Training Needs of a Regional Extension Agent

by

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Abstract

Based on the research by Reid in 1997, the needs of the County Extension Agents in the agriculture/natural resources/forestry, family consumer sciences, and youth programs were addressed. The Alabama Cooperative Extension System (ACES) has since expanded their educational efforts into fourteen program-specific areas. Along with expanding the education programs and content of the Cooperative Extension System, Regional Extension Agents were created. Differing from a traditional County Extension Agent, this agent would cover multiple states and focus on a specific educational program area. Due to the change in the type of extension agent and the expansion of the program areas, a concern exists between the appropriateness of training needs of a County Extension Agent and the training needs of a Regional Extension Agent. This study examined and answered those training needs.

In the area of Agriculture/Forestry/Natural Resources, the highest rated areas of training were integrated pest management ($M = 4.19$) and production agriculture ($M = 4.00$). In the area of Urban Extension, the highest rated training area was in the area of health and wellness ($M = 5.0$). In the area of Alabama 4-H, the highest rated training area was workforce preparation ($M = 4.45$).

In the areas of Agriculture/Natural Resources/Forestry, significant differences based on location were found in production agriculture ($p = 0.02$) and seafood production ($p = 0.04$). In the areas of Human Sciences and Urban Extension, no significant differences were found in the types of training needs based on location. In the area of Alabama 4-H, significant differences based on location were found in Violence Prevention ($p = 0.07$), Problem Solving ($p = 0.01$), Forestry ($p = 0.04$), and Wildlife ($p = 0.04$).

Regional agents rated technology updates ($M = 4.19$) as the highest area of training needs. A significant difference was found in the topic of using new program delivery methods ($p = 0.01$). Agriculture/Natural Resource/Forestry and Alabama 4-H agents rated this topic as either important or very important. A significant difference based on responsibility was also found in the training topics of leadership and volunteerism ($p = 0.01$) and conflict resolution in the workplace ($p = 0.03$).

No significant differences were found between Regional Extension Agents and administration. While there were no significant differences, the highest rated training topic by Alabama Extension administrators was programming for impact ($M = 4.25$). No differences were found between Regional Extension Agents and County Extension Coordinators.

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I am grateful for my wife, Dori, who supports me in everything I do. This dissertation is dedicated to her and our son, Owen. To Dori, I could not have completed this journey without your full support and dedication to helping me. To Owen, I started this process with you on my mind. I hope this serves as inspiration to you that you can achieve anything you set your mind to.

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Table of Contents

List of Tables

Chapter 1

Introduction

In 1995, Auburn University and Alabama A&M combined their educational efforts and established the Alabama Cooperative Extension System (ACES). Amidst this new organizational structure, educational programs were categorized into two major groups: rural and urban programs (Knight v. Alabama Decree, 1995). Along with this change in educational programs, rural and urban County Extension Agents were merged into county offices with several overlapping responsibilities (Reid, 1998).

In 2004, a reorganization occurred changing the way Extension agents performed their daily tasks. The county agent structure was converted from individuals serving a single county to a team of educators serving multiple county regions. The restructure process focused Extension in fourteen priority program areas: agronomic crops; animal science and forages; aquaculture and recreational pond management; poultry; family and child development; community resource development; consumer science and personal financial management; farm management and agricultural enterprise analysis; food safety, preparation, and preservation; forestry, wildlife, and natural resource management; commercial horticulture; home grounds, gardens and home pests; human nutrition, diet, and health; and 4-H and youth development (Alabama Cooperative Extension System, 2004).

The restructuring process allows staff on campus and in the field to work together to plan and evaluate programs offered statewide. Also, external funding, while previously attainable, is easier to achieve in the new Extension model. Other enhancements include: help redistribute staff so priorities are addressed, create links between the university researchers and the Extension

educators, and create opportunities for multi-state training and programing (Alabama Cooperative Extension System, 2004).

In 1997, a study was conducted by Bennie Carol Reid to determine the perceived in-service training needs of the County Extension Agents. Although agents from the three Extension agencies have worked together in the past, their training needs were perceived to be different. With the new merger, a study was needed to determine what the actual training needs were of the County Extension Agents (Reid, 1998). The study examined at three subject-related fields and one program development area. Results from this study included the following: 1. Areas of agriculture/natural resources/forestry found that production agriculture was the most important perceived training needed. 2. Areas of family and consumer sciences found that health and wellness and waste management were the most important perceived training needed. 3. Areas of youth programs found the most important perceived training needed was communications skills (Reid, 1998).

Statement of the Problem

Based on the research by Reid in 1997, the needs of the County Extension Agents in the agriculture/natural resources/forestry, family consumer sciences, and youth programs were addressed. This research was based on the current educational program areas being offered by the Cooperative Extension System at the time of the study. The Alabama Cooperative Extension System has since expanded their educational efforts into fourteen program-specific areas. The fourteen programs areas are categorized into four areas Agriculture/Forestry/Natural Resources, Human Sciences, Urban Extension and Alabama 4-H.

Along with expanding the education programs and content of the Cooperative Extension System, a Regional Extension Agent was created. Differing from a traditional County Extension Agent, this agent would cover multiple states and focus on a specific educational program area.

Purpose of the Study

The purpose of this study was to examine the training needs of Regional Extension Agents. Due to the change in the type of extension agent and the expansion of the program areas, a concern exists between the appropriateness of training needs of a County Extension Agent and the training needs of a Regional Extension Agent. By analyzing the results from the survey, Alabama Cooperative Extension administrators can be informed on the different types of desired training that exist among the Regional Extension Agents.

Research Questions

The following research questions guided this study:

1. What are the training needs of Regional Extension Agents employed by the Alabama Cooperative Extension System in the following areas:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

    d. Alabama 4-H?

2. What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

d. Alabama 4-H?

3. What are the characteristics of Regional Extension Agents regarding program development areas based on responsibility?

4. What are the identifiable training needs in program development areas for Regional Extension Agents based on position?

5. What are the identifiable training needs in program development areas of Regional Extension Agents compared to County Extension Coordinators?

Significance of the Study

This study explored the training needs of Regional Extension Agents. A study reviewing the needs of an extension agent has not been completed in over twenty years. During this time, ACES saw a major change in their organization structure and educational programs. Performing this study will help ACES administrators understand the educational needs of a Regional Extension Agent. This study will also assist ACES administrators understand the need, if any, for different training materials based on the responsibility of the Regional Extension Agent. This study will also compare the training needs of Regional Extension Agents compared to County Extension Coordinators.

Limitations

The data from this study was be limited to employees of Auburn University and Alabama A&M in the role of Regional Extension Agent. Though ACES hires employees across all sixty-seven counties (ACES, 2018), the test population was smaller than previous studies of County Extension Agents. This research examined individual perceptions and because of this, opinions and familiarity with a subject may affect the results.

Assumptions

Review of previous research on County Extension Agents the following assumptions were made:

- It can be assumed similar results would occur with Regional Extension Agents.

- Though the model has changed from a County Generalist to a Regional Specialist, the educational areas are still similar to the previous model.

- Therefore, the assumption is Regional Agents who specialize in similar educational areas will have similar perceived training needs.

Definitions

The following definitions of terms were used in this study:

Alabama Cooperative Extension System – Cooperative extension service comprised of Alabama A&M and Auburn University. The duty of this organization is to service citizens of Alabama in the areas of agriculture/natural resources/forestry, health sciences, urban extension and Alabama 4-H programs.

County Extension Agents – Employees of the Alabama Cooperative Extension System.t This employee was employed at a county extension office. Their duty was to answer general questions based on their educational program.

County Extension Coordinators - community-based professionals of the Alabama Cooperative Extension System who represent the science-based resources and other resources available through Alabama A&M University and Auburn University. They are recognized as community leaders who address the contemporary challenges, issues, and opportunities facing the citizens of the county through university programs and knowledge.

Regional Extension Agents – Community based expert educators in one or more of our four program areas: (1) Agriculture, Forestry and Natural Resources, (2) Alabama 4-H, (3) Human Sciences Extension, and (4) Urban Extension.

Chapter 2

Review of Literature

Chapter 1 provides an introduction to the study. The Chapter focuses on defining the statement of the problem, purpose of the study, research questions, significance of the study, study limitations, assumptions and common definitions. Chapter 2 provides a review of the literature focusing on Cooperative Extension, Adult Education and In-Service Education. The Chapter begins by defining cooperative extension, its history and its current structure. Secondly, the chapter defines adult educational theories, popular movements, and how cooperative extension is a foundational form of adult education. Lastly, the chapter defines in-service education, the importance of this type of education, and how it is used in cooperative extension. The literature review includes studies from various outlets including peer-reviewed journal articles, books, dissertations, periodicals and quarterly reports. This chapter addresses previous research relating to in-service education and how it relates to the professional development of Regional Extension Agents.

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What is Cooperative Extension?

According to Vines and Anderson (1976), Cooperative extension is the "largest problem-solving educational system in the world". Cooperative extension's work is an out-of-school

system of education in which adults and young people learn by doing. Cooperative extension is a partnership between the government, land-grant institutions and the people. Cooperative extension provides service and education that is designed to meet the needs of the people, and its fundamental objective is the development of people (Kelsey & Hearne, 1963). The mission of the cooperative extension system is to improve the quality of life for individuals and families (Sanders, 1966).

According to Sanders (1996), Cooperative extension is an educational force that is unique because of the following characteristics:

1. The cooperative extension is a cooperative effort between county, state and federal governments. It is based on university campuses, but the majority of its work is conducted through community extension offices located throughout the United States and its territories.

2. Cooperative extension is an educational service, but it has no fixed curriculum. It confers no degrees and gives no diplomas.

3. Cooperative extension is concerned with helping people to identify and solve practical problems through the use of informational materials, educational programs and technology.

4. Cooperative extension views individuals and families as active learners and problem solvers who are capable of making their own decisions when supplied with factual information and meaningful options. Extension professionals thus withhold personal judgements while supplying the information necessary for families to make their own informed decisions.

5. Extension professionals use the state as their classroom working with a large and diverse audience. Extension professionals recognize and are sensitive to the differing values of communities across their state.

6. Extension professionals employ a wide range of delivery methods, including demonstrations, workshops, videotapes, personal contacts, telephone calls, correspondence courses, contest, exhibits, pamphlets, computer programs, newsletters, telecommunications and the mass media (Smith, 1966).

To continue meeting the needs of the people, the Alabama Cooperative Extension System (ACES) completed a restructuring effort in 2004. Field Agents whose main focus was an individual county moved to a regional operation. This allowed agents to work across regions with local and state subject matter experts (Alabama Extension, 2004).

Along with the switch in the way extension information was provided by the field agent, another change took place in 2007 with the establishment of the virtual extension. This new type of extension focused on increasing the organization's online presence and efforts. Developed by Charles Ray of Pennsylvania State University, the idea of a virtual extension specialist was to adapt to the changes in technology. Some of these changes include using a web technology as a primary contact form, continuing to keep their knowledge base current and becoming a member of general extension. This differs from the previous model that focuses on information generated from their home agency (Ray, 2007).

Cooperative Extension Past and Present

Early agriculture education in the United States can be traced to the 1700's with Benjamin Franklin's proposal for an agricultural academy. Franklin believed that gardening, planting, and grafting could be taught and practiced. He suggested that trips be made to

neighborhood plantations to learn firsthand. Comparing this to the modern cooperative extension, similarities can be seen on the approach of extending information to community (Knowles, 1962).

Moving forward one-hundred years and looking at the history of the cooperative extension in the United States, the foundation of the organization can be found by examining the Morrill Act of 1862 and its deep roots of agriculture. This purpose of the Morrill Act of 1862 was to establish a 30,000-acre public land that would be used to establish a college that offers courses in agriculture, engineering and military training (Knowles, 1962; Rogers, 2016). While the foundation of the act was centered around college and universities, the relationship of the Morrill Act and agriculture extend beyond this. The act provided the ability to extend knowledge that would affect change in individual homes and farms across the entire county (Duemer, 2007).

The previous state of agricultural affairs in the mid-1800s was one of the reasons for drafting the act. Prior to the Morrill Act, several federal proposals were created including that of Jonathan Turner's idea for an Industrial University (Ross, 1969) . Building on those previous proposals, Senator Morrill drafted a bill for the support and maintenance of at least one college where the focus would be agriculture and mechanical arts. Morrill, who was in favor of educational reform, felt the current state of education facilities were unable to meet the needs of students wanting to pursue the mechanical arts (Ross, 1969).

Looking at the establishment of the cooperative extension, the Morrill Act's deep roots in agriculture were evident, and there was a need to extend educational knowledge of the college/university to help the people throughout the state. While we often credit the Morrill Act with the introduction of extension education, it can actually be traced back to the founding members of the United States (Eberle & Shroyer, 2000).

Organization such as the Philadelphia Agriculture Society, according to their minutes, are considered to be one of the earliest forms of extension in the United States (Kelsey & Hearne, 1963). During the 1850's, Charles Flint, the Massachusetts secretary saw a need to provide agriculture education to local farmers. To help solve this issue, pamphlets and lectures were distributed by leading agriculturalists (Kelsey & Hearne, 1963).

Following the Morrill Act, the next important piece of legislation that impacted the cooperative extension system was the Hatch Act of 1887. The Act established the land grant university experimental research stations. The goal of these stations was to complete agriculture-based research. The findings from this research served as one of the foundations for education programs that cooperative extension created (Coleman & Barranti, 1989).

After the success of the Morrill Act, Hatch Act, and the establishment of the land grant university, the next advancement in extension education came in 1914. In 1914, the official process of extending land grant universities' research and resources to the people where they lived and worked was established by passing the Smith-Lever Act of 1914 (Rasmussen, 1989).

The Smith-Lever Act allowed the allocation of funds to land grant universities that allowed them to place extension educators in the state's local communities. Placing these educators in the local communities allowed them to become in touch with the local needs (Franz and Townson, 2008). According to section two of the Smith-Level Act (Congress, 2008):

Cooperative agricultural extension work shall consist of the development of practical applications of research knowledge and giving of instruction and practical demonstrations of existing or improved practices or technologies in agriculture, uses of solar energy with respect to agriculture, home economics, and rural energy, and subjects relating thereto to persons not attending or resident in said colleges in the several communities, and

imparting information on said subjects through demonstrations, publications, and

otherwise for the necessary printing and distribution of information in connection with

the foregoing; and this work shall be carried on in such manner as may be mutually

agreed upon by the Secretary of Agriculture and the State agricultural college or colleges

or Territory or possession receiving the benefits of this Act (p.2).

One reason for land grant universities wanting to understand the needs of the local

community was because of the fear of losing support for their college and agricultural

experiment stations. If the information provided by the university was not accurate or reliable to

the community, the land grant leaders feared the community would not make the societal

contributions they required (Milner, 2014).

The land grant university provided educators that extended the universities' knowledge of

agriculture, home economics and 4-H clubs. These types of educational offerings were

traditionally vocational in rural areas. Over time, these programs would change to help rural

people gain a better understanding of their relationship with the world around them. These

programs would later be expanded to offer programs in food and nutrition, youth development

and natural resources (Milner, 2014; Verner, 1964). Since its establishment in 1914, there are

over 3,000 cooperative extension offices across the country. These offices have a common

mission of supplying fact-based information to the local communities that will help improve

their lives (Milner, 2014). The type of education provided is typically noncredit education to

assist individuals in making their own decisions.

Initially, extension educators were located in every county across the state. Because of

their location, these agents were often referred to as "County Agents". The agents were pivotal in

the lines of communication between the people in the counties and the land grant institution

experts. The agents served many different roles including county office administration, budget preparation and personnel management. In some situations, agents are also required to be active in youth and community development programs (Pigg, Bush, & Lacy, 1980). Agents were also seen as representatives of the state land grant institutions and the United States Department of Agriculture (Kelsey & Hearne, 1963).

According to Rassi (1971), in order for a county agent to be successful in their educational efforts, a strong relationship between cooperative extension service and the land-grant college must be present. A county agent must receive the best education for his/her work. To ensure this success, the college of agriculture located in the extension system's state should provide all educational needs. These educational needs should be provided before and after their employment. Meeting these needs will help with the success of the extension service under any condition (Rassi, 1971).

During the early 2000's, cooperative extension began to see changes in federal funding. In an effort to identity the effects of these changes, a task force of extension directors, extension administrators and UDSA CSREES was appointed to identify and recommend new practices to ensure the cooperative extension system continues to improve the quality and impact of extension educational programing. Many extension agencies went through changes that included budget cuts, changes in organization structure, and reduction in the amount of agents/staff in the field.

In 2004, a reorganization occurred that changed the way Alabama extension agents performed their daily tasks. The county agent structure was converted from individuals serving a single county to a team of educators serving multiple county regional agents. The restructure process focused extension in fourteen priority program areas: agronomic crops; animal science

and forages; aquaculture and recreational pond management; poultry; family and child development; community resource development; consumer science and personal financial management; farm management and agricultural enterprise analysis; food safety, preparation, and preservation; forestry, wildlife, and natural resource management; commercial horticulture; home grounds, gardens and home pests; human nutrition, diet, and health; and 4-H and youth development (Alabama Cooperative Extension System, 2004).

The restructuring process allows staff on campus and in the field to work together to plan and evaluate programs that are offered statewide. Also, external funding, while previously attainable, is easier to achieve in the new extension model. Other enhancements include: help redistribute staff (so priorities are addressed), create links between the university researchers and the extension educators, and create opportunities for multi-state training and programming (Alabama Cooperative Extension System, 2004).

While Regional Extension Agents continue to serve in one or several of the fourteen program topics, the programs have been consolidated into four main areas. These areas include Agriculture, Forestry and Natural Resources; Alabama 4-H; Human Sciences Extension; and Urban Extension (Alabama Extension, 2019) Details on the origins of these program areas are listed below.

Agriculture, Forestry and Natural Resource programs as defined by ACES provide relevant and research-based management information and educational programs to commercial producers, industry personnel and homeowners (Alabama Extension, 2019. The major goal of this this program nationally is to:

1. Assist agricultural producers, suppliers, processors, wholesalers and retailers, foresters, forest land owners, and others engaged in agriculture, forestry, and related

endeavors to meet the food, fiber, and shelter needs of the nation; develop and maintain the U. S. comparative advantage in world trade; and receive a fair share of the economic and social benefits .

2. Conserve and develop natural resources with special emphasis on soil, water, and energy.

3. Protect the quality of the environment from pollution by agricultural wastes and chemicals used in food and fiber production.

4. Enhance the ability of farmers and farm families to utilize available resources to improve their quality of life (Science and Education Administration - Extension, 1980).

Alabama 4-H programs as defined by the ACES are to provide programs to develop, grow, and empower the youth of Alabama (Alabama Extension, 2019). The foundation for 4-H programs was developed by O.H. Benson in Iowa. Initially it was created as an after-school program to emphasize the advantages of rural living. This program began to receive federal and state funding once the Smith and Lever Act was passed in 1914 (Reyburn, 1980). The foundation for this program continues to be its club work, but has evolved over the past 80 years to include activities such as public speaking, camping and judging events (Van Horn, Flanagan, & Thomson, 1998). According to the 4-H mission statement, the focus of this program promotes civic engagement and leadership, healthy living and science (*National 4-H Strategic Plan*, 2017).

Human Sciences programs as defined by the Alabama Cooperative Extension System are to provide community-based educational programs to empower individuals, families, and communities. The major goal of this program nationally is:

1. To improve food and nutrition knowledge and practices related to

a. physical and mental health.

b. Planning, selecting, purchasing, preparing, safe handling, storage, and home preservation of food.

2. To improve consumer competence and behavior concerning

    a. family financial management and security (decisions to buy, invest, save, and extend material and human resources).

    b. interpretation and evaluation of the marketing system, regulations and legislation affecting goods and services, and consumer rights and responsibilities,

3. To improve acquisition and maintenance of safe, satisfying and affordable housing, furnishings, and equipment including.

    a. analysis of housing fit for intended use.

    b. Efficient management of space, facilities, and scarce resources (for example, energy and water) within the environment in and around the home.

4. To create and guide effective human development through.

    a. analysis of housing fit for intended use.

    b. Efficient management of space, facilities, and scarce resources (for example, energy and water) within the environment in and around the home.

5. To improve selection, use, construction, renovation, and care of textiles including

    a. clothing for personal use.

    b. Household softwares, linens, carpets, draperies, upholstery.

6. To improve family health and safety practices by (Science and Education Administration - Extension, 1980).

a. preventing illness and accident.

b. Creating a better understanding of environment, nutrition, and physical, mental, and social factors and needed action.

The foundation of human sciences can be found in cooperative extension's home economics programs. Historically, home economics programs are reflected by the social and economic elements that impact families and individuals. This type of training is always evolving based on the current state of the country.

Starting in the 1920's, the efforts of these types of programs were intended to combat poverty during World War II. The efforts of the program were to help with farm management and home finances. This began to change during the 50's, 60s, and 70s when efforts were focused on cognitive and affective skills with an effort to help in consumer education, child development and family relegations (Science and Education Administration - Extension, 1980).

Urban Extension Programs as defined by the Alabama Cooperative Extension System as programs that provide learning opportunities to meet the needs of all urban and nontraditional audiences with a specific focus on limited-resource families, underserved audiences, individuals and small enterprises (Alabama Extension, 2019). The theory of Urban Extension Programs is not a new concept. This type of program was initially introduced in the 1960's by the Ford Foundation (as cited by Borich, 2001) as a way to better serve the large urbanization that was taking place. Focus on Urban Extension Programs began to take place in the 1990's when cooperative extension leaders identified that a majority of the population resides in suburban or urban areas. This was identified as an issue because a majority of the program areas were focused on rural populations (Farlin, Smith, & Kalb, 1996).

Theories of Adult Education

Adult education can be defined as helping adults gain the knowledge about their individual powers, capacities, and limitations that are necessary to gain true freedom and to sustain their creative spark through their lives. Adult education helps create new cultural values and allows adults to appreciate what is around them (Lindeman, 1961). Adult learning is different from children's learning because children's learning tends be less abstract and ordered than that of an adult (Yonge, 1985).

According to Verner (1964), adult education offerings are developed to meet a particular need in a given moment based on the conditions of learning at that time. When the need changes, so should the type of training that is offered. Examples of these needs include the desire of expanding knowledge, continuing to gain knowledge to prevent irrelevancy; the need to keep up with expanding technology, acquiring new skills to replace obsolete skills by advancements in technology; and the need to adapt to social change, as societal changes continue to occur education on how to adapt must as well (Verner, 1964).

When identifying the need of adult education, there are negative forces that affect its development. These forces include the opposition of education, the societal disregard for educational advancement; the need for education is over, adults believing they have reached a state of educational completion; and the need to institutionalize the educational content, greater value is placed on the process than the content (Verner, 1964).

Based on these needs, adults' continuing education is important because adults must expand their current knowledge. Adults must expand on their skill and competencies as they mature. Societies demand their citizens be active participants, continuing education provides adults with the option to participate effectively. As adults mature, they gain a vast amount of information and knowledge, continuing learning helps audit this knowledge and identify what is

still needed. Maturing as an adult is a lifelong process, continuing being educated eliminates areas of ignorance and obsolete attitudes (Verner, 1964).

According to a study by Houle (1963), adults' opinions on the purpose and value of continuing education can vary. Studying a group of adult men and women that participated in some form of continuing education, he found that while they all had goals for continuing learning, they had different conceptions about its value. These concepts include goal-oriented, activity-oriented and learning-oriented. Houle stated that these types are separate but should be seen as three circles that overlap (Houle, 1963).

Goal-oriented learners take part in continuing education in episodes. They start with a need or interest. This type of learner does not have a steady continuous flow of their learning. They have a need they satisfy by taking a course, reading a book, joining a group or going on a trip. These types of people see continuing learning as a way to solve problems. They do not enjoy any type of education that is not relevant to their needs or interests. (Houle, 1963).

Activity-oriented learners take part in learning for reasons unrelated to the purpose of the content of the education they are engaging in. Reasons for engagement for these types of people include reasons such as social and job performance. This type of learner typically begins their learning where there is a pressing problem or need. Often there must be some type of self-recognition or personal stake before they will begin to extensively take part in a continuing education program (Houle, 1963).

Learning-oriented learners seek knowledge for their own benefit. These learners typically learn in a continuing flow that extends the length of their life. Unlike a goal-oriented learner, they often join groups and classes repeatedly for educational reasons. These learners often do not

recognize they are continuing learners; they assume they are partaking in education for fun. (Houle, 1963).

When we think about the field of study in adult education, we use the term "andragogy". Derived from the Greek work "aner", which means "man", and "agogus" meaning "leader of", andragogy can be defined as helping adults learn (Knowles, 1973, 1984). Looking at this definition in a deeper concept, we can see this this type of education goes beyond the traditional pedagogy practices.

According to Knowles (1973), if you look at the Greek meaning of "pedagogy", it comes from the same origin of "pediatrics" deriving from the Greek word "paid". The meaning of "paid" in Greek is "child". Pedagogy also derives from the Greek word "agogus" defined as "leader of". Looking at this breakdown; pedagogy can be defined as the art and science of teaching children. While andragogy is the art and science of teaching adults, this does not mean that children can only be taught using pedagogy and that adults can only be taught using andragogy. The type of teaching offered is based on the types of assumptions the teachers believe the student has about learning (Knowles, 1975).

It can be argued that in using the pedagogical approach to teaching adults, we are teaching them in the same manner we teach children. This is one reason the field of adult education is important because as children become adults, they begin to learn in different methods. He believes there are assumptions of adults that differ from assumptions of teaching children and that the adult assumptions apply to children and youth as they mature (Knowles, 1973).

As children mature, they are naturally moving toward self-direction. Unfortunately, during the maturation, pedagogical methods are often applied where andragogical methods

should be (Knowles, 1973). In a traditional pedagogical model, the following assumptions are made about the learner:

1. The learner is a dependent personality, the teacher accepts full responsibility about what should be learned.

2. Learners enter into an educational activity with little experience that is valuable to the learning.

3. Students become ready to learn when they are told they have to learn to advance to the next grade.

4. Students enter into an educational activity with a subject-centered orientation.

5. Students are motivated primarily by external pressures from parents and teacher, competition for grades, and consequences of failure.

In an andragogical model, the following assumptions are made about the learner.

1. The learner is self-directed, they want to make their own decisions on the type of learning that takes place.

2. Adults enter into an educational activity with both a greater volume and a different quality of experience from youth.

3. Adults become ready to learn when they experience a need to know or do something to perform in some aspect of their lives.

4. Adults enter an educational activity with a task-centered orientation to learning.

5. Adults are internally motivated – self recognition, self-esteem, better quality of life (Knowles, 1973, 1984).

Pedagogy and andragogy are also referred to as teacher-directed learning and self-directed learning. The theory of self-directed learning is very important to adult and continuing

education. According to Mezirow (1985), "no concept is more central to what adult education is all about than self-directed learning" (p. 17). Self-directed learning is described as a process where the individual takes control of his or her learning without the help of others. This includes diagnosing their learning needs, creating learning goals and identifying external resources for learning (Knowles, 1975).

In self-directed learning, it is critical to emphasize that learning does not take place in isolation. The learner will see other students, teachers and resources as helpers, unlike teacher-directed learning where the students are seen as competitors and the teachers as directors. The learner sees them as mutually helpful and the only way learning can flourish. Self-directed learning cannot take place with the absence of these resources (Brookfield, 1985; Knowles, 1975).

At minimum, self-directed learning is technically considered to be taking place when an individual is concerned with designing an effective learning program with minimum help of outside resources (Brookfield, 1985).

According to Brookfield (1985), the complete form of self-direction takes "When the techniques of self-directed learning are allied with the adult's quest for critical reflection and the creation of personal meaning after due consideration of a full range of alternative value frameworks and action possibilities" (p.15).

To understand self-directed learning, Mezirow (1985) says it is useful to understand three distinct functions of adult learning. The first function is instrumental learning, a process that takes place from habit responses to information learned through existing. This type of learning is based on empirical knowledge. The second type of learning is dialogic, an increase in

insight and understanding throughout symbolic interactions. The third type is self-reflective learning, a process of gaining a clearer understanding of oneself by identifying dysfunctional areas obtained earlier in life (Mezirow, 1981, 1985).

Dejoy and Dejoy (1987) state that self-directed learning helps eliminate problems with traditional learning including:

- Develop an individualized match between the learner's information needs and the learning content.

- Develop internal learner motivation to meet the learning goals.

- Improve the learner's skills to support successful career changes.

- Ability to respond to constant changing information in the workplace.

For self-directed learning to be successful, the learner must be able to accept their ability function autonomously. Along with a learner understanding the need to function independently, a learner must also understand the self-directed process. Learners must be able to identify their needs, have the ability to locate resources and evaluate their performance (Dejoy & Dejoy, 1987).

International Adult Education

The movement of adult education has taken place not just in the United States but globally as well. Differing from the United States efforts to meet individual needs, international adult education movements were developed to create institutional reforms (Knowles, 1962). A majority of these programs were national movements to educate adults. Examples include England and Sweden in their national efforts to educate workers. Denmark created a series of folk schools to bring back a national culture. The Soviet Union used the movement to produce loyalty and develop technical competencies (Dunkel & Fay, 1978; Knowles, 1962).

Adult Education Movements

Along with the theories of adult education, several educational movements developed during the 1800's that influenced the future of the land grant college and the cooperative extension system.

The Lyceum movement was one of the earliest offerings of adult education programs in the United States. This movement is defined as associations that are formed for the mutual improvement of their members and for the common benefit of the society (Knowles, 1962). According to Hayes (1932), the purpose of the movement was to diffuse useful information through educational programs and the adoption of the cause of common schools (p.5).

Unlike the traditional university system, the goal of lyceums was to work in an informal method to expand the needs of adult learners. According to Geiger (2005), during the beginning of the nineteenth century, colleges were being accused of focusing on dead languages and neglecting the needs of practical subjects and science. Josiah Holbrook became aware of this and developed a proposal to accommodate a different class of adult learners.

Holbrook, using his understanding of self-directed learners, developed the official national branch of the American Lyceum. This movement became popular because topics from mechanical arts to philosophy and social causes could be explored. The program provided a powerful outlet for free expression and intellectualism (Khrapak, 2014).

Not only was the program an opportunity for the community to gain valuable knowledge, but also an opportunity for teachers to learn. During the 1830's, special teachers' lyceums existed, providing opportunities for teachers to hear lectures related to their own profession. Spearman (2009) in his article asked the question if these types of lyceums were early forms of professional development (Spearman, 2009). The movement caused teachers to be more

professionally minded and encouraged them to study for their job. This proved to be successful considering the common school teacher would have no more schooling than the students they were expected to teach (Hayes, 1932).

Another benefit of the American Lyceum was the influence it had on the foundation of the Morrill Act and the development of the cooperative extension system. Justin Smith Morrill was influenced by the lyceum movement. Using the same foundational methods of lyceums, Morrill aimed to develop a program to teach applied sciences. Unlike the work of Holbrook, Morrill was able to use his political influences to secure his ideas long-term (Spearman, 2009).

Chautauqua

Following the success of the lyceum movement, the Chautauqua Institute was developed as the first core program of Adult Education that was offered on a national scale. Originally developed as a normal school for Sunday school teachers, it quickly began to attract outside participants. Because of this attraction, the institute began to broaden its program offerings (Knowles, 1962).

The meaning of Chautauqua is an attempt for community betterment, and often, the meetings resulted in cases that were immediate and far reaching. Participants were challenged to not only listen to the lectures but to challenge the speaker and their internal belief as well. This resulted in progressive ideas in religion, education, politics and business. One of the largest attendees of these meetings were farmers. Farmers would attend lectures on crops and soil to mechanical methods (Pearson, 1912). Similar to lyceum, roots of the current cooperative extension can be seen here.

Founding members based their program on the adult education theory that adulthood is a unique time for learning. During this time, many theories focused on childhood and youth as the

best time for learning. They felt at this time the mind was more moldable. According to Vincent (1971), mature adults have the best ability to absorb reading, reflection and production. He felt the discipline of everyday life provided a certain advantage to the so-called "uneducated mind" (Vincent, 1971). This theory of lifelong learning was present on the diploma of a Chautauqua certificate. The certificate contained thirty-one additional blank spaces, allowing for additional seals to be obtained (Stubblefield, 1981).

Continuing from its original creation in 1873, the program developed into a thriving adult education program called Chautauqua University with full degree-granting powers. Although the program was not successful for many years, it contributed to the foundations of many other institutions that followed. Some of these included correspondence courses, summer schools and university extensions (Knowles, 1962). Though often overshadowed by the larger Chautauqua movement, this university is a major event in the history of higher education (Scott, 1999).

University Extension

A movement similar to Lyceums and Chautauqua was the University Extension. Defined by Reber (1916) as

> An agency of popular education by which the benefits of the university are extended to the entire population without other prerequisites on the part of this large student body than the desire to learn and the ability to make the use of the service (p.185).

Originally developed in England, this type of education was a series of lectures on a single topic that included exams, syllabi and assignments. These tasks were given to the student to be completed at home and brought back to the instructor for review. This type of program rose in the United States in the late 1800's. Between 1887 and 1891, over twenty attempts were made to introduce a University Extension-type program (Reber, 1916). One of these attempts included

a privately endowed society by the University of Chicago, developed by William Rainey Harper, the first president of the University of Chicago, as a way to extend the university privileges as far as possible to the public (Dunkel & Fay, 1978).

Successful at first, difficulties arose between the traditional university proper and the extension program. Often, university professors felt that the type of courses popular to the extension programs did not represent the academic department it was associated with (Dunkel & Fay, 1978). Unlike a traditional cooperative extension system, the University Extension typically presented content in similar methods as being offered in the classroom. These methods can be attributed to the decline of this type of program. Often, the programs failed to adapt to the needs of training adults and instead stuck to the strict university academic standards (Knowles, 1962).

By the early 1900s, a shift was seen from the traditional ideas of University Extension programs to something different. Instead of trying to expand access to university lectures, a new model focused on providing a range of scholarly services to the communities and industries. While the new model of University Extension continued in public and private universities, a new form of extension work began in agricultural colleges with the establishment of the Smith and Lever Act of 1914 (McLean, 2007).

What is In-Service Training?

According to Kozoll and Ulmer, (1972), in-service staff training often exists as a requirement than an integral part of daily activities. These staff trainings are often developed to fulfill certain requirements. They define training as *"activities geared toward solving problems or equipping staff with carefully defined skills"* (p. 9). Professional development, continuing

education and staff development have all been used to describe in-service education (Orlich, 1989).

Professional development is defined as the process and activities designed to enhance the educator's knowledge, skills and attitudes so they can improve the learning of their students (Guskey, 2000). According to Bradley, Kallick and Regan (1991) "Staff development are attempts at new or reinforced learning for the purpose of achieving the announced goal through acquiring skills, knowledge and understanding (p.4). Continuing education is described as the ongoing education necessary for professionals to stay ahead of the knowledge explosion then emerging in many fields of practice (Hatfield, 1989).

According to Orlich (1989), between 1957 and 1987, many different publications offered their own definition of what in-service training means. Using these as a guide, he defines in-service training as the following:

> "Programs or activities that based on identified needs; that are collaboratively planned and designed for a specific group of individuals; that have a specific set of learning objectives and activities; and that are designed to extend, add, or improve immediate job-oriented skills, competencies, or knowledge with the employer paying the cost" (p. 5).

Breaking down this definition into simpler terms, in-service training should include immediate use to an individual, and it must improve or extend job-related skills and focus on a specific group of individuals (Orlich, 1989).

Nicholson, Joyce, Parker, and Waterman, (1976) claim the purpose of in-service education can be broken down into three categories:

1. Job-Oriented – meeting the needs of the specific job situation in which the teacher finds himself.

2. Profession-Oriented – education as a teaching profession, this is regardless of any specific job assignment.

3. Person-Oriented – education for the sake of the teacher as an individual. This goes beyond the requirements of the profession (p. 87).

The Importance of In-service Training

The importance of in-service training has long been associated with educators. Since the development of public education, administrators have seen the need to continue to provide additional education for their teachers (Orlich, 1989). This is particularly important with state agencies ensuring that school teachers received the proper training to continue to be successful in their teaching efforts.

In 1975, a national study was conducted to determine the satisfaction of the quality of training public educators were receiving. Results from this survey found that teachers felt that "the in-service education is too general to satisfy my special needs". Some felt that the in-service training was not planned cooperatively with the teachers (National Education Association, 1978). One of the early criticisms of in-service training was the fact that the material did not relate to the participant's day-to-day job (Davies & Aquino, 1975).

This type of frustration can be associated with the early development of in-service programs after World War II. Evidence of this type of frustration is documented in the first edition of the Adult Education Bulletin in 1936. The bulletin asks about the importance of teacher training. Teachers were found to be forced into courses without say into the type of content being delivered. A different attitude towards the training might occur if the teachers had a general interest in the content and were allowed to contribute.

Initially, these programs were not designed for a specific educator but based on the requirements developed by state departments of public instruction and universities (Orlich, 1989). It is important for in-service training to provide relevance to the training subject and how it relates to the student. Complaints often arise when trainees receive training on a subject that does not reflect their needs. Successful programs are those whose administrators make efforts to remedy those relevance problems (Kozoll & Ulmer, 1972).

According to The New England Program in Teacher Education, in-service training is not just a decision by the university or the administration. The selection of the training must be a mutual decision by all parties including the participants (Goddu, Crosby, & Massey, 1977). The training should be an ongoing, flexible program that is designed to improve the participant's job competency. The training should not be an all-in-one workshop that participants must attend. The program should be designed to provide learning opportunities to participants that they can immediately use in their job (Goddu et al., 1977).

Different opinions on teacher in-service education was found in a teacher-centered, in-service education project by the National Education Association. Teachers in Prince George's County Maryland were asked how they felt about the in-service programs. The responses revealed different qualities they felt were important to an in-service training program. The qualities based on frequency were practicality (79%), support and encouragement (56.2%), systematic programs (48.6%), variety (45.9%) and teacher sharing (42.5%) (Ainsworth, 1976).

Other qualities not mentioned as frequently were choice (19.9%) and self-direction (24.0%). According to Ainsworth (1976), the lower qualities indicated that teachers wanted a more structured program where the need for self-direction and choice were not as present. While

this was an indication, she felt that the teacher's understanding of in-service education was wrong. One reason for this misunderstanding is the teachers past experience with training.

Using the concept of adult learning, it is important to understand and comply with the students' needs of the in-service training program. Without this information, educators impose their own ideas of what the student needs. When developing these types of courses, it is important to make decisions based on the information provided by needs assessments to accurately meet the learners' needs (Price, 1983).

A survey of teachers and administrators in Montana were surveyed to determine the direction of future in-service education. The study was conducted because teachers felt that the in-service programs were being mandated above them. They felt the programs did not have a clear purpose or were relevant. Along with the determination of the future of the education, the study compared three different agencies to see if they all had the same perception of the in-service needs. The three agencies involved in this study included teachers, teacher educators and administrators.

Results from the study found that half of the statements provided in the questionnaire were agreed upon by at least two of the agencies. While there was agreement on more than half of the items in the questionnaire, a general agreement did not occur between all three agencies. The study concluded that it is not likely that any program developed by one of the three agencies will be well-perceived by both of the other agencies (Cormier, 1981).

Professional educators must be allowed to decide from a variety of development programs if real growth and change is to be achieved (Reid, 1999). Applying the assumptions developed by Knowles, it is important to understand adults enjoy planning and conducting their own learning experiences. During these learning experiences, they are most successful when

what the adults need to know relates to the training. After completing the training, it is important that the adult can apply what they have learned (Marczely, 1996).

According to Boudah and Mitchell (1998), research-proven best practices are not always used in school because the training is often a poor match of the teachers' needs. Teachers are not given the opportunity to apply the techniques they are learning in the classroom. The trainings often do not provide an opportunity to provide feedback. Once they receive the training, little or no coaching is provided to help further develop the skills.

A study by Smith and Kritsonis (2006) looked at the research in the difference in professional development with corporate companies and public education. The study stated that in developing professional development for teachers, individuality and self-determination are often overlooked. Teachers often feel that the content developer/creator is disconnected from classroom realties.

In-service education is found to be perceived differently depending on the stage of the career of the trainer. A study by (Richter et al., 2011) hypothesized that teachers would pursue more in-service education during the middle of their careers than they would at the end. This same study also hypothesized that the level of experience a teacher had would impact the type of professional development they pursued.

Results from the study found that teachers' use of in-service education was highest at the middle of their careers and lower at the start and end. Teacher collaboration was seen differently with the highest at the start of their career and the lowest at the end. These results were found to contrast a similar study by (Huang, 2016) that found there was no difference in training participation across age groups. One explanation for this difference is the requirement of the in-service education. The study by Richter et al., (2011), looked at German teachers who

participated in in-service education on a volunteer basis. The study by Choy et al., (2006) looked at United State teachers who were required to attend professional development (Richter et al., 2011).

In-Service Education in the Cooperative Extension System

Improperly trained employees can affect the reach of the cooperative extension system. This remains true for all types of employees including administration and local office staff. According to Addison (1972), employees who are successful should be trained in the following subject areas:

- Technical Subject Matter

- Extension Service Organization and Operation

- Human Development

- Program Development

- The Educational Process

- Social Systems

- Communication

- Research and Evaluation (Maunder, 1972).

Some employees enter employment with pre-service training. This type of training can include certificates or degrees in agriculture or human sciences. Training that is not covered by the employee's pre-service education is completed through in-service education (Maunder, 1972).

On the job, in-service training is a process in which extension workers keep themselves up to date with scientific developments. In-service training takes place after employment or if the

employee has been assigned to a new area. This type of training can occur in many different formats. Some of the most common types include:

- Annual staff conference

- Short/refresher courses

- Training courses

- Workshops

- Seminars (Maunder, 1972)

This type of training is also important because it provides a possibility to improve personnel who may have limited qualifications before their employment (Rassi, 1971). Many extension agents and educators are hired without the extension-specific subject matter or education curriculum. Often, this type of knowledge is gained through on-the-job professional development (Brodeur, et al., 2011).

Improving and centralizing the in-service training programs into cooperative extension begin in the 1950s with the development of a training task force. This task force was responsible for the following:

1. To outline a comprehensive training policy and program adequate to meet extension's current and anticipated needs;

2. To analyze and evaluate the training activities now underway;

3. To prepare a set of recommendations for strengthening ongoing activities, filling gaps, and initiating such new activities as may be indicated to put extension personnel training in line with modern industrial and educational practice and abreast of extension's own development requirements (Federal Extension Service, 1959).

A study by Rennekamp and Nall (1994) suggested a new model for approaching professional development of extension employees. They felt that too often professional growth of extension employees was hit or miss. The training seldom met a need that was articulated in advance and often did not meet areas of real need. Using a foundation of the career stage model for professional growth developed by Dalton, Thompson and Price (1977), Rennekamp and Nall developed a model specifically for cooperative extension agents. The model described four stages of professional growth: entry, colleague, counselor, and advisor (Rennekamp and Nall, 1994).

Entry stages refers to a time in the agent's career where they first enter the profession. During this stage, the person is motivated to understand the foundational skills required for the job and the organization's structure. Moving out of the entry stage, agents move into the colleague stage. During this phase, the agent builds expertise in a specific area and often shares that with expertise. People in this stage are motivated by developing expertise, developing independent problem-solving skills and developing a professional identity.

The third stage is the counselor. During this stage, the person begins to take on responsibility for developing others. In this stage, people are motivated by acquiring broad expertise, attaining leadership positions, developing networks and mentoring relationships. The final stage is the advisor stage. Advisors play a key role in shaping the future of the organization. People in this stage are motivated by becoming involved in strategic planning, achieving respect and achieving a position of influence (Rennekamp & Nall, 1994).

Historically, in-service trainings offered to extension agents take place during in-person statewide meetings. Beyond those meetings, an early form of distance education was used by mailing training materials. While the method was effective, the offered material often times was

not. According to Fitzpatrick, Duncan, Williamson and Smith (1997), minimal research was found that focused on evaluating the effectiveness of in-service educational programs.

Gibson and Hilson (1994) identified a need to explore the in-service training needs of extension agriculture agents of North Carolina. This need was identified by the constant improvements in technology that was developing on all fronts. The North Carolina Extension Agency defined their extension agents as non-specialists with a knowledge of all aspects of their general program areas including agriculture, natural resources, community development, home economics, or youth development (Gibson & Hilson 1994). This definition aligned with other extension services' definition of extension agents.

Participants in the study were asked to complete a questionnaire comprised of eight competencies identified in the National Policy Statement of 1969. The participants in the study included extensions agents, administrators and subject matter experts. Extension agents and subject matter experts rated planning and development, communication and educational process as areas in need of training. While all three participant types agreed on the need of training in all eight competencies, administrators and subject matter experts were closer in agreement than extension agents on the type of training extension agents needed.

A study by Reid (1999) looked at the perceived in-service training needs of county agents of the Alabama Cooperative Extension System. The Alabama Cooperative Extension System underwent a restructuring and a concern existed as to the training needs as perceived by the county agents and what was perceived by the administration. The reconstruction process brought on a new complex and diverse population with needs to be on the cutting edge of technology and understand the content related to their field. To determine these needs, a questionnaire was mailed to both county agents and administrative staff.

Results from this survey provided areas of in-service needs for agents in the areas of agriculture/natural resources/forestry, family and consumer sciences and youth programs. In the area of youth programs, the need for communication skills was found. A part of the questionnaire explored areas of general and program development and what areas were needed for training. Among the results, the highest means for training needs were technology updates, using new program delivery methods and developing programs for impact. Comparing these perceived needs to the perceived needs of administrators, significant differences were only found in the implementations in County Extension Advisory Boards and Understanding Urban Culture and Urbanization (Reid, 1999).

In an effort to understand how in-service education is used and the efforts to make it more effective, Pennsylvania State University's Cooperative Extension developed a questionnaire to determine what areas in-service education agents felt were most important. Four specific areas were looked into including Technical Subject Matter, Technical Skills Development, Program Sharing and Ideas, and Process Skills Training. Along with the results about the specific areas, reasons for not attending in-service training were also provided. 53% of agents thought training would take too much time away from work and 45% said it conflicts with local programing. 42% of agents said it conflicts with work and family conflicts and 41% found irrelevance in the training program offered (Mincemoyer & Kelsey, 1999).

Among the participants that completed the questionnaire, 64% of participants that responded said that they did not have a voice in what programs where offered. 62% also felt they did not have enough voice in the development of the content for the in-service training. Over 90% of the participants felt like they should be involved in the planning and development of the training programs. Respondents of the questionnaire offered solutions including asking agents

about training, forming advisory committees and soliciting regional feedback (Mincemoyer & Kelsey, 1999).

Using the Penn State Extension Study as a model, and the understanding that professional development content is constantly being outdated, researchers at The Ohio State University Extension looked at the needs of both extension coordinators and staff in an effort to answer three questions:

- To determine factors that impact personal participation in in-service opportunities.

- To identify barriers coordinators, face in providing professional development and to identify support needed in this role.

- To determine both technical subject matter and process skill development needs of program support personnel (Conklin, et al., 2002).

Results from the responses of extension coordinators revealed that 88% were expected to provide training as part of their job. Several common barriers were revealed that prevented coordinators from providing this training. 71% said there was too much competition for audiences. 25% said they had too many responsibilities and 26% said inadequate facilities were an issue.

Results from all extension employees including extension associates and coordinators revealed four common barriers that limited participation in in-service education. Among these barriers included difficulty taking time from job and lack of relevance to job. Comparing these results with findings from Mincemoyer and Kelsey (1999), it is important to consider the relevance of the in-service content and how it is offered to a diverse population of employees (Conklin, et al., 2002).

As budgets begin to tighten, administrators will always look at ways to improve in-service training offerings while also at a lower cost. As the internet began to take its second form in the last 1990's, this type of offering was looked at by many extension services. Offering internet-based extension trainings eliminates the need for travel and saves time and money (Lippert et al., 1998). Being away from the office and cost were previous concerns felt about the current offerings of agent in-service training (Conklin et al., 2002; Mincemoyer & Kelsey, 1999).

In an effort to determine the effectiveness of internet-based training, Lippert, Plank, Camberato and Chastain (1999) invited agents from South Carolina and Georgia extension to take part in a two-week, internet-based training course. The two objectives of the study were: 1) Determine if internet-based could be used to effectively train extension agents. 2) To determine if agents could be sufficiently instructed prior to the training on how to access course resources via the internet.

Results from the study's questionnaire revealed that a training with the absence of face-to-face contact could bring about active participation by extension agents. In the response to the statement "I would recommend the form of distance learning for future in-service training", 80% of the respondents said they agreed. Mixed results were seen to the response of the statement "The use of the internet can provide a learning experience as effective as a face-to-face class" where 25% of respondents said they disagree and 40% said they neither disagree nor agree. Participants in the study not only gained valuable information about the training content, but gained valuable skills on using internet-based resources (Lippert et al., 1998).

A similar study looked at the effectiveness of internet-based in-service training as a form of distance education. Using 150 agents from Alabama, Georgia, Florida, South Carolina, North

Carolina and Virginia, a pre- and post-test was administered to determine the effectiveness of a three-week, internet-based training. Results from the study found that 55% of the agents agreed the internet could be as effective as face-to-face training (Lippert et al., 2000).

Once it was identified that extension agents were willing to receive training in a new format, studies began to review the type of factors and content that were important to agents in these types of offerings. Georgia extension agents were surveyed in a study by Edwards, McLucas, Briers, and Rohs, (2004). The goal of the study was to examine the educational interests of the extension agents in relation to distance education. The increase in salary was the most frequent response for why agents would pursue additional education via distance. Geographic and scheduling conflicts were the most common barriers identified as to why agents did not want to pursue distant education (Edwards et al., 2004).

Not wanting to pursue education via distance because of geography or scheduling conflicts directly contrast previous findings by Conklin et al., (2002). Their study found that being away from the office and cost were previous concerns felt about the current offerings of agent in-service training.

Using many of the previous studies as a guideline, Senyurekli, Dworkin, and Dickinson, (2006) further looked at what factors contributed to agents deciding to participate in professional development. They also looked at what type of content areas most interested them. The study developed an online survey that looked at several factors including how agents were currently meeting their professional development needs; what level of interest exists for taking professional development via online; and what professional development topics were the most interesting to them.

Participants in this study included field staff, specialists, and administrators from across fourteen different states. Over 97% of participants said that workshops and seminars were the main ways they fulfilled their professional development needs. This result is similar compared to previous studies that identified workshops as a form of in-service education (Maunder, 1972). Traditional classroom courses and video conferences were found as the second and third preferred methods.

When asked the question "When you consider attending an event for professional development, what factors are most important to you?", participants indicated that content was the most important factor. Convenience and time commitment were second as the most important factor (Senyurekli et al., 2006). The importance of content further supports multiple previous studies that determined relevant content is one of the most important factors that drives participation in in-service programs.

Summary

Chapter 2 provides a review of the literature focusing on cooperative extension, adult education and in-service education. The chapter begins defining cooperative extension, its history and its current structure. Secondly, the chapter defines adult education theories, popular movements, and how cooperative extension is a foundational form of adult education. Lastly, the chapter defines in-service education, the importance of this type of education and how it is used in cooperative extension. The literature review includes studies from various outlets including peer-reviewed journal articles, books, dissertations, periodicals and quarterly reports.

Chapter 3

Research Method

Chapter 1 provides an introduction to the study. The chapter focuses on defining the statement of the problem, purpose of the study, research questions, and significance of the study, study limitations, assumptions and common definitions. Chapter 2 provides a review of the literature focusing on Cooperative Extension, Adult Education and In-Service Education. The chapter begins defining Cooperative Extension, its history and its current structure. Secondly, the chapter defines adult education theories, popular movements, and how Cooperative Extension is a foundational form of adult education. Lastly, the chapter defines in-service education, the importance of this type of education, and how it is used in Cooperative Extension. The literature review includes studies from various outlets including peer-reviewed journal articles, books, dissertations, periodicals and quarterly reports. This chapter addresses previous research relating to in-service education and how it relates to professional development of Regional Extension Agents.

Purpose of the Study

The purpose of this study was to examine the training needs of Regional Extension Agents. Due to the change in the type of extension agent and the expansion of the program areas, a concern exists between the appropriateness of training needs of a County Extension Agent and the training needs of a Regional Extension Agent. By analyzing the results from the survey, Alabama Cooperative Extension administrators can be informed on the different types of desired training that exist among the Regional Extension Agents.

Research Questions

The following research questions guided this study:

1. What are the training needs of Regional Extension Agents employed by the Alabama Cooperative Extension System in the following areas:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

    d. Alabama 4-H?

2. What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

    d. Alabama 4-H?

3. What are the characteristics of Regional Extension Agents regarding program development areas based on responsibility?

4. What are the identifiable training needs in program development areas for Regional Extension Agents based on position?

5. What are the identifiable training needs in program development areas of Regional Extension Agents compared to County Extension Coordinators?

Methods

The questionnaire was sent to Regional Extension Agents, County Extension Coordinators, and Alabama Cooperative Extension Administrators. The information about the

questionnaire was sent to participants via email. The initial email was sent to employees on April 7th, 2020. The email was sent to employees by the Director of Extension on behalf of the principal investigator. The email included information about the study and instructions on how to complete the questionnaire. A second email was sent to employees on April 21, 2020 as a follow up to the original email.

The questionnaire was delivered using the Qualtrics Survey tool provided by Auburn University. The use of an electronic survey was chosen to reduce the cost of delivery and to decrease the potential for transcription errors (Grenlaw & Brown-Welty, 2009). The collected data was stored by Qualtrics and downloaded to a local computer. The data was analyzed using the SPSS statistical software by the IBM corporation. Descriptive statistics was used to determine the training needs of Regional Extension Agents. Descriptive statistics was used to determine the preferred training needs of Regional Extension Agents in program development areas. Chi-Squared Measure of Association was used to determine the difference between the Regional Extension Agents training needs based on position. Chi-Squared Measure of Association was used to determine the difference between the Regional Extension Agents training needs based on location. Chi-Squared Measure of Association was used to determine the preferred training needs of Regional Extension Agents compared to County Extension Coordinators.

Sample

The participants for this study included Regional Extension Agents employed by both Auburn University and Alabama A&M University. County Extension Coordinators for this study were employed by the Alabama Cooperative Extension System (ACES). Administrative participants in this study included program team leaders, priority program team coordinators,

Alabama Cooperative Extension Assistant Directors and Alabama Cooperative Extension

Director. The population included men and women between the ages of 25 and 65. The

education levels of the population vary including Bachelor of Sciences, Master of Sciences and

Doctor of Philosophy.

Instrumentation

The original questionnaire for this study was developed by Dr. B. Reed in her study of

Perceived In-Service Training of County Extension Agents (Reid, 1999). Permission to use the

survey was requested electronically via email communication. The original questionnaire was

developed in three stages starting with 100 sub competencies and narrowed down to 20. These

competencies were taken from similar questionnaires in the field of in-service training (Reid,

1999). The questionnaire was slightly altered to meet the needs of Regional Extension Agents.

The County Agent role was removed from the questionnaire because of the limited amount of

employed County Agents by ACES.

The original questionnaire used the employer of either Alabama A&M or Auburn

University as an indicator of location. Compared to the original study, the employer type no

longer accurately predicted the location of the Regional Extension Agent. The questionnaire was

updated to include a new question asking participants to select their major areas of responsibility.

The area of responsibility was indicated by checking one or multiple counties in Alabama. The

selection of counties was based on the Alabama Cooperative Extension System restructuring

effort in 2004. Field Agents whose main focus was an individual county moved to a regional

operation. This allowed agents to work across regions with local and state subject matter experts

(Alabama Extension, 2004).

The questionnaire was divided into three parts. Part one included demographic questions. Questions three and four from the original questionnaire were changed from multiple choice questions to fill in the blank questions. Changing theses question types provided the ability to collect accurate discrete variables for years of employment and age of participant. Questions nine and ten were removed from the updated questionnaire. These questions were identified as no longer being relevant to the research questions.

Part two has four subcategories based on the Regional Extension Agent's area of expertise. The categories included questions related to the technical skills of the agent. The original questionnaire included three sections based on area of responsibility. The youth program section was renamed to Alabama 4-H, and the Family and Consumer Sciences section was renamed to Human Sciences. A new section was added to include a new program area, Urban Extension. Another section was added to include County Extension Coordinators. While this role is not a Regional Extension Agent, it was asked to be included by the ACES Director. Questions for the new sections were pulled from the original three sections. The selected questions were determined using the job descriptions listed on the Alabama Cooperative Extension website.

Part three included questions relating to general and developmental areas. Parts two and three of the questionnaire were developed using a five-point Likert-type scale (Clason & Dormody, 1994). Categories and values for the Likert-type scale were (1) Not Important, (2) Little Importance, (3) Important, (4) Very Important, and (5) Critical Importance. Survey results were analyzed using descriptive statistics and the Chi Square Measure of Association (Boone & Boone, 2012). The questionnaire was converted from a paper-based format to a digital format. The digital format was created using the Qualtrics Survey Tool. The participants of the study were able to complete the survey anonymously.

Data Collection

The original questionnaire was printed as a packet and sent to participants via the United States Postal Service (USPS). The packet included a copy of the permission letter, IRB approval letter and paper questionnaire. The questionnaire included instructions on how to complete the questionnaire and how to return it to the principal investigator. The questionnaire in this study was sent to participants electronically by the Alabama Extension Director on behalf of the principal investigator. The email included a permission letter, IRB Approval, and a link to the electronic Qualtrics survey (see Appendix A).

Questionnaire responses were collected for four weeks from April 7th, 2020 to May 7th, 2020. A follow-up email encouraging participants to complete the questionnaire was sent to all participants two weeks after the initial email. After the four-week period, data was exported from the Qualtrics Survey Tool into an Excel workbook. The data was reviewed, and any personal identifiable information was deleted. The workbook was stored locally on the principal investigator's computer.

Data Analysis

According to Clason and Dormody (1994), Likert-type questionnaires differ from Likert scale questionnaires because of the way the data is analyzed. Likert scale questionnaires presume an existence of a continuous variable whose values characterize an attitude or opinion. These types of questionnaires include a series of four or more questions that are combined into a single score (Boone & Boone, 2012). This is different from Likert-type questionnaires that ask respondents where they belong among a list of ordered alternatives. Each response is measured individually and no attempt by the researcher is made to combine the responses into a single composite score (Clason & Dormody, 1994; Boone & Boone, 2012).

The descriptive statistics measured in this study included mean, median, mode, frequency and standard deviation. Mean, median and mode were used to determine the central tendency of the responses. Frequency distribution and standard deviations were used to determine variability. Chi-Squared Measure of Association was used to determine the difference between the observed frequencies and the expected frequencies (Ary, Jacobs & Sorenson, 2010).

This study included four research questions. Question one was analyzed using descriptive statistics to determine the training needs of Regional Extension Agents. Question two used the Chi-Squared Measure of Association to determine the similarities and differences between the Regional Extension Agents training needs based on location. Question three used descriptive statistics to determine the training needs in program development areas. Question three used Chi-Squared to determine the similarities or differences in Regional County Extension Agents in program development areas based on responsibility. Responsibility was determined based on the results from question six in the demographics section. Question four used descriptive statistics to determine the training needs of Regional Extension Agents based on position. Question five used Chi-Squared to determine the similarities and differences between Regional Extension Agents and County Extension Agents' training needs. The previous study by Reid (1999), used Real Limits as an interpretation of the study results. The same limits were used in this study and were 1.49 Not Important (NI), 1.5 - 2.49 Little Importance (LI), 2.5 - 3.49 Important (I) , 4.49 Very Important (VI) and 5.00 Critical Importance (Cl).

Summary

This chapter restated the purpose of the study and the research questions. The chapter presented the design of the research, identified the sample population, and described the survey

instrument. The survey instrument and data collection procedures were pre-approved by the

university's Institutional Review Board (IRB).

Chapter 4

Findings

The findings from the research questions in the study are presented in Chapter 4. The questionnaire for this study was developed by Dr. B. Reed in her study of Perceived In-Service Training of County Extension Agents (Reid, 1999). The questionnaire was divided into three parts. Part one included demographic information, parts two and three included Likert- type question items related to perceived training types of regional extension agents. Descriptive statistics, demographic information and Fishers Exact Test of Independence were determined using the statistical program for social science software (SPSS).

Purpose of the Study

The purpose of this study was to examine the training needs of Regional Extension Agents. Due to the change in the type of extension agent and the expansion of the program areas, a concern exists between the appropriateness of training needs of a County Extension Agent and the training needs of a Regional Extension Agent. By analyzing the results from the survey, Alabama Cooperative Extension administrators can be informed on the different types of desired training that exist among the Regional Extension Agents.

Research Questions

The following research questions guided this study:

1. What are the training needs of Regional Extension Agents employed by the Alabama Cooperative Extension System in the following areas:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

d. Alabama 4-H?

2. What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

    d. Alabama 4-H?

3. What are the characteristics of Regional Extension Agents regarding program development areas based on responsibility?

4. What are the identifiable training needs in program development areas for Regional Extension Agents based on position?

5. What are the identifiable training needs in program development areas of Regional Extension Agents compared to County Extension Coordinators?

Data Analysis

Following the process described in the document approved by the Institutional Review Board, the survey was distributed to participants via email. The email was sent to participants on behalf of the principal investigator by the Director of ACES. A second follow up email was sent to all participants two weeks after the initial email was sent. The data was downloaded to the principal investigator's personal computer. The start date, end date, duration, progress, distribution, and user language fields were removed from the data using Excel software.

The data was coded using SPSS software based on the variable type. Any responses not collected were treated as missing and not included in the statistical analysis. Demographic data collected information on gender, race, years of employment, age, education level, area of

responsibility and current position. Demographic data was compiled using descriptive statistics. Research Question 1 used descriptive statistics to determine the overall preferred training needs of regional agents in the five areas of responsibility. Research questions two-five used the Chi-Squared Fishers Test of Independence to determine the similarities and differences in the training needs of regional extension agents based on location.

Research Question 2 used location to determine the training needs of Regional Extension Agents. Location was based on the amount of counites served in a particular area of responsibility. In the area of Agriculture/Forestry/Natural Resources, location was marked as serving nine or less counties or ten or more counties. In the area of Human Sciences, location was marked as serving seven or less counties or eight or more counties. In the area of 4-H, location was marked as serving one county or two counties. In the area of Urban Extension, location was marked as serving three or less counties or four or more counties.

Demographic Information

The survey was sent to 239 participants, and 81 participants completed all parts of the study. This resulted in a 33% response rate for the survey. Table 1 presents the compiled frequency and percentage of the demographics of the participants. Forty six percent of the participants currently work as Regional Extension Agents and 25% work as County Extension Coordinators. Alabama 4-H was the highest area of responsibility at 26% and Agriculture/Forestry/Natural Resources was second at 20%. Twenty one percent of the participants were male and 58% of the participants were female. Participants from the age of 20-30 consisted of 6% of the participants and 11% of the participants were between the ages of 31-40. Participants between the ages of 41-50 made up the largest portion with 24%. The second largest population were participants between the ages of 51-60 at 22%. Participants over the age

of 60 made up 16% of the study. The two largest races represented were Caucasian (60%) and

African American (16%). Years of employment was highest at 24% for employees with five or

less years of service. Participants with over twenty-five years of service was the lowest at 10%.

Over 65% of participants had at least a master's degree.

Table 1
Demographic Characteristics of Participants

		Frequency	Percent
Gender	Male	21	26
	Female	58	73
Race	American Indian	3	4
	African American	12	15
	Caucasian	60	76
	Hispanic	3	4
	Prefer not to answer	1	1
Years of Employment	5 or less	24	30
	6 - 10	16	20
	11 -16	14	18
	17 - 25	15	19
	Over 25	10	13
Age	20-30	6	8
	31-40	11	14
	41-50	24	30
	51-60	22	28
	Over 60	16	20
Education Level	B.S	13	16
	M.S	55	70
	Ph.D	10	13
Area of Responsibility	Agriculture/Natural Resources	20	25
	Urban Extension	4	5
	Alabama 4-H	26	33
	Admin	4	5
	Human Science	3	4
	CEC	22	28
Institution	Auburn University	73	92
	Alabama A&M	6	8
Current Position	Regional Extension Agent	46	58
	County Extension Coordinator	25	32
	Administration	8	10

Research Question 1

What are the training needs of Regional Extension Agents employed by the Alabama Cooperative Extension System? In the area of Agriculture/Forestry/Natural Resources, the highest rated areas of training were integrated pest management ($M = 4.19$) and production agriculture ($M = 4.00$). The lowest rated training areas were dairy science ($M = 2.46$) and waste management issues ($M = 2.86$). Descriptive statistics on the training needs of Regional Extension Agents in Agriculture/Forestry/Natural Resources are available in Table 2.

Table 2

Training needs of Regional Agents in Agriculture/Forestry/Natural Resources

Training Topic	N	Mean	Std. Deviation	Importance
Production agriculture	14	4.00	1.24	VI
Marketing	16	3.88	0.72	VI
Irrigation	16	3.25	1.13	I
Nutrient management for crops	15	3.67	1.23	VI
Labor issues	15	3.93	0.70	VI
Integrated pest management	16	4.19	0.91	VI
Commercial ornamental horticulture	13	3.38	1.33	VI
Waste management issues	14	2.86	0.86	I
Home horticulture	16	3.69	1.25	VI
Water Resources	15	3.67	0.62	VI
Natural Resources	14	3.64	0.84	VI
Farm management	15	3.80	1.01	VI
Forestry	14	3.21	1.19	I
Wildlife management	15	3.40	1.18	I
Precision Agriculture	15	3.20	0.68	I
Poultry sciences	14	2.93	1.07	I
Soil conservation	15	3.93	0.88	VI
Aquaculture	16	3.13	1.15	I
Dairy Science	14	2.64	0.84	I
Seafood Production	15	2.93	1.16	I

Note: .00 - 1.49 Not Important (NT), 1.50 - 2.49 Little Importance (LI) 2.50 - 3.49 Important (I)
3.50 - 4.49, Very Important (VI) 4.50 - 5.00, Critical Importance (Cl)

In the area of human sciences, the highest rated training needs were family sciences (M = 5.0), youth development (M = 5.0), parenting for single parents (M = 5.0) and child development (M = 5.0). The lowest rated area of training was clothing construction (M = 3.0), home furnishings (M = 3.0), and home food production and preservation (M = 3.0). Descriptive statistics on the training needs of Regional Extension Agents in Human Sciences are available in Table 3.

Table 3

Training needs of Regional Agents in Human Sciences

Training Topic	N	Mean	Std. Deviation	Importance
Nutrition education	1	4.0	-	VI
Consumer education	2	4.0	0	VI
Family relationships	1	5.0	-	CI
Financial management	2	4.0	0	VI
Clothing construction	1	3.0	-	I
Housing	2	3.5	0.71	VI
Youth Development	1	5.0	-	CI
Estate planning	2	4.0	0	VI
Health and wellness	1	5.0	-	CI
Home furnishings	1	3.0	-	I
Parenting for single parents	1	5.0	-	CI
Independent living	1	4.0	-	VI
Home food production and preservation	1	3.0	-	I
Child development	1	5.0	-	CI
Food safety and storage	1	4.0	-	VI
Retirement planning	2	4.0	0	VI
Leadership development	2	4.0	0	VI
Workforce preparation	2	4.0	0	VI

Note: .00 - 1.49 Not Important (NT), 1.50 - 2.49 Little Importance (LI) 2.50 - 3.49 Important (I) 3.50 - 4.49, Very Important (VI) 4.50 - 5.00, Critical Importance (Cl)

In the area of Urban Extension, the highest rated training area was in the area of health and wellness (M = 5.0). The second highest training areas were financial management (M = 4.50), youth development (M = 4.50), and nutrition education (M = 4.50). The lowest rated areas

of training were integrated pest management ($M = 3.33$) and poultry sciences ($M = 3.33$).

Descriptive statistics on the training needs of Regional Extension Agents in Urban Extension are available in Table 4.

Table 4

Training needs of Regional Agents in Urban Extension

Training Topic	N	Mean	Std. Deviation	Importance
Nutrition education	4	4.50	0.58	CI
Production Agriculture	3	4.00	1.00	VI
Labor Issues	3	4.33	0.58	VI
Financial management	4	4.50	0.58	CI
Integrated pest management	3	3.33	1.15	I
Commercial ornamental horticulture	3	3.67	1.53	VI
Youth Development	4	4.50	1.00	CI
Home horticulture	4	4.25	0.96	VI
Health and wellness	4	5.00	0.00	CI
Natural Resources	3	3.67	0.58	VI
Parenting for single parents	4	4.25	0.96	VI
Farm Management	3	4.00	1.00	VI
Home food production and preservation	3	4.00	0.00	VI
Child development	4	4.75	0.50	CI
Poultry sciences	3	3.33	0.58	I
Retirement planning	4	4.00	1.15	VI
Leadership development	4	4.00	1.15	VI
Workforce preparation	4	4.00	0.82	VI

Note: .00 - 1.49 Not Important (NT), 1.50 - 2.49 Little Importance (LI) 2.50 - 3.49 Important (I)
3.50 - 4.49, Very Important (VI) 4.50 - 5.00, Critical Importance (Cl)

In the area of Alabama 4-H, the highest rated training area was workforce preparation ($M = 4.45$). The second highest areas of training needs were career exploration for youth ($M = 4.23$), communication skills ($M = 4.32$), and problem solving ($M = 4.27$). The lowest rated areas of training needs were clothing construction ($M = 2.64$) and veterinary skills ($M = 2.77$). Descriptive statistics on the training needs of Regional Extension Agents in Alabama 4-H are available in Table 5.

Table 5

Training needs of Regional Agents in Alabama 4-H

Training Topic	N	Mean	Std. Deviation	Importance
Leadership skills development	22	3.82	0.66	VI
Working with troubled youth	22	4.14	0.71	VI
Career exploration for youth	22	4.23	0.53	VI
Care of pets and animals	22	3.00	0.62	I
Citizenship skills development	22	4.00	0.54	VI
Workforce preparation	22	4.45	0.60	VI
Health and wellness	22	3.95	0.72	VI
Violence prevention	22	3.32	1.09	I
Science and technology	22	3.95	0.72	VI
Agriculture production	22	3.50	0.60	VI
Communication skills	22	4.32	0.72	VI
Problem Solving	22	4.27	0.77	VI
Clothing construction	22	2.64	0.90	I
Consumer skills	22	3.18	0.85	VI
Veterinary skills	22	2.77	0.69	I
Entrepreneurship	22	3.00	0.62	I
Food preparation	22	3.41	0.85	I
Care and use of environment	22	3.64	0.66	VI
Forestry	22	3.00	0.69	I
Wildlife	22	3.00	0.69	I

Note: .00 - 1.49 Not Important (NT), 1.50 - 2.49 Little Importance (LI) 2.50 - 3.49 Important (I)
3.50 - 4.49, Very Important (VI) 4.50 - 5.00, Critical Importance (Cl)

Research Question 2

What are the similarities or differences in the training needs of Regional Extension

Agents based on their location? Comparing the highest rated areas of training needs in

Agriculture/Forestry/Natural Resources in Appendix B, a significant difference was found in the

area of production agriculture when comparing needs based on location ($p = 0.02$). Agents

serving one to nine counties had the highest count in seeing training as very important while

agents serving ten or more counties had the highest count in critical importance. There was no

statistically significant difference in needs based on location for integrated pest management (p = 0.51). A significant difference was found in the area of seafood production (p = 0.04) of one to nine counties finding it not important compared to counties serving ten or more with a majority finding it important. In the areas of Human Sciences and Urban Extension, no statistically significant differences were found in the types of training needs based on location. Appendix C displays the Chi-Squared results for Human Sciences and Appendix D displays the Chi-Squared results of Urban Extension.

In the area of Alabama 4-H as shown in Appendix E, no statistical difference was found in the highest rated areas of training needs. A significant difference was found in several training topics including Violence Prevention (p = 0.07), Problem Solving (p = 0.01), Forestry (p =0.04), and Wildlife (p =0.04). In the training topic of violence prevention, the majority of regional agents serving one county rated the topic as important while those serving two counties rated it as either very or critically important. Regional agents serving two counties all rated communication skills as critically important while those serving one county rated in multiple areas. In the training topics of forestry and wildlife, both were rated the most in importance by regional agents serving one county. Those serving two counties rated the topic as either little importance, important, or very important.

Research Question 3

What are the characteristics of Regional Extension Agents regarding program development areas based on responsibility? The highest rated training topic in the area of general and program development as displayed in Table 6 was technology updates (M = 4.19). The second highest rated area was programming for impact (M = 4.19) followed by using new program delivery methods (M = 4.09) and determining when to use the most effective teaching

method ($M = 4.05$). The lowest rated training topic was conducting performance appraisals ($M = 3.19$). The second lowest rated topic was understanding urban culture and urbanization ($M = 3.21$) followed by the objectives, history, and polices of extension ($M = 3.28$).

Table 6

General and Program Development Training Needs of Regional Agents

Training Topic	N	Mean	Std. Deviation	Importance
Analyzing county demographics to identify significant facts and trends	43	3.84	0.87	VI
Organizing an active and productive county advisory board	43	3.67	0.75	VI
Performance appraisal process	42	3.57	0.83	VI
Rural-Urban relationships	43	3.40	0.95	I
Programming for impact	43	4.19	0.88	VI
The objectives, history and policies of Extension	43	3.28	0.91	I
Technology updates	44	4.30	0.67	VI
Leadership and Volunteerism	43	3.88	0.93	VI
Rural economic development	43	3.67	1.02	VI
Securing extramural funding	43	3.72	0.91	VI
Understanding urban culture and urbanization	42	3.21	1.22	I
Conducting performance appraisals	42	3.19	0.94	I
Civil rights/diversity	42	3.74	0.99	VI
Budget management	42	3.69	0.90	VI
Conflict resolution in the workplace	42	3.31	1.02	I
Determining when to use the most effective teaching method	42	4.05	0.82	VI
Human relations	42	3.81	0.94	VI
Public policy	42	3.29	0.81	I
Managing multi-county roles	41	3.66	1.02	VI
Using new program delivery methods	43	4.09	0.68	VI

Note: .00 - 1.49 Not Important (NT), 1.50 - 2.49 Little Importance (LI) 2.50 - 3.49 Important (I) 3.50 - 4.49, Very Important (VI) 4.50 - 5.00, Critical Importance (Cl)

No significant difference as shown in Appendix F were found in the highest rated training topics based on area of responsibility. A significant difference was found in the third highest rated training topic of using new program delivery methods (p = 0.01). Agriculture/Natural Resource/Forestry agents rated this topic as either important or very important. Regional agents in other areas of responsibility marked this topic as very important and critical importance. A significant difference was found in the training topics of leadership and volunteerism (p = 0.01) and workplace (p = 0.03). Alabama 4-H agents rated leadership and volunteerism the highest in very important. Agriculture/Natural Resource/Forestry agents ranked this topic the highest in importance.

Research Question 4

What are the preferred training needs of general and in program development areas of Regional Extension Agents based on position? The highest rated training topic by Alabama Extension administrators, as shown in Table 7, was programming for impact (M = 4.25). This topic was rated the second highest by Regional Extension Agents. The second highest rating by administrators was rural economic development (p = 4.13). The lowest rated training topic by administrators was conducting performance appraisals (M = 2.75). Regional agents also ranked this training topic as the lowest. Comparing the needed training topics between regional agents and Alabama Extension administrators as show in Appendix G, no significant differences were found in the in the areas of general and program development based on position.

Table 7

General and Program Development Training Needs of Regional Agents by

Administration

Training Topic	N	Mean	Std. Deviation	Importance
Analyzing county demographics to identify significant facts and trends	8	4.00	0.53	VI
Organizing an active and productive county advisory board	8	3.25	0.89	I
Performance appraisal process	8	3.25	1.39	I
Rural-Urban relationships	8	3.50	0.76	VI
Programming for impact	8	4.25	0.89	VI
The objectives, history and policies of Extension	8	3.13	1.13	I
Technology updates	7	4.00	1.00	VI
Leadership and Volunteerism	8	4.00	1.31	VI
Rural economic development	8	4.13	0.83	VI
Securing extramural funding	8	3.75	1.39	VI
Understanding urban culture and urbanization	8	3.38	0.92	I
Conducting performance appraisals	8	2.75	1.28	I
Civil rights/diversity	8	3.50	1.20	VI
Budget management	8	3.50	1.20	VI
Conflict resolution in the workplace	7	3.71	1.50	VI
Determining when to use the most effective teaching method	8	3.50	1.51	VI
Human relations	8	3.38	1.69	I
Public policy	8	3.13	1.25	I
Managing multi-county roles	8	3.50	1.41	I
Using new program delivery methods	8	3.88	0.99	I

Note: .00 - 1.49 Not Important (NT), 1.50 - 2.49 Little Importance (LI) 2.50 - 3.49 Important (I) 3.50 - 4.49, Very Important (VI) 4.50 - 5.00, Critical Importance (Cl)

What are the preferred training needs in general and in program development areas of Regional Extension Agents compared to County Extension Coordinators? The highest rated training topics as shown in Table 8 by County Extension Coordinators were programming for impact ($M = 4.29$) and analyzing county demographics to identify significant facts and trends ($M = 4.29$). This rating was similar to Regional Extension Agents who also rated programming for impact the second highest. Comparing the training needs of County Extension Agents and regional agents as show in Appendix H no significant differences were found.

Table 8
Program Development Training Needs of County Extension Coordinators

Training Topic	N	Mean	Std. Deviation	Importance
Analyzing county demographics to identify significant facts and trends	24	4.29	0.86	VI
Organizing an active and productive county advisory board	25	3.96	1.02	VI
Performance appraisal process	24	3.75	0.94	VI
Rural-Urban relationships	24	3.42	0.83	I
Programming for impact	24	4.29	0.75	VI
The objectives, history and policies of Extension	25	3.68	0.85	VI
Technology updates	24	4.04	0.81	VI
Leadership and Volunteerism	25	3.92	0.81	VI
Rural economic development	24	3.88	0.99	VI
Securing extramural funding	24	4.08	0.93	VI
Understanding urban culture and urbanization	24	3.21	0.88	I
Conducting performance appraisals	24	3.42	1.10	I
Civil rights/diversity	25	3.80	0.87	VI
Budget management	24	3.83	1.05	VI
Conflict resolution in the workplace	24	3.83	0.92	VI
Determining when to use the most effective teaching method	24	3.96	0.86	VI
Human relations	24	4.17	0.82	VI

Table 8 Continued

Training Topic	N	Mean	Std. Deviation	Importance
Public policy	24	3.54	0.98	VI
Managing multi-county roles	24	3.71	1.04	VI
Using new program delivery methods	24	4.17	0.76	VI

Note: .00 - 1.49 Not Important (NT), 1.50 - 2.49 Little Importance (LI) 2.50 - 3.49 Important (I) 3.50 - 4.49, Very Important (VI) 4.50 - 5.00, Critical Importance (Cl)

Summary

In Chapter Four, statistical analysis of the participant responses were presented. Descriptive statistics and Chi-Squared Fishers Test of Independence were used to determine if there were any differences. The survey was sent to 239 participants, and 81 participants completed all parts of the study. This resulted in a 33% response rate for the survey. Participants of the study included Regional Extension Agents, County Extension Coordinators, and administrators.

Research question one looked at the training needs of Regional Extension Agents in the areas of Agriculture/Natural Resources/Forestry, Human Sciences, Urban Extension and Alabama 4-H. Research question two looked at the similarities or differences in the training needs of Regional Extension Agents based on location. Research question three looked at the similarities or differences in Regional Extension Agents in general and in program development areas based on responsibility. Research question four looked at the preferred training needs of general and in program development areas Regional Extension Agents based on position. Research question five looked at the preferred training needs in general and in program development areas of Regional Extension Agents compared to County Extension Coordinators. Chapter five will present the conclusions of this study and recommendations for future research.

Chapter 5

Summary, Conclusions, Discussions, Implications and Recommendations

The purpose of this study was to examine the training needs of Regional Extension Agents. Due to the change in the type of extension agent and the expansion of the program areas, a concern exists between the appropriateness of training needs of a County Extension Agent and the training needs of a Regional Extension Agent. By analyzing the results from the survey, Alabama Cooperative Extension administrators can be informed on the different types of desired training that exist among the Regional Extension Agents.

Chapter 1 provided an introduction to the study. The chapter focused on defining the statement of the problem, purpose of the study, research questions, significance of the study, study limitations, assumptions and common definitions.

Chapter 2 provided a review of the literature focusing on Cooperative Extension, Adult Education and In-Service Education. The chapter begins defining Cooperative Extension, its history and its current structure. Secondly, the chapter defines adult education theories, popular movements, and how Cooperative Extension is a foundational form of adult education. Additionally, the chapter defined in-service education, the importance of this type of education, and how it is used in Cooperative Extension. Lastly, it addressed previous research relating to in-service education and how it relates to professional development of Regional Extension Agents. The literature review includes studies from various outlets including peer-reviewed journal articles, books, dissertations, periodicals and quarterly reports.

Chapter 3 described the research methods used in the study. The chapter described the survey instrument used and provided details on the sample population and how the data was

collected. The chapter also described what process and statistical analysis would be used to process the results.

Chapter 4 provided the findings of the study. This chapter described how the study was organized. Demographics about the study participants were presented. The research questions were analyzed using descriptive and cross-tabulation. Chapter 5 provides a summary, conclusions, implications and recommendations for future research.

Research Questions

The following research questions guided this study:

1. What are the training needs of Regional Extension Agents employed by the Alabama Cooperative Extension System in the following areas:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

    d. Alabama 4-H?

2. What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of:

    a. Agriculture/Forestry/Natural Resources

    b. Human Sciences

    c. Urban Extension

    d. Alabama 4-H?

3. What are the characteristics of Regional Extension Agents regarding program development areas based on responsibility?

4. What are the identifiable training needs in program development areas for Regional Extension Agents based on position?

5. What are the identifiable training needs in program development areas of Regional Extension Agents compared to County Extension Coordinators?

Summary

Due to the change in the type of extension agent and the expansion of the program areas, a concern exists between the difference of the training needs of a County Extension Agent and the training needs of a Regional Extension Agent. This study will help to determine the training needs of Regional Extension Agents. The study was based on a previous study by Dr. Carol Reid on the perceived in-service training needs of Alabama Cooperative Extension System (ACES) county agents.

The study by Reid (1999) looked at the perceived in-service training needs of county agents of the Alabama Cooperative Extension System. The Alabama Cooperative Extension System underwent a restructuring and a concern existed as to the training needs as perceived by the county agents and what was perceived by the administration. The reconstruction process brought on a new complex and diverse population with needs to be on the cutting edge of technology and understand the content related to their field. To determine these needs, a questionnaire was mailed to both county agents and administrative staff.

Results from this survey provided areas of in-service training needs for agents in the areas of agriculture/natural resources/forestry, family and consumer sciences and youth programs. In the area of youth programs, the need for communication skills was found. Comparing these perceived needs to the perceived needs of administrators, significant

differences were only found in the implementations in County Extension Advisory Boards and Understanding Urban Culture and Urbanization (Reid, 1999).

The participants for this study included Regional Extension Agents employed by both Auburn University and Alabama A&M University. County Extension Coordinators for this study were employed by ACES. Administrative participants in this study included program team leaders, priority program team coordinators, Alabama Cooperative Extension Assistant Directors and Alabama Cooperative Extension Director. The population included men and women between the ages of 25 and 65. The education levels of the population vary including Bachelor of Sciences, Master of Sciences and Doctor of Philosophy.

The survey was sent to 239 participants, 33% of the participants completed all parts of the study. 46% of the participants currently work as regional extension agents and 25% work as County Extension Coordinators. 21% of the participants were male and 58% of the participants were female. Participants from the age of 20-30 consisted of 6% of the participants and 11% of the participants were between the ages of 31-40. Participants between the ages of 41-50 made up the largest portion with 24%. The two largest races represented were Caucasian (60%) and African American (16%).

Research Question 1

What are the training needs of regional extension agents employed by the Alabama Cooperative Extension System? In the area of Agriculture/Forestry/Natural Resources, the highest rated areas of training were integrated pest management ($M = 4.19$) and production agriculture ($M = 4.00$). In the area of human sciences, the highest rated training needs were family sciences ($M = 5.0$), youth development ($M = 5.0$), parenting for single parents ($M = 5.0$) and child development ($M = 5.0$). In the area of Urban Extension, the highest rated training area

was in the area of health and wellness ($M = 5.0$). In the area of Alabama 4-H, the highest rated training area was workforce preparation ($M = 4.45$).

Research Question 2

What are the similarities or differences in the training needs of regional extension agents based on their location? In the areas of Agriculture/Natural Resources/Forestry, significant differences based on location were found in production agriculture ($p=0.02$) and seafood production ($p = 0.04$). In the areas of Human Sciences and Urban Extension, no significant differences were found in the types of training needs based on location. In the area of Alabama 4-H, significant differences based on location were found in Violence Prevention ($p = 0.07$), Problem Solving ($p = 0.01$), Forestry ($p = 0.04$), and Wildlife ($p = 0.04$).

Research Question 3

What are the characteristics of Regional Extension Agents regarding program development areas based on responsibility? Regional agents rated technology updates ($M = 4.19$) as the highest area of training needs. The second highest rated area was programming for impact ($M = 4.19$). Regional agents rated conducting performance appraisals ($M = 3.19$) as the lowest. A significant difference was found in the topic of using new program delivery methods ($p = 0.01$). Agriculture/Natural Resource/Forestry and Alabama 4-H agents rated this topic as either important or very important. A significant difference based on responsibility was also found in the training topics of leadership and volunteerism ($p = 0.01$) and conflict resolution in the workplace ($p = 0.03$).

Research Question 4

What are the identifiable training needs in program development areas for Regional Extension Agents based on position? No significant differences were found between regional

extension agents and administration. While there were no significant differences, the highest rated training topic by Alabama Extension administrators was programming for impact ($M = 4.25$). The lowest rated training topic by administrators was conducting performance appraisals ($M = 2.75$). Regional agents also ranked this training topic as the lowest.

Research Question 5

What are the identifiable training needs in program development areas of Regional Extension Agents compared to County Extension Coordinators? No differences were found between Regional Extension Agents and County Extension Coordinators. While there were no differences, the highest rated training topics by County Extension Coordinators were programming for impact ($M = 4.29$) and analyzing county demographics to identify significant facts and trends ($M = 4.29$). This rating was similar to Regional Extension Agents who also rated programming for impact the second highest.

<div align="center">

Implications

</div>

Research Question 1

Comparing the results of the study to the previous research by Dr. B. Reid, similar results in Agriculture/Natural Resources/Forestry were found with both rating production agriculture and integrated pest management as the highest. Areas of human sciences were rated differently with County Extension Agents rating Health and Wellness ($M=4.68$, $SD=.50$), Family Relationships ($M=4.50$. $SD=.65$) and Nutrition Education ($M=4.40$. $SD=71$) as the most important. While there were different ratings in the area of human sciences compared to county agents, full conclusions on the training needs of regional agents should not be set. This is due to the low response rate of participants in this program area. In the area of Alabama 4-H, the highest rated training area was Workforce Preparation ($M = 4.45$). This was different than

County Extension Agents who rated Communication Skills (*M*=4.51, SD=.66) and Leadership

Skills Development (*M*=4.33. SD=.72) as the highest (Reid, 1990).

Research Question 2

  Looking at the training needs based on location, Alabama 4-H regional agents were found

to have more differences than any other agents in other areas of responsibility. This is different

than the needs of County Extension Agents whose only difference was communication skills.

Differences in location in the area Agriculture/Natural Resources/Forestry were greater in

regional agents than previously found in County Extension Agents with the only difference being

commercial horticulture (Reid, 1999).

  One of the big reasons for the differences could be the determinization of how location

was defined. In the previous study, location was defined as being employed by either Auburn

University or Alabama A&M University. At the time of the previous study, agents from both

employers were in every county office. The current study defined location based on how many

counties the regional agents served. Depending on the area of responsibility, this could be up to

ten or more counties.

Research Question 3

  What are the characteristics of Regional Extension Agents regarding program

development areas based on responsibility? Looking at these characteristics, several statistical

differences were found between the agents based on their area of responsibility. In the area of

using new program delivery methods, urban extension and human science agents found this to be

of critical importance. This was not the case for Agriculture/Natural Resources/Forestry and

Alabama 4-H regional agents. This type of distribution was not seen in leadership and

volunteerism or conflict resolution in the workplace. These areas had a wider range of marked importance in all areas of responsibility.

Research Question 4

What are the identifiable training needs in program development areas for Regional Extension Agents based on position? Overall there were no significant differences found between regional extension agents and Alabama Extension administration. This differs from the previous finding by Reid (1999), who found differences in the areas of Organizing an Active & Productive County Extension Advisory Board and Understanding Urban Culture and Urbanization. These differences could have changed over time. Originally, agents were based in one county and had more questions about their role in county extension advisory boards. When the original study was conducted, Urban Extension was a new area for Extension employees which could explain why there was a difference at that time compared to almost twenty years later. Results from this question also differed from a previous study by Gibson and Hilson (1994) who found administrators and subject matter experts were closer in agreement than extension agents on the type of training extension agents needed.

Research Question 5

What are the identifiable training needs in program development areas of Regional Extension Agents compared to County Extension Coordinators? While no statistical differences were found, County Extension Agents rated programing and county demographic areas as higher importance. This could be related to the fact that their role is based on the needs of the county they serve while regional agents' responsibilities could be based on several counties.

Conclusion and Future Research

At the start of the new year in 2020, the world was impacted by a global pandemic due to the novel virus COVID-19 (CDC, 2020). The impact of this virus affected many organizations and they way they conduct daily operations. Cooperative Extension organizations were affected by this pandemic as many in-person workshops were canceled due to social distance guidelines. These cancelations brought about the need for online technologies to provide the same content as provided during in-person workshops (Fawcett et all, 2020).

During this change in organizational practices, it is important that appropriate training be available. According to Safrit and Owen (2010), training should be sustained, if not increased, during times of organizational change and upheaval. Looking at the results in Table 6, Technology updates were rated the highest in the area of general and program developments. This result could be related to the fact that workshops and daily communications have now moved to an online format. Future research looking at the technology preferences of Regional Extension Agents in the areas of online workshops would help identify any issues or needs they might have.

Looking at the demographics of this study (Table 1), the highest rated area of years of employment was less than 5 years. Seventy-five percent of the participants who completed the survey were over the age of 40 years old. While this study only included a 33% response rate of the number of ACES employees surveyed, it is important to note that participants younger than 40 were the lowest rated in responses. To further explore why these numbers were low, future research on the training needs of Regional Extension Agents based on years of employment should be examined.

The results of this study could help identify and improve the retention of millennial-aged employees within the organization. Only 18% of millennials are found to stay with their employer long term (PWC, 2011). One reason for this short-term employment is the appropriateness of training including training at the beginning of their career. This future research could help identify what training appropriateness means to those employees.

Results from this study have been shared with the ACES professional development office. This information will be used to help guide future trainings developed for Regional Extension Agents employed by ACES.

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Appendices

Appendix A

Approval from Institutional Review Board

AUBURN UNIVERSITY INSTITUTIONAL REVIEW BOARD
REQUEST for MODIFICATION

For Information or help completing this form, contact: **THE OFFICE OF RESEARCH COMPLIANCE (ORC)**
Phone: 334-844-5966 **E-Mail:** IRBAdmin@auburn.edu   **Web Address:** http://www.auburn.edu/research /vpr/ohs

In MS Word, click in the white boxes and type your text; double-click checkboxes to check/uncheck.
- Federal regulations require IRB approval before implementing proposed changes.
- Change means any change, in content or form, to the protocol, consent form, or any supportive materials (such as the Investigator's Brochure, questionnaires, surveys, advertisements, etc.). See Item 4 for more examples.
- Form must be populated using Adobe Acrobat / Pro 9 or greater standalone program (do not fill out in browser). Hand written forms will not be accepted.

1. Today's Date	3-22-2020

2. Principal Investigator (PI)

Principal Inves. (title):	Tyler Weldon	Faculty PI (if PI is a student):	Dr. James Witte
Department:	EFLT, COE	Department:	EFLT, COE
Phone:	(205) 960-8574	Phone:	(334) 844-3054
AU E-mail:	auweldotl@auburn.edu	AU E-mail:	witteje@auburn.edu
Contact person who should receive copies of IRB correspondence (Optional)			
Name:		Department Head:	Dr. James Witte
Phone:			
AU E-mail:			

3. AU IRB Protocol Identification

3.a. Protocol Number	#19-292 EX 19-7
3.b. Protocol Title	Perceived Training Needs of a Regional Extension Agent

3.c. Current Status of Protocol—For active studies, check ONE box at left; provide numbers and dates where applicable

☒ Study has not yet begun; no data has been entered collected

☐ In progress If YES, number entered
Adverse events since last review   **Approval Dates:** From

☐ Data analysis only   To

☐ Funding Agency and Grant Number: **AU Funding Information:**

☐ List any other institutions and/or IRBs associated with this project:

4. Types of Change
Mark all that apply, and describe the changes in item 5

☐ Change Key Personnel
Attach CITI forms for new personnel.

> **The Auburn University Institutional Review Board has approved this Document for use from**
> __03/23/2020__ to __--------__
> **Protocol #** __19-292 EX 1907__

Appendix A Continued

Auburn University Human Research Protection Program

EXEMPTION REVIEW APPLICATION

For information or help completing this form, contact: **THE OFFICE OF RESEARCH COMPLIANCE,**
Location: 115 Ramsay Hall   **Phone:** 334-844-5966   **Email:**IRBAdmin@auburn.edu

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Submit completed application and supporting material as one attachment to IRBsubmit@auburn.edu.

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1. PROJECT IDENTIFICATION   **Date** May 20, 2019

a. Project Title Perceived Training Needs of a Regional Extension Agent

b. Principal Investigator Tyler Weldon   Degree(s) Doctorate
Rank/Title Mr   Department/School EFLT, COE
Phone Number (205) 960-8574   AU Email weldotl@auburn.edu

Faculty Principal Investigator (required if PI is a student) James Witte
Title Professor   Department/School EFLT, COE
Phone Number (334) 844-3054   AU Email witteje@auburn.edu

Dept Head James Witte   Department/School EFLT, COE
Phone Number (334) 844-3054   AU Email witteje@auburn.edu

c. Project Personnel (other PI) – Identify all individuals who will be involved with the conduct of the research and include their role on the project. Role may include design, recruitment, consent process, data collection, data analysis, and reporting. Attach a table if needed for additional personnel.

Personnel Name_____ Degree (s) _____
Rank/Title_____Department/School_____
Role_____
AU affiliated? ☐ YES   ☐ NO   If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

Personnel Name_____ Degree (s) _____
Rank/Title_____Department/School_____
Role_____
AU affiliated? ☐ YES   ☐ NO   If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

Personnel Name_____ Degree (s) _____
Rank/Title Dr._____Department/School_____
Role_____
AU affiliated? ☐ YES   ☐ NO   If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

d. Training – Have all Key Personnel completed CITI human subjects training (including elective modules related to this research) within the last 3 years?   YES ■   NO ☐

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┌─────────────────────────────┐
│     Allow Space for the     │
│                             │
│       AU IRB Stamp          │
│                             │
└─────────────────────────────┘
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AUBURN UNIVERSITY

Online Consent Form

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

INFORMATION LETTER for a Research Study entitled
"Perceived Training Needs of a Regional Extension Agent"

You are invited to participate in a research study to help to determine the perceived training needs of Regional Extension Agent. The study is being conducted by Tyler Weldon, a graduate student, under the direction of James Witte, Ph.D in the Auburn University Department of Educational Foundations, Leadership, & Technology. You are invited to participate because you are either a Regional Extension Agent, County Extension Coordinator or Alabama Extension Administration and are age 18 or older.

What will be involved if you participate?
Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete an online survey. The online survey will be administered using the Qualtrics survey software. Your total time commitment will be approximately 5-10 minutes.

Are there any risks or discomforts?
The risks associated with participating in this study are none.

Are there any benefits to yourself or others?
If you participate in this study, you can expect to contribute to the efforts to improve the in-service training topics offered to Regional Extension Agents and County Extension Coordinators. You will not directly benefit from participating in this research.

Will you receive compensation for participating?
There is no compensation for participating.

Are there any costs?
If you decide to participant, you will incur no cost.

If you have questions about this study, please contact Tyler Weldon at weldotl@auburn.edu
or Dr. James Witte at witteje@auburn.edu.

If you have questions about your rights as a research participant, you may contact the
Auburn University Office of Research Compliance or the Institutional Review Board by phone
(334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

Tyler Weldon   09/04/2019
Investigator   Date

Dr. James Witte   09/04/2019
Co-Investigator   Date

**The Auburn University Institutional Review Board has approved this document for use
from July 24,   to ------- Protocol #19-292 EX 1907**

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO
PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE,
PLEASE CLICK CONTINUE AND ENTER THE SURVEY. YOU MAY PRINT A COPY OF
THIS LETTER TO KEEP.

○ Continue - I agree to conditions
○ Exit - I do not agree to conditions

General Instructions

Appendix B

What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of Agriculture/Forestry/Natural Resources?

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NT	LI	I	VI	CI		
Production agriculture							8.297	**0.02**
	1 to 9	0	0	0	5	2		
	10 or more	1	1	1	0	4		
Marketing							3.147	0.22
	1 to 9	0	0	2	5	0		
	10 or more	0	0	3	3	3		
Irrigation							2.087	1.00
	1 to 9	0	2	2	3	1		
	10 or more	1	1	3	2	1		
Nutrient management for crops							2.733	1.00
	1 to 9	0	0	2	2	3		
	10 or more	1	1	3	1	2		
Labor issues							0.892	0.80
	1 to 9	0	0	1	4	1		
	10 or more	0	0	3	4	2		
Integrated pest management							3.021	0.51
	1 to 9	0	0	1	2	5		
	10 or more	0	1	1	4	2		
Commercial ornamental horticulture							1.238	1.00
	1 to 9	1	0	2	2	1		
	10 or more	1	0	3	1	2		
Waste management issues							2.743	0.58
	1 to 9	0	2	2	2	0		
	10 or more	1	1	5	1	0		
Home horticulture							7.057	0.09
	1 to 9	1	0	0	3	4		
	10 or more	0	2	3	2	1		
Water Resources							1.439	0.78
	1 to 9	0	0	3	3	1		
	10 or more	0	0	3	5	0		

Appendix B Continued

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NT	LI	I	VI	CI		
Natural Resources							1.284	1.00
	1 to 9	0	0	2	3	1		
	10 or more	0	1	3	3	1		
Farm management							3.156	0.46
	1 to 9	0	0	1	4	1		
	10 or more	0	2	2	2	3		
Forestry							2.097	1.00
	1 to 9	1	0	2	3	0		
	10 or more	1	1	2	3	1		
Wildlife management							0.749	1.00
	1 to 9	1	0	2	3	1		
	10 or more	1	0	3	3	1		
Precision Agriculture							2.315	0.50
	1 to 9	0	0	5	2	0		
	10 or more	0	2	3	3	0		
Poultry sciences							3.261	0.76
	1 to 9	1	1	2	2	0		
	10 or more	0	3	3	1	1		
Soil conservation							3.416	0.39
	1 to 9	0	0	1	5	1		
	10 or more	0	1	2	2	3		
Aquaculture							2.872	0.77
	1 to 9	1	2	1	2	1		
	10 or more	0	2	4	2	1		
Dairy Science							5.078	0.12
	1 to 9	1	2	1	2	0		
	10 or more	0	3	5	0	0		
Seafood Production							8.344	**0.04**
	1 to 9	2	2	0	1	1		
	10 or more	0	1	5	3	0		

Note: Not Important (NT), Little Importance (LI), Important (I), Very Important (VI), Critical Importance (CI)

Appendix C

What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of Human Sciences?

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NT	LI	I	VI	CI		
Nutrition education								
	7 or less	0	0	0	1	0	0.00	0.00
	8 or more	0	0	0	0	0	0.00	0.00
Consumer education								
	7 or less	0	0	0	1	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Family relationships								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Financial management								
	7 or less	0	0	0	1	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Clothing construction								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Housing								
	7 or less	0	0	0	1	0	0.00	0.00
	8 or more	0	0	1	0	0	0.00	0.00
Youth Development								
	7 or less	0	0	0	0	1	0.00	0.00
	8 or more	0	0	0	0	0	0.00	0.00
Estate planning								
	7 or less	0	0	0	1	0	0.00	0.00
	8 or more	0	0	0	0	0	0.00	0.00
Health and wellness								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	0	0	1	0.00	0.00
Home furnishings								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	1	0	0	0.00	0.00
Parenting for single parents								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	0	0	1	0.00	0.00

Appendix C Continued

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NT	LI	I	VI	CI		
Independent living								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Home food production and preservation								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	1	0	0	0.00	0.00
Child development								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	0	0	1	0.00	0.00
Food safety and storage								
	7 or less	0	0	0	0	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Retirement planning								
	7 or less	0	0	0	1	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Leadership development								
	7 or less	0	0	0	1	0	0.00	0.00
	8 or more	0	0	0	1	0	0.00	0.00
Workforce preparation								
		0	0	0	1	0	0.00	0.00
		0	0	0	1	0	0.00	0.00

Note: Not Important (NT), Little Importance (LI), Important (I), Very Important (VI), Critical Importance (CI)

Appendix D

What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of Urban Extension?

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NI	LI	I	VI	CI		
Nutrition education							0.00	1.00
	3 or less	0	0	0	1	1		
	4 or more	0	0	0	1	1		
Production Agriculture							2.63	1.00
	3 or less	0	0	1	0	1		
	4 or more	0	0	0	1	0		
Labor Issues							0.00	1.00
	3 or less	0	0	0	1	1		
	4 or more	0	0	0	1	0		
Financial management							0.00	1.00
	3 or less	0	0	0	1	1		
	4 or more	0	0	0	1	1		
Integrated pest management							0.00	1.00
	3 or less	0	1	0	1	0		
	4 or more	0	0	0	1	0		
Commercial ornamental horticulture							2.63	1.00
	3 or less	0	1	0	0	1		
	4 or more	0	0	0	1	0		
Youth Development							0.00	1.00
	3 or less	0	0	1	0	1		
	4 or more	0	0	1	0	2		
Home horticulture							1.99	1.00
	3 or less	0	0	1	0	1		
	4 or more	0	0	0	1	1		
Health and wellness							-	-
	3 or less	0	0	0	0	2		
	4 or more		0	0	0	2		
Natural Resources							0.00	1.00
	3 or less	0	0	1	1	0		
	4 or more	0	0	0	1	0		
Parenting for single parents							1.99	1.00
	3 or less	0	0	1	0	1		
	4 or more	0	0	0	1	1		

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NI	LI	I	VI	CI		
Farm Management							2.63	1.00
	3 or less	0	0	1	0	1		
	4 or more	0	0	0	1	0		
Home food production and preservation							-	-
	3 or less	0	0	0	2	0		
	4 or more	0	0	0	1	0		
Child development							0.00	1.00
	3 or less	0	0	0	0	2		
	4 or more	0	0	0	1	1		
Poultry sciences							0.00	0.33
	3 or less	0	0	2	0	0		
	4 or more	0	0	0	1	0		
Retirement planning							0.00	1.00
	3 or less	0	0	1	0	1		
	4 or more	0	0	1	0	1		
Leadership development							0.00	1.00
	3 or less	0	0	1	0	1		
	4 or more	0	0	1	0	1		
Workforce preparation							1.99	1.00
	3 or less	0	0	0	1	1		
	4 or more	0	0	1	2	1		

Note: Not Important (NT), Little Importance (LI), Important (I), Very Important (VI), Critical Importance (CI)

Appendix E

What are the similarities or differences in the training needs of Regional Extension Agents based on their location in the areas of Alabama 4-H?

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NT	LI	I	VI	CI		
Leadership skills development							1.06	0.81
	1	0	0	5	8	3		
	2	0	0	2	4	0		
Working with troubled youth							0.29	1.00
	1	0	0	3	8	5		
	2	0	0	1	3	2		
Career exploration for youth							0.74	1.00
	1	0	0	1	11	4		
	2	0	0	0	4	2		
Care of pets and animals							5.70	0.10
	1	0	0	14	2	0		
	2	1	1	3	1	0		
Citizenship skills development							0.71	1.00
	1	0	0	2	12	2		
	2	0	0	1	4	1		
Workforce preparation							0.60	1.00
	1	0	0	1	7	8		
	2	0	0	0	3	3		
Health and wellness							0.89	0.83
	1	0	0	5	8	3		
	2	0	0	1	3	2		
Violence prevention							6.71	**0.07**
	1	0	3	9	2	2		
	2	1	0	1	2	2		
Science and technology							3.09	0.32
	1	0	0	6	7	3		
	2	0	0	0	4	2		
Agriculture production							3.61	0.13
	1	0	0	8	8	0		
	2	0	0	4	1	1		
Communication skills							4.04	0.09
	1	0	0	3	8	5		
	2	0	0	0	1	5		

Appendix E Continued

Training Topic	Counties Served	Frequency					Chi-Squared	P - Value
		NT	LI	I	VI	CI		
Problem Solving							8.63	**0.01**
	1	0	0	4	8	4		
	2	0	0	0	0	6		
Clothing construction							2.84	0.46
	1	1	7	6	2	0		
	2	1	1	2	2	0		
Consumer skills							2.85	0.54
	1	0	2	7	7	0		
	2	1	1	2	2	0		
Veterinary skills							4.92	0.14
	1	0	3	12	1	0		
	2	1	2	2	1	0		
Entrepreneurship							1.53	0.79
	1	0	3	11	2	0		
	2	0	1	3	2	0		
Food preparation							4.16	0.20
	1	0	1	8	6	1		
	2	0	2	1	2	1		
Care and use of environment							1.49	0.52
	1	0	0	6	8	2		
	2	0	0	4	2	0		
Forestry							6.62	**0.04**
	1	0	1	13	1	1		
	2	0	3	2	1	0		
Wildlife							6.62	**0.04**
	1	0	1	13	1	1		
	2	0	3	2	1	0		

Note: Not Important (NT), Little Importance (LI), Important (I), Very Important (VI), Critical Importance (CI)

Appendix F

What are the similarities or differences in the training needs of Regional Extension Agents in program development base on responsibility?

| Training Topic | Area of Responsibility | Frequency | | | | | Chi-Squared | P - Value |
		NI	LI	I	VI	CI		
Analyzing county demographics to identify significant facts and trends							9.14	0.40
	Agriculture/Natural Resources	0	1	6	7	3		
	Urban Extension	0	0	2	0	1		
	Alabama 4-H	0	1	4	9	7		
	Human Science	0	0	2	0	0		
Organizing an active and productive county advisory board							12.812	0.12
	Agriculture/Natural Resources	0	1	10	5	1		
	Urban Extension	0	0	2	0	1		
	Alabama 4-H	0	0	5	12	4		
	Human Science	0	0	1	1	0		
Performance appraisal process							9.98	0.30
	Agriculture/Natural Resources	0	1	10	3	2		
	Urban Extension	0	0	0	3	0		
	Alabama 4-H	0	1	10	6	4		
	Human Science	0	0	1	0	1		
Rural-Urban relationships							13.44	0.32
	Agriculture/Natural Resources	0	3	9	5	0		
	Urban Extension	0	0	1	0	2		
	Alabama 4-H	1	2	8	6	4		
	Human Science	0	0	1	1	0		
Programming for impact							10.16	0.29
	Agriculture/Natural Resources	0	2	1	8	6		
	Urban Extension	0	0	1	0	2		
	Alabama 4-H	0	0	4	7	10		
	Human Science	0	0	1	0	1		

Appendix F Continued

Training Topic	Area of Responsibility	Frequency					Chi-Squared	P -Value
		NI	LI	I	VI	CI		
The objectives, history and policies of Extension							6.74	0.66
	Agriculture/Natural Resources	0	3	11	1	2		
	Urban Extension	0	0	1	1	1		
	Alabama 4-H	0	4	10	4	3		
	Human Science	0	0	1	1	0		
Technology updates							4.10	0.70
	Agriculture/Natural Resources	0	0	1	8	8		
	Urban Extension	0	0	0	1	2		
	Alabama 4-H	0	0	4	11	6		
	Human Science	0	0	0	1	2		
Leadership and Volunteerism							17.11	0.01
	Agriculture/Natural Resources	0	3	8	3	3		
	Urban Extension	0	0	1	0	2		
	Alabama 4-H	0	0	2	11	8		
	Human Science	0	0	1	1	0		
Rural economic development							9.10	0.92
	Agriculture/Natural Resources	1	1	7	3	5		
	Urban Extension	0	0	1	1	1		
	Alabama 4-H	0	2	8	7	4		
	Human Science	0	0	0	1	1		
Securing extramural funding							12.58	0.08
	Agriculture/Natural Resources	0	4	3	6	3		
	Urban Extension	0	0	2	0	1		
	Alabama 4-H	0	0	6	11	4		
	Human Science	0	0	2	0	1		

Appendix F Continued

Training Topic	Area of Responsibility	Frequency					Chi-Squared	P - Value
		NI	LI	I	VI	CI		
Understanding urban culture and urbanization							15.71	0.08
	Agriculture/Natural Resources	3	3	3	6	1		
	Urban Extension	0	0	0	0	3		
	Alabama 4-H	2	2	9	6	2		
	Human Science	0	1	0	1	0		
Conducting performance appraisals							10.088	0.655
	Agriculture/Natural Resources	0	2	8	5	1		
	Urban Extension	0	0	1	1	1		
	Alabama 4-H	2	3	12	2	2		
	Human Science	0	0	1	1	0		
Civil rights/diversity							11.365	0.618
	Agriculture/Natural Resources	1	2	5	4	4		
	Urban Extension	0	0	0	1	2		
	Alabama 4-H	0	1	7	9	4		
	Human Science	0	0	0	2	0		
Budget management							11.874	0.115
	Agriculture/Natural Resources	0	1	9	2	4		
	Urban Extension	0	0	0	1	2		
	Alabama 4-H	0	2	7	9	3		
	Human Science	0	0	0	2	0		
Conflict resolution in the workplace							18.964	0.029
	Agriculture/Natural Resources	1	5	8	1	1		
	Urban Extension	0	0	0	0	3		
	Alabama 4-H	0	2	10	6	3		
	Human Science	0	0	1	1	0		

Appendix F Continued

| Training Topic | Area of Responsibility | Frequency | | | | | Chi-Squared | P - Value |
		NI	LI	I	VI	CI		
Determining when to use the most effective teaching method							8.024	0.573
	Agriculture/Natural Resources	0	2	3	7	4		
	Urban Extension	0	0	0	2	1		
	Alabama 4-H	0	0	4	11	6		
	Human Science	0	0	0	0	2		
Human relations							8.753	0.583
	Agriculture/Natural Resources	1	0	8	3	4		
	Urban Extension	0	0	0	2	1		
	Alabama 4-H	0	0	8	7	6		
	Human Science	0	0	1	0	1		
Public policy							9.295	0.35
	Agriculture/Natural Resources	0	2	10	4	0		
	Urban Extension	0	0	0	2	1		
	Alabama 4-H	0	4	10	5	2		
	Human Science	0	0	1	1	0		
Managing multi-county roles							11.909	0.52
	Agriculture/Natural Resources	0	0	6	7	3		
	Urban Extension	0	0	0	2	1		
	Alabama 4-H	1	4	6	5	4		
	Human Science	0	0	0	1	1		
Using new program delivery methods							14.102	0.007
	Agriculture/Natural Resources	0	0	5	11	1		
	Urban Extension	0	0	0	0	3		
	Alabama 4-H	0	0	3	12	6		
	Human Science	0	0	0	0	2		

Note: Not Important (NT), Little Importance (LI), Important (I), Very Important (VI), Critical Importance (CI)

Appendix G

What are the similarities or differences in the training needs of Regional Extension Agent program development based on position?

Training Topic	Area of responsibility	Frequency					Chi-Squared	P - Value
		NI	LI	I	VI	CI		
Analyzing county demographics to identify significant facts and trends							3.29	0.36
	Regional Agents	0	2	14	16	11		
	Administration	0	0	1	6	1		
Organizing an active and productive county advisory board							4.30	0.18
	Regional Agents	0	1	18	18	6		
	Administration	0	1	5	1	1		
Performance appraisal process							6.03	0.17
	Regional Agents	0	2	21	12	7		
	Administration	1	1	3	1	2		
Rural-Urban relationships							1.62	0.95
	Regional Agents	1	5	19	12	6		
	Administration	0	0	5	2	1		
Programming for impact							1.00	0.92
	Regional Agents	0	2	7	15	19		
	Administration	0	0	2	2	4		
The objectives, history and policies of Extension							4.87	0.28
	Regional Agents	0	7	23	7	6		
	Administration	1	0	5	1	1		
Technology updates							4.82	0.08
	Regional Agents	0	0	5	21	18		
	Administration	0	0	3	1	3		
Leadership and Volunteerism							6.74	0.12
	Regional Agents	0	3	12	15	13		
	Administration	1	0	0	4	3		

Training Topic	Area of responsibility	Frequency					Chi-Squared	P - Value
		NI	LI	I	VI	CI		
Rural economic development							1.78	0.85
	Regional Agents	1	3	16	12	11		
	Administration	0	0	2	3	3		
Securing extramural funding							5.31	0.24
	Regional Agents	0	4	13	17	9		
	Administration	1	0	2	2	3		
Understanding urban culture and urbanization							1.70	0.93
	Regional Agents	5	6	12	13	6		
	Administration	0	1	4	2	1		
Conducting performance appraisals							5.21	0.19
	Regional Agents	2	5	22	9	4		
	Administration	1	3	2	1	1		
Civil rights/diversity							3.10	0.56
	Regional Agents	1	3	12	16	10		
	Administration	0	2	2	2	2		
Budget management							4.89	0.29
	Regional Agents	0	3	16	14	9		
	Administration	1	0	2	4	1		
Conflict resolution in the workplace							5.25	0.20
	Regional Agents	1	7	19	8	7		
	Administration	1	0	2	1	3		
Determining when to use the most effective teaching method							7.57	0.07
	Regional Agents	0	2	7	20	13		
	Administration	1	1	2	1	3		
Human relations							5.46	0.11
	Regional Agents	1	0	17	12	12		
	Administration	2	0	2	1	3		

Appendix G Continued

Training Topic	Area of responsibility	Frequency					Chi-Squared	P - Value
		NI	LI	I	VI	CI		
Public policy							4.73	0.32
	Regional Agents	0	6	21	12	3		
	Administration	1	1	3	2	1		
Managing multi-county roles							3.04	0.52
	Regional Agents	1	4	12	15	9		
	Administration	1	1	1	3	2		
Using new program delivery methods							3.94	0.31
	Regional Agents	0	0	8	23	12		
	Administration	0	1	1	4	2		

Note: Not Important (NT), Little Importance (LI), Important (I), Very Important (VI), Critical Importance (CI)

Appendix H

What are the similarities or differences in the training needs of Regional Extension Agents and County Extension Coordinators in program development based on position?

Training Topic	Position	Frequency					Chi-Squared	P - Value
		NI	LI	I	VI	CI		
Analyzing county demographics to identify significant facts and trends							5.60	0.11
	Regional Agents	0	2	14	16	11		
	CEC	0	0	6	5	13		
Organizing an active and productive county advisory board							7.84	0.06
	Regional Agents	0	1	18	18	6		
	CEC	1	1	4	11	8		
Performance appraisal process							2.19	0.59
	Regional Agents	0	2	21	12	7		
	CEC	0	2	8	8	6		
Rural-Urban relationships							1.48	0.93
	Regional Agents	1	5	19	12	6		
	CEC	0	3	10	9	2		
Programming for impact							0.87	0.95
	Regional Agents	0	2	7	15	19		
	CEC	0	0	4	9	11		
The objectives, history and policies of Extension							4.30	0.23
	Regional Agents	0	7	23	7	6		
	CEC	0	1	11	8	5		
Technology updates							3.24	0.21
	Regional Agents	0	0	5	21	18		
	CEC	0	0	7	9	8		
Leadership and Volunteerism							1.73	0.68
	Regional Agents	0	3	12	15	13		
	CEC	0	0	9	9	7		

Appendix H Continued

| Training Topic | Position | Frequency | | | | | Chi-Squared | P - Value |
		NI	LI	I	VI	CI		
Rural economic development							1.39	0.93
	Regional Agents	1	3	16	12	11		
	CEC	0	2	7	7	8		
Securing extramural funding							3.64	0.32
	Regional Agents	0	4	13	17	9		
	CEC	0	2	3	10	9		
Understanding urban culture and urbanization							4.89	0.29
	Regional Agents	5	6	12	13	6		
	CEC	0	5	11	6	2		
Conducting performance appraisals							3.98	0.41
	Regional Agents	2	5	22	9	4		
	CEC	1	4	7	8	4		
Civil rights/diversity							1.31	0.94
	Regional Agents	1	3	12	16	10		
	CEC	0	2	6	12	5		
Budget management							3.13	0.58
	Regional Agents	0	3	16	14	9		
	CEC	1	1	6	9	7		
Conflict resolution in the workplace							6.17	0.16
	Regional Agents	1	7	19	8	7		
	CEC	0	2	6	10	6		
Determining when to use the most effective teaching method							0.91	0.88
	Regional Agents	0	2	7	20	13		
	CEC	0	1	6	10	7		
Human relations							2.50	0.51
	Regional Agents	1	0	17	12	12		
	CEC	0	0	6	8	10		
Public policy							2.63	0.47
	Regional Agents	6	0	21	12	3		
	CEC	3	0	10	6	5		

Appendix H Continued

| Training Topic | Position | Frequency | | | | | Chi-Squared | P - Value |
		NI	LI	I	VI	CI		
Managing multi-county roles							1.85	0.86
	Regional Agents	1	4	12	15	9		
	CEC	0	3	8	6	7		
Using new program delivery methods							1.01	0.67
	Regional Agents	0	0	8	23	12		
	CEC	0	0	5	10	9		

Note: Not Important (NT), Little Importance (LI), Important (I), Very Important (VI), Critical Importance (CI)