact with what I call the “hippies” again. Being an old hippie, I know of people who want to go back to the land and they don't want to end up with 100 thousand dollar debt when they graduate from college to get a job that they don't like. Even though it is the hardest thing you will ever do in you life, growing food, there is an optimism and a sense of hope...”

Not Gaining Popularity

Although most of the chefs feel that this practice will become more trendy, a few of the chefs do not foresee restaurant gardens gaining popularity in the future (C2, 3, 6, 9).

Chef 9 states that “a lot of chefs are still into that age of convenience where it is just easier to order it than do it yourself.” Chefs 2 and 3 feel that they could see gardening going either way. Chef 2 states

“I think that it depends on the individual. I truly believe that the guys in the inner city are not going to want to take the time to drive 20 to 30 miles down the road to do this. The other part of the equation is, if a restaurant a lot of times does not have enough space to do this with, so they would actually have to lease land to be able to do it...there again, what is the motivation?”

Chef 3 also can see where this practice could become popular, but he also feels that it is an individual situation and that time and cost can also be a huge constraint to carrying out the steps behind maintaining a restaurant garden. Chef 3 responded,

“Uh, yes and no. I think it takes a certain kind of person to want to do that sort of thing and not everybody really cares about that. Not a lot of people have time for that. That’s kind of a double edge sword I think in this industry. You spend too much time in the kitchen to be able to spend any extra time on that sort of thing. It takes a lot of equipment and materials to actually get a farm going, and then not everyone has what I am fortunate enough to have...”

RESEARCH INTEREST NINE

Identify future educational needs of North Carolina chefs

These chefs are actively working within their restaurant gardens on a daily basis, and a majority of them have an educational need for improving and increasing their growing. The information that is needed varies greatly and can include anything from hydroponics to soil testing. These chefs also have different preferences on how they would like to receive the information that they are looking for. While some chefs prefer to receive the information

through the internet, other participants said they would like to get information by pamphlets and books. Each chef's need for this information can be influenced by time availability and convenience of receiving the information.

What they want to know

Each individual required different educational material in order to fit their specific needs and gardens. Each participant was looking for different information on how to better their growing areas. Chef 1 mentioned that getting more information on "local farmer and local producers" would be helpful for his future growing because they are the professionals. Chef 2 would like to know more about different varieties of products, and whether or not there are more drought tolerant variations that he should be aware of.

"I would love to find out, you know, are there different varieties that are coming out and that are going to be available...Is there more drought tolerant things that we need to pay more attention to here in the south? That's pretty important" (C2).

Because he is trying to move towards a more sustainable agriculture, Chef 3 feels that having knowledge on soil testing would be useful in order to expand his growing. While discussing information used for the expansion of his garden, he states,

"The big one that we have actually used is soil testing. We have sent core samples out to the university to actually test for what we need to put back into the ground to make it better...That is something we have reached out for informational purposes because that is information that we cannot necessarily get ourselves."

Because of the smaller space in which he cultivates his restaurant garden, Chef 4 says that information on watering and irrigation systems could be beneficial to the future of his growing area.

"Probably irrigation practices or the best watering. It is something that I am not familiar with so that would be one of the things that I would want to see more of.

Some kind of sprinkler system or irrigation for what we are trying to do, so it is not me out there just watering my garden, I want to be able to use the water more wisely. Hydroponics would be smart for restaurants to have. To have a little hydroponics set up on the outside of the restaurant because its more, you know, a better form of growing because it is more compact and you can use time and resources more wisely. That would be something that I would definitely want to know. Also, you can do it throughout the year. I am curious about it.”

Like Chef 4, Chef 6 is maintaining his restaurant garden through container growing. He said “I guess I could use more information on container growing.” Chef 8 also said that “tips on getting more production out of a small space” would be beneficial to expanding his garden in the future. Although Chef 10 does not foresee too much expansion happening with his restaurant garden, he feels that he could still use information on “growing seasons and crop rotation” in order to help maintain the garden he does have. Chef 11 would like information on greenhouses and finds it could be something that he might need for the future of his gardening because he plans on moving his garden to his personal home.

For a more in-depth look at what the chefs want to know for future practice see Appendix I.

How they want the information

There are three main ways in which North Carolina chefs want to receive their information on gardening. A majority of the chefs said that they would prefer to receive future information in a way that they could access the information when they needed or wanted the knowledge. The most popular response was through some form of the Internet (C1, 2, 3, 5, 7, 8, 9). The chefs also revealed that they would also take in information through paper forms (C2, 10, 11). Finally, a few chefs mentioned face to face meetings as a possibility (C1, 4, 11).

Chefs who want to receive the information from the internet prefer this source because of time constraints and the easy access. Chef 2 states “If someone could email me a website and let me roll right to it so I could check it out, that works easiest...” When asked how he preferred to receive future information, Chef 9 states “Anyway through the internet would be the easiest.” Chef 3 feels that the internet is a great source for his needed information and says “A paperless trail is the best. Emails are a good source of information. If there was something of a periodical email that was sent out, I would read it.” Chef 8 also says “over websites or over an email” would be the most suitable way to send needed information.

Besides receiving emails or looking up websites, some of the chefs feel that other forms of internet resources could be helpful for receiving educational needs. Chef 5 states “an open blog forum or forums because then I can pull it up and see what other people have.” Chef 7 disclosed that he would enjoy receiving information via “a YouTube video.”

While some chefs prefer paperless trails, others would like to receive information in paper form. Although Chef 2 said that the internet would be the easiest form of information delivery, he also said “if there was a magazine or publication that I could purchase, I would certainly do that.” Chefs 10 and 11 said that they would like to receive their information through “pamphlets, papers, [and] booklets.”

Face to face instructions were also ways in which North Carolina chefs would be willing to receive information. Chefs 2 and 11 disclosed to the researcher that they would like to receive gardening information from the local producers and farmers by talking with

them or visiting the farmers market. When chef 4 was asked about how he would want his educational material delivered, he stated

“As for me, if it was in the form of a seminar. Actually going to someone’s set up and having a meeting inside of it. Paper packets and packets of information, stuff like that, doesn’t really do it for me. Personally, being in the environment is what gets me thinking about it.”

CHAPTER SUMMARY

Through the interview process and data analysis, the researcher was able to find that these 12 chefs all differ in numerous ways. While some of the chefs grow in potted plants behind the restaurant, other cultivate on large plots of land miles away from their restaurants. Each chef has a different menu approach and restaurant concept, and with that comes the differences in educational and cultivation practices needs.

The participants of this study started their restaurant gardens for a variety of reasons which include necessity, previous practice, family connection, and niche marketing. Whatever the reason for beginning their growing areas, the participants all find different outcomes, benefits, and challenges behind maintaining their restaurant gardens. Although some of the chefs feel that these gardens can bring on harder work because of the level of attention the space needs, others find the benefit of quality control and freshness to outweigh the day to day challenges that come with keeping a garden for their establishment.

Along with different background, growing areas, and outcomes of the gardens, these chefs also feel differently about the future of this unique practice and all show interest in future educational needs in order to keep their restaurant gardens growing. Some chefs have a need for future information on irrigation systems while other want to have more

communication amongst fellow chefs in order to keep track of what others are doing with this unique practice. No matter how they feel about the future of their gardens and others, the researcher had found that they all have educational needs and preferences on how to receive the future information.

CHAPTER 5 CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

The purpose of this study was to understand the gardening practices and educational needs of North Carolina chefs who cultivate restaurant gardens. Providing a roadmap for North Carolina Cooperative Extension to assist in the development of provide future educational programs was an important component to this study. This qualitative study is guided by the following research interests:

1. Describe how North Carolina chefs began cultivating restaurant gardens.
2. Describe current restaurant gardens.
3. Identify from where North Carolina chefs receive gardening information.
4. Determine the practice outcomes of cultivating gardens for the North Carolina chefs.
5. Describe how the language included in menus identifies growing practices.
6. Describe the benefits of cultivating restaurant gardens.
7. Describe the challenges of cultivating restaurant gardens.
8. Determine participant's views on restaurant garden practices in the future of the restaurant industry.
9. Identify future educational needs of North Carolina chefs.

SUMMARY OF THEORETICAL FRAMEWORK

Constructivism and self-paced learning were the theoretical frameworks used to support this qualitative study. Constructivism is a theory based on the works of Jean Piaget and Lev Vygotsky and focuses on the cognitive development and deeper understanding of active learners and is understood to be a complex, non-linear learning process (Fasnot &

Perry, 1996). Although constructivism has been studied by many different researchers, the common thread among them is that constructivism “is a learning or meaning-making theory” (Richardson, 2005, p.3). According to Richardson (2005), constructivism suggests “individuals create their own new understandings based upon the interaction of what they already know and believe, and the phenomena or ideas with which they come into contact” (p. 3). Constructivism, in summary, suggests that human knowledge is constructed by the learner, for the learner.

The other half of the theoretical framework was self-paced learning. According to Anderson, Annand, & Wark 2005, the main objective of the self-paced learning model is “to provide the greatest degree of access and flexibility for students” (p. 222). Although some people feel that this approach can fail a student because of its lack in guidance, many researchers find self-paced learning to be effective because it allows the learner to manage and control the intake of educational material and communication in order to meet their personal needs. In summary, self-paced learning occurs when a learner can proceed through educational content at their own rate of speed without trying to keep up or being slowed down by others (Beyer, 1977).

SUMMARY OF LITERATURE REVIEW

Distance education courses, according to Jonassen et al. (1995), can enable learners to independently make meaning. If the courses are designed using constructivist principles learners are able to progress past the basic depositing of information from teacher to student (p. 8) and construct their own knowledge. The authors conclude that distance learning environments can be unique and exciting and support knowledge construction provided the

tenets of constructivism are used in the instructional design. The knowledge construction process takes place both during and after the actual time a participant is in a course (Dobrovolny, 2006). Because learners capitalize on prior instruction, instructors should design distance courses to be easily manipulated and personalized. One way instruction can be personalized is to let the learner determine his/her own pace. Deliverables that allow for self-paced learning are cost-effective and are also likely to be seen as relevant (King, 1999). Education materials (including Extension materials) should be based upon the needs of the learner and capitalize on self-paced strategies (King, 1999; Dunlosky, Kubat-Silman, & Hertzog, 2003).

Formal and informal interactions can be equally important as all interaction influences the overall learning experience (Rhode, 2009). Even though participants rely on social activities in education, and the interaction they provide, as an essential aspect of the overall learning experience they also “maintained that the flexibility and independence characteristics of self-paced learning opportunities supplanted the need for certain types of interaction” (p. 9).

Independent learners, and those with busy schedules, benefit from convenient learning opportunities. Using an interactive CD (or other independent tool) enables self-paced, on-demand learning while still providing a meaningful experience (Sexton, Schilling & Taylor, 2009). Even when scores are higher via other delivery methods the personalized approach and compatibility with outside-school demands (work, childcare, obligations, etc.) of independent learning may be preferred. Repeated exposure to these methods and strategies should result in greater success with independent learning. Ease of access to

information is crucial (Fitzpatrick, et.al, 1997); learners want and need to be able to find the specific content they desire. Written guides make this content more easily searchable. Other forms of media (audio and video) can successfully be utilized in self-paced scenarios provided guides or some other means of information location are available (Fitzpatrick et.al, 1997). Convenience and ease can be found in self-paced, online tutorials (Kenny, 2007). This type of presentation and web-based training offers the needed information in a manner that is effective (allowing participants to be successfully tested on knowledge gain) while still being enjoyable and easy to use (Kenny, 2007).

Chefs from all over the U.S. and all across the world have been documented for their cultivation practices and restaurant gardens. Benefits of maintaining these growing areas include necessity, cost effectiveness, and quality control. It has also been found that cultivating gardens can psychologically be beneficial by allowing the grower to gain satisfaction, rewards, and a sense of getting back to nature (Kaplan, 1973). Along with the benefits of maintaining restaurant gardens, it can also be said that these chefs keep their growing areas in various locations including on and around the establishment as well as off-site and with partnerships.

SUMMARY OF METHODOLOGY

The researcher designed a basic qualitative study in which the research was conducted under the interpretive or constructive philosophy. The population for this study was chefs in North Carolina currently engaged in growing food that is then used in their own restaurants. 12 individuals were interviewed and represented regions from across the state of North Carolina. The participants in this study were selected using a purposive sampling

technique (Erlandson, Harris, Skipper, & Allen, 1993), and their years of culinary experience, products being grown, and growing areas all varied. The researcher was a graduate student at North Carolina State University and also worked full-time within the North Carolina restaurant industry. Both of these experiences influenced the decision to study this topic and also informed the inductive nature of the data analysis process.

The researcher contacted the 12 North Carolina chefs via email or phone to ask for their participation in this study in order to collect data for the study. Each interview was recorded, transcribed, and coded. Codes used for the interview portion of data collection included I (interviewee) and a number associated with the order in which the interviews were conducted. This study used semi-structured interviews and the 32 question protocol written by the researcher. The documents used for document analysis in this study included menus from each interview participant's restaurant. Once collected, the researcher would then code them C (chef) and a number affiliated with the order of the participant's interview.

Through the constant comparative method, the researcher found emerging categories, themes, and impressions that coincided with the developing research. Throughout the data analysis process, the researcher was able to find common use of language amongst the different participants, and start unitizing the data being analyzed. In order to unitize the collected data, the researcher sorted the reviewed notes into emerging categories, themes, and impressions. Through this process, larger and clearer themes developed, and a more effective understanding of these chefs and their gardening practices emerged. The researcher also used the collected menus for the content analysis process. During content analysis, the researcher reviewed the menus and assigned different colors to key concepts in order to

signify the different emerging words, themes and categories being used throughout the menus.

Trustworthiness of this study was established by using alternative of credibility, dependability, confirmability, and transferability. Audit trails, journaling, member checks, and peer debriefing were all techniques used throughout the research process to help demonstrate trustworthiness.

SUMMARY OF KEY FINDINGS & CONCLUSIONS FOR RESEARCH INTEREST

Research Interest One

Describe how North Carolina chefs began cultivating restaurant gardens

This research interest focused on North Carolina chefs cultivating restaurant gardens and their reasoning behind their gardening practices. Through this research interest, the researcher found that these chefs started their restaurant gardens for various reasons. Chefs began gardening because of the need for special ingredients, previous restaurant practices, generational influences, and niche markets. Because of these various reasons for starting restaurant gardens, it can be concluded that these chefs molded their cultivation practices into something unique and significant while practicing innovation and creativity in the kitchen.

Each chef had their own approach and style within the kitchen, and along with the variation in the kitchen, comes the need for certain ingredients. Several chefs shared that the need for special ingredients was a reason for starting restaurant gardens. When these chefs could not locate certain items (specific, unique varieties or uncommon vegetable types) for their dishes, they found a way to grow them themselves.

Many of the chefs interviewed described how previous practices in other restaurants influenced their start in gardening. Whether their gardening practices include container growing or raised beds, these chefs had witnessed others cultivating restaurant gardens and carried on these practices within their own kitchens and restaurants. These chefs have constructed their practices around life experiences and knowledge they have gained through previous interactions, similarly to what Richardson (2005) describes; “individuals create their own new understandings based upon the interaction of what they already know and believe, and the phenomena or ideas with which they come into contact” (p. 3).

Several of the chefs began gardening because they were raised in an environment where generations before them cultivated gardens. These chefs carried on a generational tradition into their restaurants because they found it to be a normal practice, and inspired future dishes within the kitchen. This goes hand in hand with what we know from previous research. According to Yakimovicz & Murphy (1995), “new meanings are created by the learner within the context of her or his current knowledge...and is to some degree both personally and culturally relative” (p. 203). Because these chefs were raised in homes where gardens were cultivated, they implemented cultivation practices into their restaurant kitchens and onto their unique menus.

Niche markets also emerged as a reason these chefs began their gardens. Some of the participants began cultivating restaurant gardens because they found that these practices were marketable to a particular set of clientele. For example, one chef discusses how people today are looking for these particular practices within the restaurant industry and by having gardens within and around his restaurant, his customers can see that they he growing his own

produce. By being able to visually prove that they are cultivating their own restaurant gardens, these chefs feel that they can reach a whole new targeted customer.

Research Interest Two

Describe current restaurant gardens

The purpose behind this research interest is to gain a deeper understanding of the individual restaurant gardens and how they differ from one location to the next. Since these chefs differ in restaurant concepts, the researcher found that their restaurant gardens content, locations, and set ups also differ. Although these factors are influenced by the variation in restaurant location, space availability, and seasonality of the different North Carolina regions, the researcher discovered that each chef found a way to maintain a garden for their restaurant. Because of these factors, it can be concluded that these participants had to exercise a new level of visionary practices for their restaurants and invest in a larger level of dedication to their establishments. The chefs interviewed have all found ways to conform to what they have in order to maintain these gardens and whether it is tomatoes, basil, or pumpkins, these chefs have learned to utilize their growing areas in order to cultivate produce for their establishments.

Garden contents varied drastically from chef to chef. While some chefs stuck to growing only herbs, there were other chefs who found the space and time to keep up with herbs, vegetables, and different variations of fruit producing trees. Whether it is zucchini, thyme, or watermelon, these chefs utilize their space and seasonality in order to cultivate a large variation of produce for their restaurants.

Along with the variation in what is being grown, these chefs are also cultivating restaurant gardens in very different locations. Because of space availability, it was revealed that some of the chefs travel off site to their gardens, and some journey over 40 miles to get to their space. On the opposite side of the spectrum, it was discovered that other chefs maintain their gardens behind, around, or even on top of their establishments. The chefs in this study were also growing their gardens in different ways. A few chefs had acreage available and maintained their restaurant gardens on larger plots of land away from their establishment. Several other chefs maintained their restaurant gardens around their establishments, growing their products in containers, raised beds, or even old wooden barrels.

Research Interest Three

Identify from where North Carolina chefs receive gardening information.

Research interest three focused on identifying the different sources from which the participants of the study are receiving gardening information. Four major resources emerged: written publications, farmers, the North Carolina Cooperative Extension service, and the internet. Dobrovolny (2009) stated that “learners customize instruction to meet their needs, based on their prior experiences, their current responsibilities, and their expectations of future responsibilities” (p. 166-167), which is true in this case as the chefs select information based on their needs. With these resources, the chefs are capable of approaching needed information at their own pace and taking only what they need from the particular resource. By using these different resources to gain information on gardening, these chefs are also active in building and creating knowledge on an individual level as described in (Bender, 2003). Because these chefs are taking control over their learning and there is an

independent pursuit over knowledge gain, it can be concluded that these chefs are showing attributes of self-paced learners and their learning preferences show ties back to constructivism.

A majority of the chefs used some form of publications as a resource in order to gain more information on their restaurant gardens. These publications could include magazines and books. Depending on the information they thought they needed, the chefs sought out information through publications at different stages of their gardens. For example, while some chefs used publications to help find information on how to start a garden, other chef used these resources to stay ahead of their growing and help decide what to cultivate in the seasons ahead.

Most of the participants were using local farmers as a source for information. Some of the reasons for using local farmers included chefs looking for advice, information seeking, and networking within the community. No matter what the reason for using this resource, the researcher found that chefs valued their relationships with their farmers and viewed these individuals as valuable and beneficial aspects to the future of their restaurant gardens.

University sponsored programs was another important resource being used by a couple of the chefs. NCCES was used by the participants for general gardening information, workshops, and even face to face meetings such as the beekeepers association or canning courses. No matter the reasoning, the chefs who have used this resource find it useful because of its network within the community and its variety in information. Although the researcher found 4 chefs who used this service as a resource, the researcher found that a majority of these participants are not utilizing this resource for information. It was also

discovered that two chefs were conscious of Extension, but did not use the resource, while the rest of the participants were not even aware of the service at all.

The last resource that emerged from this research interest was the internet. Chefs were using the internet to gather information through search engines and online publications. By “Googling” and reading online blogs, chefs are browsing the internet whenever they need information, inspiration, and ideas for their restaurant gardens.

Research Interest Four

Determine the practice outcomes of cultivating gardens for the North Carolina chefs.

The purpose of this research interest was to discover different outcomes of cultivating restaurant gardens. By cultivating these gardens, chefs had an increase in creativity, a change in food safety procedures, and improved their attention to the products being grown. Because of these outcomes, it can be concluded that cultivating restaurant gardens has increased the level of appreciation that these chefs have for the products being grown. These chefs place a higher value on creativity within their kitchens and invest more in the products going into their dishes. By growing their own food, these chefs have a different level of responsibilities that come with harvesting, handling and watching their produce; therefore, these chefs are having to implement different practices within their gardens, kitchens, and establishments in order to deliver the best products possible to their clientele.

Many of the chefs felt that cultivating their own restaurant gardens allowed for them to be more creative within their own kitchens. By cultivating their own food, creativity is amplified because these chefs are able to utilize the products more carefully and are allowed

the opportunity to “showcase” the product more. Creativity is also increased when growing their own products because of the inspiration needed to work with specific dishes.

Another outcome of cultivating restaurant gardens includes chefs making changes to their food safety procedures. Many of the chefs said that their washing procedures have changed, while others discussed rules and regulations that need to be followed. One chef acknowledges that, when purchasing produce from a company, it is supposed to come to the establishment prewashed and cleaned, but when he grows his own produce, he takes extra precautions in making sure that his garden products are washed multiple times. These chefs also discussed regulations from the health department, and where some view it as a negative aspect, there were also chefs who do not see the negative aspect to new regulations and rules.

When cultivating their own gardens, many of the chefs said that it resulted in paying more attention to their products. Because these products are from the restaurant itself, many of these chefs feel that they need to make extra effort in their gardens taking ownership and authority for what is going onto customer’s plates. These chefs are also investing more attention in harvesting times and keeping a look out for local pests and their eating habits.

Research Interest Five

Describe how the language included in menus identifies growing practices

The purpose of this research interest was to explore the different menus offered at the participant’s establishments and discover how they use specific language in order to elaborate on their restaurant gardens cultivation practices. Through this research interest, it was discovered that many of the chefs used words such as “fresh” and “homemade” to verify to the clientele that they were indeed growing and making specific items on the menu in and

around the restaurant. These chefs also offer rotating “vegan” and “gluten-free” options, along with “seasonal” and “local” products within their menus. Considering that many of the chefs view their clientele as “well-educated” “foodies”, they provide their customers with new, healthy, and trendy items such as vegan options, organic produce, or locally grown products. By using specific language throughout their menus, it can be concluded that these participants are aware and knowledgeable of what their targeted clientele desire, and offer an array of products to meet the needs of their customer and food trends.

Research Interest Six

Describe the benefits of cultivating restaurant gardens.

This research interest focused on the different ways in which North Carolina chefs benefitted from cultivating restaurant gardens. Benefits of cultivating restaurant gardens include cost effectiveness, freshness, quality control, pride, marketability, aesthetics, and cathartic aspects of gardening. Some chefs found multiple benefits in keeping restaurant gardens, while others found their one driving force and kept with that. By keeping a restaurant garden, it can be concluded that these chefs have learned that produce growth is a full, step by step process. While maintaining these growing areas, these chefs have had the opportunity to experience their produce at every level of growth and between growing, tending to, and harvesting their own products, the participants are able to learn more about how their food is processed and they have been able to find new knowledge in what they are putting on their plates.

Cost effectiveness was a perceived benefit of cultivating restaurant gardens for a few of the chefs. The participants who discussed cost effectiveness listed this benefit because

they felt it was cheaper to grow their own food as long as they could utilize as much of the produce as possible.

Freshness was one of the biggest benefits for chefs who are cultivating restaurant gardens. For some chefs, freshness is a benefit because there is no question of how the products are being handled and treated. These chefs also feel that you cannot get any fresher than walking out the back door and picking the produce right off the plant. One chef, for example, discussed how he preferred being able to clip fresh herbs for a dish as opposed to having to walk into the restaurant cooler and grab something out of a bag that he had no idea how long it has been in there. Another participant discussed how he felt that freshness is a benefit because, by keeping a restaurant garden, he is reducing the shipping time of produce that would normally be on his menu.

Every chef found quality control to be a benefit of growing their own food for the restaurant. To these chefs, quality control includes being able to watch over their products, knowledge of chemicals used on the garden, and being able to harvest the plants when they are at their peak. For one chef, being able to control his produce in order to accommodate the uniqueness of his menu is what made quality control a huge benefit for cultivation.

Being able to market their gardens was another benefit discussed by participants. These chefs felt that, by being able to advertise and make these gardens a part of their establishments, they could attract a new type of clientele for their restaurant. One chef in particular discussed how, by advertising his products and positioning his garden in the right area, it showed his customers that he was interested in their well being and bringing them the best product possible. Whether it is the position of their gardens, or advertising the

homegrown produce on the menu, all the chefs who mentioned marketability as a benefit found a way to let their customers know how they were cultivating their own produce.

Some of the chefs interviewed reported that they gained a sense of pride and fulfillment in maintaining a restaurant garden. By cultivating these gardens, many of the chefs feel that a new level of pride was reached and a sense of worth was provided. For these chefs and their employees, pride and fulfillment becomes a benefit because they have the opportunity to care more for their food and have that interaction with the land.

Aesthetics was also a benefit of cultivating restaurant gardens. These particular chefs discuss that, by keeping restaurant gardens, they felt that their growing areas beautified their restaurant locations making their establishments more aesthetically pleasing to both the customers and employees.

The last benefit of restaurant garden cultivation was that some of the chefs found this practice to be cathartic. For some of the chefs, these gardens mean having a getaway location when their days get busy and stressful. The restaurant gardens were viewed by some as a great way to get back to their roots and allow them to get their hands dirty.

Research Interest Seven

Describe the challenges of cultivating restaurant gardens

The researcher used this research interest to focus on the different challenges that chefs found behind growing their own food. Challenges of cultivating restaurant gardens include staffing and labor, weather, time, pests, and keeping up with demand. Because of the challenges of maintaining restaurant gardens, it can be concluded that these chefs have an increasing demand for more dedication to their growing areas.

Some of the chefs revealed that managing staff and labor was a challenge to the cultivation practice. Although some of the chefs have different staffs that maintain the restaurant gardens, a majority of the chefs are themselves responsible for keeping up with the growth of their products. Because cultivating these restaurant gardens is labor intensive, these chefs disclosed that pulling weeds and hand tilling the soil were challenges for these already very busy chefs.

Weather was also a challenge of cultivating restaurant gardens. Rain, snow, or extensive heat, all presented a challenge to these chefs because of the unpredictability and uncontrollable impact on the chefs' gardens.

Time was one of the biggest challenges found in cultivating restaurant gardens. Several chefs struggle with finding the time to maintain these gardens. Some chefs feel that they sacrifice not only time, but also convenience when growing their own food because they have to process the product and put more steps into prepping it.

Pests were a challenge for these chefs when it came to keeping up with their restaurant gardens. Although the pests vary from bugs to animals, it was discovered that, since a majority of the chefs gardens are located out in the open, they are all pest susceptible. One chef described problems with the neighborhood groundhogs, while another chef listed customers as a form of pest. People walking by his restaurant garden to get inside the establishment would take parts of the herb plants with them as they walked.

Although some of the chefs felt as though their restaurant gardens were cost effective, a few of them listed expenses as a challenge of cultivation. These gardens might be capital

intensive to get started, and some chefs felt as though they were taking a financial risk in growing their own products.

Some of the chefs revealed that keeping up with the demand of produce was a challenge to cultivating their restaurant gardens. When it comes to space availability, these particular chefs found it challenging to grow a sufficient amount of products to meet the menu demands for their clientele.

Research Interest Eight

Determine participant's views on restaurant garden practices in the future of the restaurant industry

The focus of this research interest was to develop a better understanding of how the chefs viewed the cultivation of restaurant gardens within the larger picture of the future of the restaurant industry. A majority of the chefs felt that this practice is becoming more popular, but there were also a few participants who felt that time and money would be constraints for the future of this cultivation practice. It can be concluded that these participants have an understanding of the connection between what is happening with society and what their clientele want, and by understanding this connection, they are carrying out gardening practices that will benefit them in the future of their establishments. Although there are chefs who believe that these practices are not gaining popularity, it can be concluded that these particular participants are still aware of what people want and need, but cannot or do not find the resources behind building the connection to the clientele.

With today's population becoming more aware of their food and where it comes from, many of the chefs felt that the practice of cultivating a restaurant garden will gain more popularity in the future. Some chefs also believe that this practice will gain popularity

because of the increase of people living within cities. For example, one chef felt that this practice must gain popularity in order for the human race to survive. Another chef also felt that because people in today's society need to know more about where their food is coming from, we will see a rise in this practice as people have a need to go back to the land and fulfill a more spiritual need.

On the other side of the spectrum, some chefs felt as though this practice will not gain popularity in the future. A few chefs cited factors including time and money for this practice slipping away. These chefs believed that it took a special kind of person to begin or continue the practices of cultivating a restaurant garden.

Research Interest Nine

Identify future educational needs of North Carolina chefs

The focus of this researcher interest was to gain a deeper understanding of the future educational needs of the North Carolina chefs cultivating their own restaurant gardens. Not only does the information that they need vary, but the researcher found that these chefs have different preferences on how they would like to receive the information. Although they all want information for their restaurant gardens, these chefs require different educational material and their preferences on material delivery vary. It can be concluded that very few of the chefs interviewed are aware of educational resources available to them, and that the North Carolina Cooperative Extension service has a whole targeted audience that could use their guidance on everything from soil testing to crop rotation. It can also be concluded that these participants have a deep need for more than just knowledge, and that they are striving to build relationships with individuals that can help them with the future of their gardens.

Between the curiosity and educational needs of these specific individuals, there are many different programs, pamphlets, and websites that need to be established in order to educate this targeted audience.

Each chef's restaurant approach and gardening practices vary greatly from one individual to the next. Every individual required different educational material in order to fit their specific needs and gardens. Chefs revealed that they needed information on topics including local farming and variations of produce. A few of the chefs are looking for information on sustainable gardening and proper soil testing. Other chefs mentioned needing information on irrigation systems, maintaining container growing, and crop rotations.

The researcher found that there are three main ways in which North Carolina chefs want to receive the needed educational materials pertaining to future gardening practices. While a majority of the chefs revealed that they would prefer to receive future information through the internet, the chefs also discussed receiving the information in paper form and through seminars and meetings.

In order to receive the information through the internet, chefs named emails, websites and blog forums as sources for educational material. According to Anderson, Annand, & Wark (2005), "the primary objective of the self-paced learning model is to provide the greatest degree of access and flexibility for students" (p. 222). Chefs who want to receive the information from the internet prefer these sources because of time constraints and the easy access. One chef said that if educational materials were sent out by email that would be the most convenient and he would read it. Open source blogs or forums were also mentioned due to their ability to allow the chef to freely open them and get involved with different

discussions and communication. By being able to freely proceed through information on the internet, it can be concluded that these chefs are very much interested in the self-paced learning aspect of receiving information on the internet. The flexibility of the internet supports the needs of the chefs as self-paced learners.

Although some chefs prefer paperless trails, some of the chefs did discuss receiving their information in paper form or in face to face meetings. The paper forms of educational information included pamphlets, papers, booklets, and books. The few chefs that discussed in person meetings disclosed that they would prefer seminars or visits with local producers and farmers.

RECOMMENDATIONS

Based on the results and findings of this study, the researcher has suggestions for further research and future practices for North Carolina chefs practicing the cultivation of restaurant gardens.

Suggestions for Practice

Understanding restaurant gardening practices within the North Carolina restaurant industry and providing a roadmap for the North Carolina Cooperative Extension to provide future educational programs were both important to this study. Included here then are suggestions for future practice.

Through this study, the researcher was able to discover what these chefs know, what they want to know, and how they want to learn it. Of the 12 individuals interviewed, only a six had heard of the North Carolina Cooperative Extension service, and from those six individuals, only four were choosing to use them as a source of information. With a majority

of the interviewed population not utilizing this resource, the researcher believes that the NCCE has an opportunity to become one of the main sources of information on growing practices for this unique, targeted audience.

The researcher was also able to gain a greater understanding of what information these chefs wanted for the future of their restaurant gardens. Considering that each chef's growing area was unique to their establishment, it was not surprising to find that they wanted a variety of different information. Chefs want information on local farmers and produce, varieties of produce, drought tolerant varieties of produce, soil testing, sustainability, irrigation systems for different growing areas, container growing and how to get the highest yield, growing seasons, crop rotation, greenhouses, and hydroponic systems. These could be the beginning topics for future educational programs for the NCCE to use and develop to reach out and target these North Carolina chefs.

The study also revealed how these chefs wanted to gain their future information. Participants prefer to gain their information through written publications, Internet resources like blogs and YouTube videos, or paper forms such as books and pamphlets. Because these chefs are self-paced learners, the Internet, books, and pamphlets allow these individuals to seek out information as their education needs arise and in a temporal manner most convenient for them.

Considering that a majority of the chefs interviewed discussed receiving their needed educational material through Internet based resources, books, and pamphlets, a cost effective and efficient program could easily be built and delivered by the North Carolina Cooperative Extension service. Between NCCE and the two land grant universities of North Carolina, a

series of educational programs should be established that reaches the needs of this unique population while delivering the material using a self-paced method of learning. Considering that the NCCE resource is located in all 100 counties of North Carolina, the participants could benefit from different methods of delivery and the local access that the North Carolina Cooperative Extension service has to offer.

Websites and Blogs

As the Internet is a primary resource for these participants, it is vital that the North Carolina Cooperative Extension service use it as a medium to reach the chefs. Websites developed and maintained by NCCE that provide them with updated, educational material would be a necessary and successful source. Educational material can be delivered a variety of ways, as long as the information is consistent with what the chefs are seeking, they will use the website as a main source of information. Step-by-Step instructional writings and “How To” articles would be great for the websites and with the array of needed information provided through this research, the NCCE should be able to deliver information on different topics that will benefit the targeted audience. For example, the NCCE could update articles that inform the chefs on maximizing yield in container gardening, how to properly rotate crops at season end, and even how to up-cycle objects around the restaurant for future container areas. This information should be updated throughout the growing season.

Another way in which websites can be used in order to deliver educational material is by providing a FAQ section targeted just for chefs growing their own products. Once the agents develop a relationship with this group, they should collect the most frequently asked questions and answer them directly on the website. This approach allows the chefs to search

through the section and see if they can answer their questions need without having to further pursue communication. FAQ sections will provide these chefs with easy access to information and conform to their self-paced learning style.

The website should also provide the chef with an “Ask a Farmer” option. A majority of the participants relied on the communication with their local farmers for information. The website should take advantage of this resource and allow the participants to contact a farmer through the internet source. The chefs should be able to type in a question they have, and receive the information from a local farmer. This allows for the chefs to ask specific questions regarding their growing areas while receiving the information from a source that they trust and with whom they have a relationship. Also, by having this option on the website, the chefs can be talking to farmers that are more in tune with their particular region, and the information can be fine tuned to their particular area in the state.

The educational website should also provide a list of links to other resources that will help fulfill the educational needs of the chefs. For example, chefs who maintain restaurant gardens might have questions about Food Safety rules and regulations for within their establishments. By having links to these other educational sources, such as the USDA website or the National Restaurant Association link, the NCCE will find that the targeted population will start their search for needed information with this particular website and utilize it as a main source for future information.

The last way in which a website can be helpful to these chefs is by providing the targeted population to read and give feedback through comments and forums. A great way in which this can be done is by having a Blog within the website. A weekly, bi-weekly, or

monthly blog will allow the educator to deliver information on needed topics while being creative and reaching a vast number of followers. Blogs could also allow for the readers to leave input and start conversations with others seeking the information. Through this blog, the website can open up lines of communication between the targeted audiences, and allow them to construct ideas for their establishments based off of what others in their field are doing. This self-paced method allows the readers to take the information from the blog/comments that they want to use while constructing their own thoughts on how they can use that information for their particular garden and restaurant.

By providing all of these different selections, the chefs have the flexibility and freedom to find the needed information in a variety of different methods and make meaning of what they need and seek at that moment.

In order to reach all members of the targeted audience, it needs to be remembered that there were some participants of the study who had not even heard of the North Carolina Cooperative Extension service, or who had heard of the service, but were not utilizing it for information. In order to direct these particular chefs towards the website, the local agents need to contact them with introductory content on how the NCCE could benefit them. The local agents can easily locate the targeted audience through internet searches and find their email addresses on a majority of their restaurant websites. The content can be in the form of an email or paper flyer, and should provide information on what the North Carolina Cooperative Extension service is, how using the NCCE website can benefit their restaurant gardens, and a link to the website and information on how to contact their local agent. When providing the information on the flyer, it is suggested that the information be kept short and

bulleted in order for the chefs to easily, and quickly, read the content. By emailing the introductory flyer, the chefs can also go back later and read the information when they have the time to do so.

For the chefs who already use the NCCE as a source of information, personally reaching out to discuss the new resource would be the most effective way to introduce them to the information. Email them the link for the website and let them know about all of the new ways in which they can collect their needed educational material. Also, it would be effective to have a link to this particular website on the county NCCE websites. If the chefs are already using the NCCE for information, this will give them an option to go one step further and find the information that is specifically targeted towards them.

YouTube Channel

A YouTube channel targeted towards chefs who grow their own food is a great and innovative way in which to reach this unique, self-paced population. Although YouTube is often viewed as a recreational site, it is also a great resource for delivering educational programs and topics. By building a YouTube channel that targets this audience, the NCCE has the opportunity to deliver endless amounts of information to the chefs seeking specific details on cultivation practices. YouTube channels also allow the user to subscribe and browse particular channels and receive updates when new videos get posted.

The North Carolina Cooperative Extension service should develop a specific, current, series of “How To” videos targeting restaurant gardens. Examples of these videos include “How to utilize the whole tomato,” “How to protect your containers from local pests,” or even “How to properly test your soil.” These are all concerns that this targeted population

specifically mentioned, and by providing these videos on YouTube, the targeted audience can watch them as their needs for the information arise. Because of time concerns with this particular population, it is suggested to keep informational videos less than 10 minutes each.

Another great way in which YouTube can be used to deliver educational programs is by having a multiple video series available to these chefs on specific topics. The episodes could be released all at once, or bi-weekly, but either way, it allows for specific topics to be taught in smaller increments. An example of this would be on the topic of irrigation systems for different restaurant growing areas. One episode could cover irrigation on raised beds, another on rooftop irrigation, and then a final episode on irrigation systems for larger plots of land. By covering topics through several episodes, it allows the target audience to collect an array of information while watching the videos at their own pace. Video series will also allow for the population to see different options that they have in maintaining restaurant gardens and allows for the NCCE to become an even bigger resource of information.

This visual educational strategy allows the chefs to observe the material from their homes or restaurants and provides them with the information that they need when they need it. The flexibility of observation allows this audience to collect the same information that might be given at a farm seminar, but they are able to do it at their own pace and on their own time. These videos also allow the chefs to construct their own ideas for their restaurants without feeling the pressure from others around them. Because each chef's restaurant and garden approach is different, they construct their menus and maintain their gardens because of what matters to them in particular.

When it comes to reaching the chefs who are not aware of the NCCE or those who are aware but do not utilize the resource, they can simply be reached through an email invite. The email addresses can be found on a majority of the chefs' restaurant websites. YouTube allows the publisher to invite people to watch their videos. By inviting the different chefs, they will receive an invite in their inbox that gives them a simple description on the YouTube channel and a link to the site. This non invasive invite allows for the chefs to watch the videos and browse the NCCE channel at their own pace. In order to reach those chefs who already use this service as a source of information, they can be reached the same way.

Books & Other Written Materials

Although a large number of the chefs interviewed were interested in receiving their information through an Internet resource, the researcher found that there were still chefs who prefer to receive future educational material in the form of books and other written materials. A monthly, paper source could be as a useful source of information to this targeted audience because the chefs could read the information at their own pace, and pursue further information on the topics if needed. By using written materials to deliver educational material, the NCCE can deliver monthly topics and tips to these chefs and inform them on growing seasons, seasonal pest, and even what grows in different regions of the state.

A great way to utilize monthly paper sources is to focus on the upcoming month, and provide chefs with different seasonal tips including what to plant, what to harvest, and how to do so with a limited amount of space. Written materials could focus on a "Produce of the Month" and describe different ways in which that product can be utilized within the kitchen. For example, the winters can be a little tough on growing seasons, so most of the products

being maintained within the restaurant gardens were leafy greens or herbs. By releasing a monthly resource that focuses on kale, the NCCE can be a main source of information when chefs are looking for particulars and tips on cultivating this particular product.

These paper resources should be delivered to the chefs in two ways: through mailing them directly to their establishment, or by setting up an information center at the local farmer's market. By mailing the paper materials directly to their establishment, the NCCE is reducing the amount of steps that the chefs would need to take in order to seek out that information because they would literally be delivering it to their doorstep. The great thing about books and other written materials is that the chefs can collect this paper trail over a period of time, and then utilize the individual sources as the need arises. By mailing these references, the NCCE can also reach all chefs, no matter if they have heard of the service or not. It is a non-invasive and self-paced method of delivering material.

A majority of the chefs used local farmers as a source of information. By setting up an information center at the local farmer's market, the NCCE could be displaying and delivering the needed information to this targeted audience. By giving these chefs a section of the market where they can peruse booklets of information, the NCCE is allowing the audience to pick and choose from the information that they need and want to know. This allows for the chefs to build and construct meaning off of the matters that personally affect them and their establishments. Each chef's need for educational material differs, and paper resources provide flexibility in the information they are receiving. Also, by having an information display set up at the local farmers market, chefs who have never heard of, or

choose not to use the NCCE, are more likely to become informed about this particular service and what it can do for their restaurant gardens.

Further Research Suggestions

Considering that the researcher conducted this study in order to gain a better understanding of the educational needs of North Carolina chefs who cultivate restaurant gardens, it is important that future research suggestions are made in order to improve future studies on this topic.

A Delphi study should be done with a diverse group of chefs cultivating restaurant gardens. Information gained from interested participants could bring a new perspective to why these individuals want to start growing, and it could also unveil new educational needs for this particular group of people. By interviewing these two different group (those who don't cultivate, and those who would like to), a deeper understanding of the chef populations educational needs and restaurant gardens in North Carolina could be reached.

Another suggestion for future research is for more North Carolina chefs who are cultivating restaurant gardens to be interviewed. The researcher interviewed 12 chefs from across the state; it is suggested to interview more individuals to establish more consistency and gain more knowledge. Although the 12 chefs interviewed for this study discussed an array of educational needs and background information on garden cultivation, by interviewing more chefs using these particular cultivation practices, future researchers may find different needs and educational requests from this group. It would also be interesting to find a larger variation of growing areas that these chefs have conformed to in order to continue growing products for their restaurants. The researcher started this study with a list

of 25 or more chefs included in this population, so there are more individuals in this group whose voices, needs, and backgrounds have not been heard.

During the data collection process for this study, the researcher interviewed the chefs during a four month period during the colder season. It is recommended that for future research, the chefs in this targeted audience be interviewed at different times of the year in hopes to get different aspects of the distinction in growing seasons and crop variations. Through this study, the researcher found that many of these chefs are consumed with their busy routines, and have very little time to think ahead by whole growing seasons, so by interviewing during different times of the year, future researcher may find new educational needs and wants from the participants.

Chefs who cultivate their own restaurant gardens from other parts of the country could be contacted to have a deeper understanding of these practices on a larger scale. The researcher knows that this trend was not started in North Carolina, and through this study, is aware that there are chefs from all over the US who are practicing these particular cultivation skills. By interviewed chefs from other states, future researchers may find differences in food trends across the country and see how different growing areas are maintained. It would also be helpful to see if North Carolina chefs are the only ones who lack knowledge of the Cooperative Extension service, or if other states are running into the same issue.

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APPENDICES

APPENDIX A: INTERVIEW PROTOCOL

Tell me about your job.

How long have you been at that restaurant?

How long have you been a chef?

Describe to me how you decide on menu items and what are you going to cook.

Do you have full control over the menu choices?

Which local foods are available to you for the restaurant?

How would you describe the clientele?

How many people would you say you serve in one day?

Tell me how you became interested in growing food to use in your restaurant?

What do you grow for the restaurant?

Where are you growing?

Where did you first get your information from about growing?

How long have you been growing your own food?

How long have you been growing your own food for the restaurant?

What are the benefits to growing your own food for the restaurant?

What are the challenges to growing your own food for the restaurant?

How does growing your own products effect how you work in the kitchen?

Does growing your own food effect your food safety procedures?

Describe how you see your growing change over time.

Do you know any other chefs that are growing their own food?

What do you think is trending right now?

How do you define a trend?

Do you see this practice of growing your own food becoming more popular?

Tell me what you are doing to gain more information on your growing.

Do you read any publications or books?

Which ones?

Have you ever attended any sort of Cooperative Extension Program?

If so, which ones?

If no, have you heard of the Cooperative Extension Service?

If you continue to expand you growing, what information would you find more helpful?

What else should I know about what you are growing and how you are using it within your establishment?

APPENDIX B: INFORMED CONSENT FORM

North Carolina State University INFORMED CONSENT FORM for RESEARCH

North Carolina Chefs Who Grow Their Own Food

Kelsie Sommerfeld

Jacklyn Bruce

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate or to stop participating at any time without penalty. The purpose of research studies is to gain a better understanding of a certain topic or issue. You are not guaranteed any personal benefits from being in a study. Research studies also may pose risks to those that participate. In this consent form you will find specific details about the research in which you are being asked to participate. If you do not understand something in this form it is your right to ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If at any time you have questions about your participation, do not hesitate to contact the researcher(s) named above.

What is the purpose of this study?

The purpose of this study is to research different groups of individuals who have been informed of the urban farming options for their restaurants and how they feel about implementing the practices for growing their own products.

What will happen if you take part in the study?

If you agree to participate in this study, you will be asked to participate in a 2-3 hour long audio recorded semi structured interview. During the interview, you will be asked questions about your experiences and knowledge on the topic of urban farming for the restaurant products. Each interview session will be recorded and data will be collected through interview notes, observation notes, and playback of the recordings. Once the researcher is done with the recordings, the data will be cleared and properly disposed of. The research interviews will be held wherever you feel comfortable.

Risks

Since the subjects are being asked to discuss their ideas and feelings in something as trendy as urban farming, they may at times feel uncomfortable discussing their practices and implementations. The researcher understands these concerns and encourages the subjects to voice their concerns if feeling uneasy. The subjects may decline to answer any questions at any time.

Benefits

Knowledge gained could help guide discussions for future Agriculture Extension participation on the topic.

Confidentiality

The information in the study records will be kept confidential to the full extent allowed by law. Data will be stored securely in a lock box, and once the materials are done being used, they will be disposed of properly. No reference will be made in oral or written reports which could link you to the study. You will NOT be asked to write your name on any study materials so that no one can match your identity to the answers that you provide.

Compensation

You will not receive anything for participating

What if you have questions about this study?

If you have questions at any time about the study or the procedures, you may contact the researcher, Kelsie Sommerfeld, at 121 Park Ave, Raleigh NC, 27605, or (910) 508-2609

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact Deb Paxton, Regulatory Compliance Administrator, Box 7514, NCSU Campus (919/515-4514).

Consent To Participate

“I have read and understand the above information. I have received a copy of this form. I agree to participate in this study with the understanding that I may choose not to participate or to stop participating at any time without penalty or loss of benefits to which I am otherwise entitled.”

Subject's signature _____

Date

Investigator's signature _____

Date

APPENDIX C: PEER DEBRIEF #1

To: Peer Debrief Team

From: Kelsie K. Sommerfeld

Subject: Thesis Research – Document Analysis – Pilot Complete

Date: 11/18/13

Research Update

To this point, I have conducted 4 thesis interviews. After doing analysis on the transcriptions, I have found several pieces emerging from the data. The following is a compilation of first impressions from the data.

- Each chef has been cooking for longer than 10 years. This includes if the individual has been cooking from a young age, or cooking in the restaurant industry. It is also important to note that my chefs are different ages.
- Each chef has full control over menu decisions and menu items. Some menus change daily and other menus stay constant each day.
- Local foods are available to each interviewee. The chefs interviewed are located at different parts of the state, therefore, different foods are considered local.
 - ◆ Local foods listed during the interview vary from vegetables, fruits, meats, and edible flowers.
- Growing area for the restaurants varies for each chef. One chef has 22 acres that they can utilize for growth, while another chef grows in the back of the restaurant out of 20-30 containers.
- Products that the chefs are growing vary greatly. Some interviewees have the ability to grow large amounts of vegetables and fruits, while other chefs keep only herbs and peppers.
- Chefs listed benefits of growing including:
 - ◆ Freshness- When Interviewee #3 was asked about benefits of growing, he responded by stating “Freshness, quality.”
 - ◆ Quality control- I#8 “There is also, I mean, you know what is going into it. You know, that is another benefit of growing your own and buying locally, you kind of get to know what is in our food and where it came from.”

- ◆ Chemical control- I#2 states “Well, you know what chemical is there and what’s not there. We don’t use any chemicals.
 - ◆ Marketability- I#2 discusses how he uses location of his garden to market his growing of his food. He states “Where you position your garden is key so that everybody can see it as they are coming in or while they are on the property so that it is not hidden.” I#4 also mentions that he benefits from growing because “It is marketable.”
 - ◆ Economics- I#1 states “One of them [benefits] is that it is cheap.”
 - ◆ Aesthetics- I#4 mentions aesthetics as a benefit when he states “It beautifies the location.”
 - ◆ Sense of pride and self worth- I#2 and I#4 both discuss how pride is a benefit of growing their own food. I#2 states “I just think that it is a personal pride thing” while I#4 says “It provides a sense of worth for the employees, um, they care more for their jobs I think because they have interaction with the lay of the land.”
- Chefs listed challenges of growing including:
- ◆ Time consuming- I#3 explains how time is a challenge to growing his own food when saying “Time, it is completely and utterly against me in every way. Because of not only how much time I have to commute as well, how little time I actually have to commit to this thing.” I#4 also discusses time as a challenge and states “It is time consuming and it is less convenient in the kitchen because you have to process the product more than you would if you had just bought it from someone who had processed it for you.”
 - ◆ Labor- I#1 stated “Its labor intensive and it is not easy.”
 - ◆ Outside Pests- I# 2 says “Animals. They want to eat everything.”
 - ◆ Staffing- I#2 discusses staffing as a challenge by stating “Staffing. The ability to staff people to actually help with it.”
- Interviewees have changed what they grow over the years. The reasons for changing what they grow vary from location changes to what the clientele are looking for in a restaurant.
- Growing their own food effects how they work in the kitchen. Some of the chefs mention how it effects how they cook while others discuss how it changes their procedures and processes of the food. For example, when I#3 was asked if growing effects their work in the kitchen, he states “You care more about the material, um, because you understand and think a little bit more about what goes into them, and it makes you appreciate it a lot more.”
- Generations of growing food can be considered a contributing factor to the chefs. This can include passing down the growing practices to their children or that they learned from generations before them.

- Publications and local farmers are the main resources for the chefs when looking for more information on growing and upcoming trends. For example, when I#4 was asked “How do you know what is trending” he responded by saying “I just keeping up with publications.” I#3 discusses publications by stating “Reading never stops, you always have to stay ahead of the curve, and I think information is the only way to do that so, book. Whether it is information or publications online...”Also, when I#4 was asked what he was doing to gain more information on growing, he responded “I will talk to some friends, some people who have their own farm this year and I will probably just talk to them about stuff.” I#2 discusses the same topic and states “Well, I talk to the different farmers and stuff to find out what is going on with them and to see what they think is going on.”

APPENDIX D: PEER DEBRIEF #2

To: Peer Debrief Committee

Subject: Thesis Research- Document Analysis Update

Date: 1/6/14

Research Update:

At this point, I have conducted 6 interviews for the research and after doing analysis on the last two interviews, I have found supporting data from the previous emerging impressions. The supporting data from the past six interviews is are as follows:

- Each chef has been cooking for longer than 10 years. This includes if the individual has been cooking from a young age, or cooking in the restaurant industry. It is also important to note that my chefs are different ages.
Chef #5 has been cooking for 18 years and Chef #6 has been cooking since he was 15 years old.
- Each chef has full control over menu decisions and menu items. Some menus change daily and other menus stay constant each day.
Chef #5 has full control over the menu while Chef #6 discusses how he has 90% of control taking into consideration that the owners of the restaurant have the final say in what goes on the menu. I#6 quotes "the owners will always have the final say, but that is how it always is. For the most part, they trust me to do what it is I want to do with the menu."
- Local foods are available to each interviewee. The chefs interviewed are located at different parts of the state, therefore, different foods are considered local.
I#5 "There is tons of stuff here in North Carolina, which is great. Tons of seafood, tons of vegetables...really just a whole bunch of everything." Chef #6 takes the opportunity to discuss how local foods have blossomed in his particular area over the past eight years. I#6 says "Well, Charlotte has blossomed a lot in the last 8 years as far as farming and what has been available to us...we have community farmers markets...I mean, it is crazy how much is available in North Carolina."
 - ◆ Local foods listed during the interview vary from vegetables, fruits, meats, and edible flowers.
 - ◆
- Growing area for the restaurants varies for each chef. One chef has 22 acres that they can utilize for growth, while another chef grows in the back of the restaurant out of 20-30 containers.

Chef #5 utilized local city farms while he also had honey bees and berry bushes around the restaurant area. Chef #6 is only growing herbs at the moment, but hopes to move to container growth in a few months.

- Products that the chefs are growing vary greatly. Some interviewees have the ability to grow large amounts of vegetables and fruits, while other chefs keep only herbs and peppers.
Chef #5 utilized local city farms while he also had honey bees and berry bushes around the restaurant area. Chef #6 is only growing herbs at the moment, but hopes to move to container growth in a few months. Chef # 6 explains that he is only growing herbs at the moment because his restaurant is only a year old.
- Chefs listed benefits of growing including:
 - ◆ Freshness- *I#6 “There is always the fact that it is going to be super fresh and being able to use the food right at its peak without being shipped in a box...”*
 - ◆ Marketability- *I#6 quotes when discussing benefits “I would definitely say the PR because everyone sees a chef going outside and pulling food out of the container to cook it, and I think that is pretty cool.”*
 - ◆ Economics-*I#5 states “Financially it definitely makes sense, as long as you can utilize all that you can.”*
- Chefs listed challenges of growing including:
 - ◆ Time consuming- *I#5 discusses how much of a commitment growing your own food can be and quotes “So in the long run, that hamburger that gets to you in 15 minutes, it actually takes many many months to get to the ready point.”*
- Interviewees have changed what they grow over the years. The reasons for changing what they grow vary from location changes to what the clientele are looking for in a restaurant. *Chef #6 is working at a fairly new restaurant and he plans on expanding his growing for the future. He mentions how he has worked at a vegetarian restaurant in the past where they grew much more of their own food than what they are doing at his current location. Chef #5 discusses how he has changed what he has grown in the past based off of the seasons and past experiences of what has and has not worked.*
- Growing their own food effects how they work in the kitchen. Some of the chefs mention how it effects how they cook while others discuss how it changes their procedures and processes of the food. *Chef #6 talks about it effecting his work in the kitchen because of his “investment” of time into the product, therefore, it results in him respecting the produce a little more than he would if he were to just order the food.*

Chef #5 simply says that “You are a lot more efficient, and um, way less wasteful, that’s for damn sure.”

- Generations of growing food can be considered a contributing factor to the chefs. This can include passing down the growing practices to their children or that they learned from generations before them. *Both Chef #5 and #6 mention that their parents or grandparents had some sort of garden when they were growing up.*

Although these two chefs were able to support previous data found within the first 4 interviews, they were also able to bring up new emerging impressions that might be useful for future thesis discussion. The new data found is as follows:

- The Chefs being interviewed are not only interested in feeding their customers, but they are also carrying out these growing practices in hope to educate those around them. For example, Chef #5 says “I look at it a lot more along the lines of being able to educate the clients that were coming in as opposed to just feeding the clients...” Chef #6 also says that these growing practices are beneficial because he can help educate the new cooks about the growing process.
- Therapeutic reasons needs to be added to the beneficial section of growing their own food.
- Expenses needs to be added to the challenges section of growing their own food. Chef #7 discusses how hard it is to actually start a garden because of the amount of money it takes to set up one while Chef #8 mentions expenses also being challenging.
- Not being able to grow on a large enough scale is another challenge that need chefs mentioned in the last 6 interviews. Chef #10 states “Not being able to keep up with restaurant demand” as being a challenge.
- Publications to look at include Mother Earth, Don't Throw it, Grow it, and Cooks Illustrated

APPENDIX E: PEER DEBRIEF #3

To: Peer Debrief Committee

Subject: Thesis Research- Document Analysis Update

Date: 1/19/14

Dear Peer Debrief Committee,

Analysis Update

At this point in my research, I have conducted 10 interviews, both in person and over the phone. During the last 6 interviews, I have found supporting information that has fit with my past themes and I have also introduced new questions into the interviews in hopes to dig deeper into fields of interest. With that being said, this peer debrief will contain analysis on new questions added to the protocol, supporting information for common themes, and new emerging impressions found through the latest interviews.

Additional Questions

“What percentage of the food that you use in the restaurant/kitchen is food that you grow?”

“Well, we are just getting started so it is probably only 3% at this point.” I#7

“Um, it is pretty small. I would say less than 10%. Hopefully, one day that will be a larger number.” I#8

“It really depends on the season. Obviously spring through the summer...I would say that 85% of the items on the menu have something in it that we grow here.” I#9

“Probably around 10%” I#10

After reviewing this particular interview questions, I can conclude that these chefs are all at different stages of growing their own products and that they are probably growing different products as well.

“Do you think that growing your own products will effect the prices on the menu?”

“We are paying the garden the same price that we buy it from the wholesaler. So, whatever the whole sale price is that particular week that is what we pay, so it won't change, it will be the same mark up or pricing.” I#7

“Prices are dictated by the higher cost items, which are normally your meats, and fish and stuff, and most of your vegetables, while they are kind of a big cost, they are put into everything else, so I would say, growing vegetables probably wouldn't effect prices as much...” I#8

“For what we are doing, it really doesn't because it is all incidental items, and just components to the dish and not really the main part of the plate. Obviously if I were able to have a full garden and work it, it would tend to drive the price down...” I#9

It can be concluded that growing for their restaurants does not particularly effect the menu prices because they are not growing or raising the items that have the largest effect on the price per plate.

“Do you need any sort of license or registration in order to use “home-grown” products within your restaurant?”

“For the restaurant, as long as it is coming from our place, we don't have to deal with that certification, which is what you have to do if you want to sell it to a school or to a wholesaler. But since we are growing it ourselves and using it ourselves, there is no certification necessary.” I#7

“I don't think so...if we do, I have not been told about it...As far as the restaurant, a lot of it just goes by the state health code...As far as growing, no.” I#8

“Not for what we are using, herbs and things like that are not FDA regulated, so we have free range to grow all that.” I#9

I feel that each chef has had a different level of knowledge when it comes to the needed licenses and regulations for foods grown within the restaurant. Some chefs show knowledge that there are regulations; they just don't think that they apply to them. Other chefs seem to know very little about any sort of regulations at all.

Supporting Information

- Each chef has been cooking for longer than 10 years. This includes if the individual has been cooking from a young age, or cooking in the restaurant industry. It is also important to note that my chefs are different ages.
Chef #5 has been cooking for 18 years and Chef #6 has been cooking since he was 15 years old. Chef #7 has states that he has had his restaurant for 39 years and Chef #8 has been a chef for 10 years. Chef #9 has been a chef for 22 years and Chef #10 says he has only be a “chef” for 6-7 years, but he has been cooking in restaurants since he was a teenager.
- Each chef has full control over menu decisions and menu items. Some menus change daily and other menus stay constant each day.
Chef #5 has full control over the menu while Chef #6 discusses how he has 90% of control taking into consideration that the owners of the restaurant have the final say in what goes on the menu. I#6 quotes “the owners will always have the final say, but that is how it always is. For the most part, they trust me to do what it is I want to do with the menu.” Chefs 7 and 8 both have full control over the menus, but they state that they allow the people around them to make some decisions. I#8 says “I have chefs at both restaurants where I give them pretty much free reign, but I have the last word on everything.”
- Local foods are available to each interviewee. The chefs interviewed are located at different parts of the state, therefore, different foods are considered local.
I#5 “There is tons of stuff here in North Carolina, which is great. Tons of seafood, tons of vegetables...really just a whole bunch of everything.” Chef #6 takes the opportunity to discuss how local foods have blossomed in his particular area over the past eight years. I#6 says “Well, Charlotte has blossomed a lot in the last 8 years as

far as farming and what has been available to us...we have community farmers markets...I mean, it is crazy how much is available in North Carolina.”

I#10 “You can get anything down here, I mean, there are cows...Fish, we get fish right out of the water, which is cool.”

- ◆ Local foods listed during the interview vary from vegetables, fruits, meats, and edible flowers.

- Growing area for the restaurants varies for each chef. One chef has 22 acres that they can utilize for growth, while another chef grows in the back of the restaurant out of 20-30 containers.
Chef #5 utilized local city farms while he also had honey bees and berry bushes around the restaurant area. Chef #6 is only growing herbs at the moment, but hopes to move to container growth in a few months. Chef #7 has 1 ½ acres in the city where they have a four season garden and hopefully one day hoop houses. Chefs 8, 9, and 10 all grow at the restaurant and their spaces are limited to containers, pots, and wine barrels.

- Products that the chefs are growing vary greatly. Some interviewees have the ability to grow large amounts of vegetables and fruits, while other chefs keep only herbs and peppers.
Chef #5 utilized local city farms while he also had honey bees and berry bushes around the restaurant area. Chef #6 is only growing herbs at the moment, but hopes to move to container growth in a few months. Chef # 6 explains that he is only growing herbs at the moment because his restaurant is only a year old. Chef #8 and Chef #9 have a variety of trees on site along with an array of herbs and small vegetables. Chef #10 is strictly herbs.

- Chefs listed benefits of growing including:
 - ◆ Freshness- *I#6 “There is always the fact that it is going to be super fresh and being able to use the food right at its peak without being shipped in a box...” I#7 says “Well everything tastes so much more fresh, instead of it being grown in California and it’s a 5-6 day truck, you have lost a lot of the nutrients. If you cut something today and put it on the menu tonight, and its like you are eating the compost again” I#9 mentions freshness by stating “It’s just nice to be able to go outside and be able to clip some fresh herbs for a dish as opposed to walking in your cooler and grabbing something from a bag that you have no idea how long it has been in there.”*
 - ◆ Quality control- *I#8 “There is also, I mean, you know what is going into it. You know, that is another benefit of growing your own and buying locally, you kind of get to know what is in our food and where it came from.”I#9 mentions not only the cost effectiveness, but also “being able to*

control growth and being able to pick when the size is right... ”Lastly, I#10 says “The items are readily available and you have control over it.”

- ◆ *Marketability- I#6 quotes when discussing benefits “I would definitely say the PR because everyone sees a chef going outside and pulling food out of the container to cook it, and I think that is pretty cool.” I#8 says “It definitely looks good and people like to see it. It triggers the fresh response quite often if they know that it is growing right here.”*
- ◆ *Economics-I#5 states “Financially it definitely makes sense, as long as you can utilize all that you can.”*

➤ **Chefs listed challenges of growing including:**

- ◆ *Time consuming- I#5 discusses how much of a commitment growing your own food can be and quotes “So in the long run, that hamburger that gets to you in 15 minutes, it actually takes many many months to get to the ready point.” I#8 states “With all the responsibilities I have, it is hard for me to put in any extra time into it...”*

➤ **Interviewees have changed what they grow over the years. The reasons for changing what they grow vary from location changes, knowledge on growing, and what the clientele are looking for in a restaurant.**

Chef #6 is working at a fairly new restaurant and he plans on expanding his growing for the future. He mentions how he has worked at a vegetarian restaurant in the past where they grew much more of their own food that what they are doing at his current location. Chef #5 discusses how he has changed what he has grown in the past based off of the seasons and past experiences of what has and has not worked. Chef #8 discusses how he has changed what he has grown due to the fact that, when he started, he really wasn't educated on any sort of gardening practices or plants. I#8 quotes “After a whole season of growing stuff, I learned what is economical to grow and does good and what is easy for me. We are getting better at it as we go forward and we are learning about what works and what doesn't.”

➤ **Growing their own food effects how they work in the kitchen. Some of the chefs mention how it effects how they cook while others discuss how it changes their procedures and processes of the food.**

Chef #6 talks about it effecting his work in the kitchen because of his “investment” of time into the product, therefore, it results in him respecting the produce a little more than he would if he were to just order the food. I#5 simply says that “You are a lot more efficient, and um, way less wasteful, that's for damn sure.” I#8 says “It can inspire you in some ways and it allows for holding off on certain dishes and it can help with different flavor profiles.”

- Generations of growing food can be considered a contributing factor to the chefs. This can include passing down the growing practices to their children or that they learned from generations before them.
Both Chef #5 and #6 mention that their parents or grandparents had some sort of garden when they were growing up.

New Immerging Impressions

Although these 6 chefs were able to support previous data found within the first 4 interviews, they were also able to bring up new emerging impressions that might be useful for future thesis discussion. The new data found is as follows:

- The Chefs being interviewed are not only interested in feeding their customers, but they are also carrying out these growing practices in hope to educate those around them. For example, Chef #5 says “I look at it a lot more along the lines of being able to educate the clients that were coming in as opposed to just feeding the clients...” Chef #6 also says that these growing practices are beneficial because he can help educate the new cooks about the growing process.
- Therapeutic reasons needs to be added to the beneficial section of growing their own food.
- Expenses needs to be added to the challenges section of growing their own food. Chef #7 discusses how hard it is to actually start a garden because of the amount of money it takes to set up one while Chef #8 mentions expenses also being challenging.
- Not being able to grow on a large enough scale is another challenge that need chefs mentioned in the last 6 interviews. Chef #10 states “Not being able to keep up with restaurant demand” as being a challenge.
- Publications to look at include Mother Earth, Don't Throw it, Grow it, and Cooks Illustrated, Food Art, Restaurant Hospitality, Wine Spectator

When the chefs were asked to describe their clientele, I had two different individuals mention the word “Foodie” when explaining the people who eat in their restaurant. According to the interviews, “Foodies” are people who target specific restaurants because of the “out of the norm” practices being followed at certain establishments. Another common description of the clientele is that they are more “advanced,” “educated,” or have a more “expendable income.” Although I have certain chefs who say they serve people from all “across the board,” each chef was able to pin point certain traits about those eating within their restaurants.

APPENDIX F: AUDIT TRAIL

Chef 1- 10/21/2013

Chef 2- 10/28/2013

Chef 3- 11/01/2013

Chef 4- 11/14/2013

Chef 5- 12/20/2013

Chef 6- 12/23/2013

Chef 7- 01/06/2014

Chef 8- 01/06/2014

Chef 9- 01/08/2014

Chef 10- 01/09/2014

Chef 11- 01/21/2014

Chef 12- 02/20/2014

APPENDIX G: MENU LANGUAGE

COLOR	LANGUAGE USED	BUILDING BLOCKS
Deep Emerald	Fresh	Fresh Herbs, Fresh is the word here, Fresh Back Fin Crab Meat, Fresh Steamed Asparagus, Fresh Tomatoes, Fresh Mozzarella, Fresh Fruit, Fresh Farmers Cheese, Fresh Melon, Fresh Mango Salsa, Fresh Local Goat Cheese, Fresh Basil, Fresh Poblano Pepper, Fresh Corn
Periwinkle	Market	Market Fish Sandwich, Market Ceviche, Market Fish Tacos, Market Salad, Market Vegetables
Red	Home-Made	Home Made Salsa, Home Made Dressings, House Made Seitan, House Made Granola, Home Made Whole Wheat Bread
Berri	Vegan	Vegan Hummus and Pita, Vegan Sweet Potato Waffle Fries, Vegan Home Fries, Vegan Breakfast Burrito, Vegan Black Bean Quinoa Burger, Vegan Seitan Tofu Reuben, Vegan Lasagna
Teal	Vegetarian	Vegetarian Garden Frittata, Vegetarian Mushroom Artichoke Frittata, Vegetarian Omelet, Vegetarian Pancakes, Vegetarian French Toast, Vegetarian Fruit Waffle, Vegetarian Pesto Pizza, Vegetarian Benedict
Sunflower	Gluten-Free	Gluten-Free Edamame, Gluten-Free Apple Walnut Salad, Gluten-Free Biscuit, Gluten-Free Scramble, Gluten-Free Leos, Gluten-Free Waffle, Gluten-Free Salmon, Gluten-Free Shrimp and Grits, Gluten-Free Huevos Rancheros, Gluten-Free Pasta Primavera
Raspberry	Local	Local Jam, Local Oyster, Local Bok Choy Slaw, Local Pork Sausage, Local Seasonal Fruit Plate, Locally Roasted Cup of Coffee, We use as much local produce and products as we can get our hands on, Fresh Local Goat Cheese, Local Eggs, We proudly support local farmers and fisherman, Local Shiitake Mushrooms, Local Greentail Shrimp, Local Yellowfin Tuna
Cappuccino	North Carolina Foods	NC Shrimp, NC Muscadine Jam, NC Mountain Apples, NC Sweet Potatoes, NC Crab, NC Flounder, NC Duck, NC Cheeses, NC Tuna
Star Dust	<i>Farm Supplied Name</i>	<i>Some of the chefs would actually include the name</i>

		<i>of the farmers/farms within their menu where they would get select items and products.</i>
Honey Dew	Seasonal	Fluctuation of seasonal products, Local Seasonal Fruit Plate, Seasonal Fish, Seasonal Pickled Items
Green	Farm/Farmer	Farmers Gumbo, Fresh Farmers Cheese, Farm Raised Salmon, We proudly support local farmers and fisherman
Pink	Wild Caught	Wild Caught U-10 Scallop, Wild Caught Sea Scallops, Wild Caught Little Neck Clams
Silver	Organic	Organic Wines, Organic Greens, Organic Mixed Greens, Organic Field Greens
Redwood	Recycle/Compost	We Recycle and compost everything in the restaurant
Orange	Rooftop	Rooftop Herb Butter, Rooftop Pistou

APPENDIX H: RESOURCES USED BY CHEFS

RESOURCE	# OF CHEFS	# OF TIMES
Google	2	2
11 Madison Park	1	1
Alinea	1	1
International	1	1
Mother Earth	1	1
Department of Agriculture (Website)	1	1
Cooks Illustrated	1	1
Food Art	1	1
Bon Appétit	1	1
Plate	1	1
Restaurant Hospitality	1	1

APPENDIX I: SELECTED DATA ANALYSIS

Describe how North Carolina chefs began cultivating restaurant gardens.

Necessity

Locating difficult to find ingredients

- “When there are specific ingredients that you want to use for your menu that nobody is growing, you just take the reins. If you have the resources, you can just do it yourself. I hate that it is that simple, but it really is. You have to do it yourself.” (C3)
- “Certain herbs found more worldwide are not necessarily the easiest things to get your hands on.” (C3)
- “Almost out of necessity. If I really wanted something for one of my dishes and I couldn’t find it, I just one day decided to grow it.” (C9)
- “Years and years ago when certain items that I wanted for the restaurant were unavailable, I found seeds and started growing them.” (C9)

Locating specific varieties

- “For me, personally, when I started to grow my own products, it would typically be herbs or things like that because that is what I found when I came down here that was the hardest to get my hands on. Because there is such a broad spectrum of vegetables down here and not only there, but if there was a specific type of radish that I wanted...like, people like the watermelon radishes because they are spicy, I could

talk to one of our farmers and they would plant them and grow them for me.” (C3)

Previous Practice

Previous work at other restaurant locations

- “I have always done container gardens everywhere else that I have been, but this is the first place that I have been where I can go out and plot off an acre or two of land and then plant stuff.” (C2)
- “I did some stuff at the [previous location] and all the country clubs that I have been at we have grown our own stuff.” (C2)
- “When I was at [previous location] we had a small garden at the restaurant, and I was in charge of that. So when I was there, I grew lettuce, peas, we had certain herbs available to us, and it was really dependent on what we wanted to grow. It was pretty small.” (C3)
- “I had the opportunity to work in a restaurant and help in the kitchen in a place called [previous location], and they devoted about an acre and a half of their land to farming for the kitchen, and that was kind of an eye opener for me for what you could actually bring into the restaurant and how to create something totally unique.” (C4)
- “It’s just something that I have always done. We did it at the vegetarian restaurant that I was the head chef at for a while. I mean, I have been doing it for probably like 15 to 18 years where I have just had some sort of herb garden...but at the vegetarian garden we had

squash, peas, watermelons and all kinds of stuff and there we could grow it at the back of the restaurant, so that was really farm-to-fork.”

(C6)

- “When I worked in [previous location], the chef that worked for there was really big into the local food movement and he had a little plot, a couple acres, where they grew stuff for their restaurant and that kind of gave me the idea here. We started with a roof top garden and we are kind of learning the way of that and I guess one day, eventually, I would like to have a couple acres and grow specific things.” (C8)

Determine the practice outcomes of cultivating gardens for the North Carolina chefs.

Food Safety Procedures

Washing Practices

- “It effects to the stand point that you have to pay more attention because you have to go out and harvest quicker so that the critters don’t eat everything. We always use a hydrogen peroxide wash to make sure that everything is done and all that.” (C2)
- “I will say that there are certain things that I know other restaurants get in that they, you know, that they have triple wash and quadruple wash, but we don’t do that. We don’t wash away any of the goodness.” (C3)
- “It’s different because typically when you get food from different areas, it is not covered in dirt, but when you grow it, it is covered in dirt, and you have to wash it yourself, so you might be more apt to

take better care of it because you know exactly where it is coming from and you do have to take that extra step.” (C4)

- “Food that you receive from food sources and places like that have already been washed and you know that they have kind of been controlled, but things like tomatoes will have to be...well, the knowledge that you have to have in order to make sure that they are being properly washed and things like that. When you grow your own food, you need to make sure that you are following and meeting the wash standards” (C6)
- “Everything is washed twice before it is brought to the restaurant and then once it is brought to the restaurant, we wash it a third time.” (C7)

Pay closer attention/regulation awareness/educational purposes of practices

- “I think that it actually makes them [food safety procedures] better because you are starting to hear that the USDA is really starting to crack down on a lot of these mass produced farms...The traceability of the food is a big thing when it comes to safety. If you have good growing practices, you are going to have a better situation and obviously you need to be educated on those things, instead of just saying “Oh I like these things and I get a good yield.” I think it is safer to grow your own food, but you have to be able to understand instead of going in half assed.” (C5)

- “Another thing is that I have to be careful about where I put the plants and it’s all about being aware of regulations.” (C6)
- “Safety is one of the reasons that I started to grow my own food, because you don’t want to buy and eat food that has chemicals all over them. There is no other safer food than the food that you grow yourself. Also, by growing my own food, I reduce the amount of hands that touch my food. It lowers the chances of your food becoming contaminated.” (C12)

No Changes to Procedures

- “As of right now, not necessarily, because we hold pretty high standards for that type of thing to begin with.” (C3)
- “I would wash and handle them the same way.” (C8)

Identify future educational needs of North Carolina chefs.

What they want to know

Varieties

- “I would love to find out, you know, are there different varieties that are coming out and that are going to be available and what, depending upon who is developing them, what they feel their uses are. Is there something new that has been discovered that nobody knows about yet? Are there more drought tolerant things that we need to pay more

attention to here in the south? That's pretty important. We had a lot of rain this year." (C2)

Soil

- "The big one that we have actually used is soil testing. We have sent core samples out to the university to actually test for what we need to put back into the ground to make it better. We want to move back towards a more sustainable practice...That is something we have reached out for informational purposes because that is information that we cannot necessarily get ourselves...We don't have the equipment to research what is in the ground." (C3)

Irrigation/Watering

- "Probably irrigation practices or the best watering. It is something that I am not familiar with so that would be one of the things that I would want to see more of. Some kind of sprinkler system or irrigation for what we are trying to do, so it is not me out there just watering my garden, I want to be able to use the water more wisely. Hydroponics would be smart for restaurants to have...to have a little hydroponics set up on the outside of the restaurant because its more...a better form of growing because it is more compact and you can use time and resources more wisely. That would be something that I would definitely want to know." (C4)

Communication

- “I want to hear people say “I can get this much out of doing this much...” or just looking and seeing what everybody else has. I could use that communication between people that are growing and people that are consuming.” (C5)
- “Anything to create opportunities that will allow me to talk to more groups of people. I am looking for information on getting on bigger circuits and talking to different groups.” (C12)

Other

- “I guess just different information on organic and more tips on getting more production out of a small space.” (C8)
- “Probably something about increasing growth naturally, with maybe nutrients or soils or things like that...other than composting.” (C9)
- “Growing seasons and crop rotation stuff.” (C10)
- “Greenhouses.” (C11)