

Chapter 1

Introduction

Virginia Cooperative Extension (VCE) has provided educational programs in the Commonwealth of Virginia since 1906 (Virginia Cooperative Extension [VCE], 2002). As the dynamics of the communities have changed, VCE has evolved to meet the needs of its clientele. This chapter includes a brief history of Virginia Cooperative Extension, discussion of the training needs of newly hired Extension agents, and a statement of the research problem. The objectives and limitations of in this study and definitions of key terms are provided.

An Overview of Cooperative Extension

The Cooperative Extension Service (CES) is the largest non-formal adult education system in the nation. It is unique in its commitment to provide cutting edge research-based knowledge to local communities to improve the quality of life. It is comprised of over 16,000 employees in 3,100 counties in the United States. Cooperative Extension is a partnership of education and research resources from the United States Department of Agriculture (USDA), land-grant universities, and county administrative departments. There is no other educational structure that has so many interrelated levels, yet is completely autonomous in nature (Seevers, Graham, Gamon, & Conkin, 1997).

Historically, land-grant colleges and universities had their beginnings as a result of the Morrill Land-Grant Act of 1862. This act provided donated public lands in each state to provide at least one institution of higher learning in the areas of agriculture and mechanical arts (VCE, 2002). The three foundations of the land-grant system are

teaching, extension, and research (Cooperative State Research, Education, and Extension Service [CSREES], 2002). Cooperative Extension Services consist of efforts among federal, state, and local governments, university faculty and staff, and local volunteers to help facilitate service-based teaching and learning in the nation's communities through programs and activities that foster academic, civic, and emotional growth to its citizens with research-based information (Simpson, 1998).

In 1890 Congress passed a second Morrill Act that included funding for historically Black colleges and universities (HBCU) in the areas of agricultural and mechanical arts. As traditionally Black southern schools made the transition from normal schools to the land-grant system, southern states that had not established a HBCU were able to do so with the passing of the 1890 Morrill Act (CSREES, 2002).

The Hatch Act was passed in 1887 to establish agricultural experiment stations to help disseminate research-based information in conjunction with land-grant colleges. There was a need for agricultural experiment stations due to the restricted research practices in many colleges and normal schools. However, it was not until the passage of the Smith-Lever Act of 1914 that federal funding become available for research information to be disseminated for public use (Iowa State University Extension [ISUE], 2002; VCES, 1987).

The philosophy of the land-grant system has played an active role in improving the life skills of people since 1862. Today Extension is basically divided into four program areas: agriculture, community development, 4-H youth development, and family and consumer sciences. Agricultural programs focus on the enhancement and sustainability of agricultural and natural resources, including the food, water, and land

quality. Community development programs target those issues related to leadership in “improving the physical, economic, social, cultural and institutional environment in which the people in the community live and work” (Seevers et al., 1997, p. 10). 4-H programs combine efforts of Extension Service, public schools, volunteers, and youth organizations to deliver culturally diverse information and experiences to the nation’s youth. Family and consumer sciences programs are designed for the empowerment of the community, family, and individual by providing information and skills for adaptation in an ever-changing society (Seevers et al., 1997; VCE, 2000).

Extension from 1906 to 2002

American agriculture and Extension efforts from 1906 to 2000 are summarized below in a condensed manner adapted from Gibson (1992) and VCE (2002):

- 1906-1913: The first demonstration was conducted in Virginia. Also the hiring of the first county agriculture Extension agent as well as the first African-American agriculture Extension agent was took place. Various activities including the boys “corn” clubs and the girls “canning” club work began to incorporate more youth in demonstration methods. This is where the start of programs such as 4-H and Family and Consumer Sciences also began to heavily emerge.
- 1914-1920: Cooperative Extension Service grew as roles among federal, state, and local partners began to be established.
- 1921-1929: Cooperative Extension agents spent a great deal of their time establishing personal relationships with local farmers, youth and families.
- 1930-1960: Cooperative Extension Service was the primary agency that national programs consulted for guidance in maintaining the economy and stimulating

growth of farming in America. Also Extension was instrumental in educating the public about World War II efforts. The farm was beginning to be viewed as an industrial network with vast technological advancement.

- 1961-1980: The Extension service began to see a shift in their programs due to the social and civil rights movements. Congress began to authorize new programs to include under-served urban populations in the areas of nutrition, 4-H programming, and community development.
- 1980-present: The Cooperative Extension Service clientele have become more diverse. Only about 2.4% of the Extension clientele are farm based. Due to recent acts of terrorism and the United States war on terrorism, monetary issues at all levels of government called for rigid budgets cuts for Extension, including decreased personnel and increased accountability (Gibson, 1992; USDA, 2002). Historically, CES has demonstrated a unique ability to change many of its programs to meet the dynamic nature of society's needs. The growth of the nation's population, increase in urbanization, and decrease in available funds have all significantly affected CES.

The New Extension Agent Training Program

Virginia Cooperative Extension (VCE) employs Extension agents who hold faculty rank and academic degrees from a wide variety of disciplines. The agents' academic preparation enables them to acquire Extension positions in 4-H youth development, agriculture and natural resources, and family and consumer sciences. Although degree programs provide excellent subject matter training, they often lack

opportunities for agents to obtain skills or strengths in some of the subjects that are needed to be effective Extension professionals (Bennett, 1979).

Because technical degree programs seldom provide adequate programming skill development courses, VCE involves all new Extension agents in a program through which fieldwork expertise and educational programming competence may be developed. The purpose of this New Extension Agent Training (NEAT) program is to provide opportunities for newly employed agent faculty to receive unit-based, hands-on orientation and training in preparation for assuming assigned roles in their field units. All new Extension faculty members are expected to participate in the NEAT program.

The key to a successful training program is to clarify in advance the roles and expectations of the training agent and new Extension agent so that they know what is expected of them to achieve a successful outcome (Boyle, 1981). The development and implementation of a training plan that allows Extension agents to address their weaknesses and build upon their strengths best accomplishes this. Although the new Extension agent is ultimately responsible for the development of the plan, a collaborative effort among Extension training agents, staff development specialists, and administrative specialists is necessary.

Virginia Cooperative Extension implemented the program for all new Extension agents in January 2000. The New Extension Agent Training program is an innovative way to respect the characteristics of the new employee, determine the situation in the assigned locality, and develop a training program that will enhance the agent's ability to maximize performance once they are in their permanent assignment.

The NEAT program lasts about three months for each new Extension agent, depending on their needs and level of knowledge about Extension once they are hired. Extension agent training occurs at an Extension unit located relatively close to the assigned unit. In rare situations, the training may be done in the actual Extension unit in which the agent will be employed. If the training agent wants to expose the new Extension agent to differing environments, both the training agent and the new Extension agent may make trips to neighboring units.

A training partnership is established among the new Extension agent, an experienced agent (referred to as a training agent), the new Extension agent's district director, and a specialist from the Agricultural and Extension Education (AEE) Department at Virginia Tech. The training agents are selected from a group of experienced Extension agents who volunteer to serve in this role. These experienced agents will participate in up to eight hours of workshops to prepare for their roles as training agents. Within these eight hours, the training agent will learn how to provide and facilitate a variety of learning experiences to the new Extension agents. These experiences include coaching, counseling, teaching by example, and helping to provide character-building experiences within VCE.

There are several steps involved in the conducting the New Extension Agent Training program (Gibson & Brown, 2002).

- The District Director decides where the agent will be placed, with input from the appropriate Associate Director(s) of Agriculture and Natural Resources, Family and Consumer Sciences, and 4-H youth development.

- The programming skills inventory is completed by new Extension agents. The District Director and AEE department liaison specialist review results of the inventory.
- The training agent orientation is conducted in conjunction with the District Director, AEE liaison, and training agent meet to discuss the programming skills inventory. Ideas for the NEAT program are based on the programming skills inventory, information and action items checklists and suggested tasks.
- The new Extension agent orientation takes place with a team comprised of the District Director, AEE liaison, training agent, and new Extension agent. The team meets to discuss the NEAT program, noting information from the program. This checklist and plan of action includes on the job experiences and in-service subject matter training.
- During the AEE unit site visit, the training agent and new Extension agent work to accomplish the items identified in the training plan.
- When all of the previous steps are completed, the training agent submits the results of the completed plan to the District Director and the AEE liaison.
- Once the training is complete, an exit interview with the new Extension agent is conducted by the AEE liaison. The exit interview is used to assess how well the new Extension agent has acquired sufficient educational experiences and skills to perform his or her duties as a VCE agent. The AEE liaison also conducts an exit interview with the training

agent. These interviews determine whether additional training for the new Extension agent is needed.

- Upon completion of the NEAT program, the team meets to determine whether to place the agent in the assigned home office or discontinue employment.

The NEAT program was instituted to provide effective preparation for new VCE agents. Since it began on January 1, 2000, over 60 Extension agents have completed the NEAT Program (Gibson & Brown, 2002).

Statement of the Problem

Many new Extension agents often begin employment with Virginia Cooperative Extension with no educational program planning background or experience. Extension agents play a vital role in fostering both youth and adult development in the community, and studies have shown that for these agents to be effective educators, they must understand educational processes such as human development, learning, and social interaction (Arends, 1998; Jones, 1992; Smith & Wolford, 1997). For newly hired Extension agents to be effective, they must be able to design educational programs within their subject matter areas for their clientele.

Despite the previous training programs offered by VCE, research showed that there was still a great need for training in educational practices for Extension agents (Shih & Evans, 1991; Smith & Wolford, 1997). Extension administrators, Extension specialists, and Extension agents need to effectively understand the learning styles of their clientele (Gibson & Hillison, 1994). The NEAT program was designed to provide

newly-hired Extension agents with information on teaching technical information to their clientele by placing them in real-world Extension experiences. There are currently no specific data that have assessed the NEAT program by collecting information from new Extension agents, training agents, and administrators within VCE. Because every newly hired agent must participate in the NEAT program, an assessment of the program by its participants to determine its importance and effectiveness may enhance the effectiveness of the NEAT program. This in turn will have implications for staff development in Virginia Cooperative Extension by indicating effective ways to present information to new Extension agents within the state.

Purpose of the Study

This study was designed to determine how new Extension agents, Extension training agents, and Extension administrators who have participated in the NEAT program assessed its importance and effectiveness. Demographic characteristics were identified for descriptive purposes in this research study. The research conducted in this study is based upon competencies utilized in the current training practices of Virginia Cooperative Extension.

The specific objectives of the study were to:

1. Provide a profile of new Extension agents, Extension training agents, and Extension administrators;
2. Assess of the importance of selected competencies of the NEAT program in enhancing those competencies as reported by Extension agents, Extension training agents, and Extension administrators who have participated in the NEAT program;

3. Assess of the effectiveness of the NEAT program in enhancing selected competencies as reported by Extension agents, Extension training agents, and Extension administrators who have participated in the NEAT program; and
4. Compare differences in assessment results among Extension agents, Extension training agents, and Extension administrators.

Limitations of the Study

This study was limited to new Extension agents, training agents, and administrators employed by Virginia Cooperative Extension. Further limitations include recent retirements of many Extension employees because of budget cuts, which could have an effect on the response rate among the population of this study. Finally, some Extension agents may be reluctant to answer questions in the demographic portion of the study because of concern for their anonymity.

Definitions

The following terms are defined as they are used in this study.

Administrators: District and associate directors of VCE to whom Extension agents report.

Competency: the proper application of knowledge, career skills, technical proficiency, and personal integrity that produce acceptable job performance.

District directors: Extension administrators who supervise program personnel who plan, implement, and evaluate educational programs within a given geographical territory.

Extension agents: Educators assigned to a specialized role within a given territory.

Home unit: The place where an agent's office is located.

New Extension Agent Training (NEAT): A program designed to provide opportunities for newly hired agents to obtain unit based, hands-on guidance for transition into their respective field unit.

Training agents: Agents assigned to train Extension agents in several core competencies to help them make the transition into field-based Extension work.

Summary

This study was designed to provide an assessment of the NEAT program in VCE. Chapter 1 presented an overview of the development of CES and explained how continuous changes in clientele needs facilitated the development of the NEAT program. Although the NEAT program has been implemented for three years, there is no specific information about how agents, trainers, and administrators have perceived the program's success. Therefore, to continue to improve the program, its stakeholders need research data about the participants' assessment of the NEAT program.

Organization of Study

Chapter 1 contains an introduction to the study, including a brief history of the Cooperative Extension Service, Virginia Cooperative Extension, the New Extension Agent Training program, statement of the problem, purpose and objectives of the study, limitations of the study, and pertinent definitions utilized in this study. Chapter 2 contains a literature review of competency based research that has been done in the areas of in-service training for Extension personnel. Chapter 3 contains information on the research design and methodology used to conduct this study. Chapter 4 contains the results of the study. Chapter 5 contains information related to the researcher's conclusion and interpretations of the research findings as well as recommendations for future studies.

Chapter 2

Literature Review

This chapter includes a review of research related to the key aspects of this study. The main categories of this review are to describe the necessary competencies Extension agents must possess to provide effective Extension programs within the community including formal education, training for Extension agents in both teaching and learning techniques, preparation in accessing the various demographics situations, program planning, evaluation, and use of local resources. There is currently no specific information describing how participants of the NEAT program assess its importance and effectiveness in successfully facilitating new Extension agents' transition into their respective field units. Information about this assessment will help Virginia Cooperative Extension (VCE) make any necessary changes for in-service programming for new Extension agents. Because of the time and money invested in the NEAT program, information related to its effectiveness will be important to all stakeholders of VCE.

Background

The Cooperative Extension Service (CES) has its roots deeply imbedded in providing outreach and service-based programs to communities (Morris, Pomery & Murray, 2000). Because Extension agents are the primary community teachers in CES, studies have shown that for Extension agents to be effective educators in the community, they must understand educational processes such as human development, learning, and social interaction (Arends, 1998; Jones, 1992; Smith & Wolford, 1997).

The roles of Extension agents have changed significantly since 1914. Moving from a traditionally agricultural base to a broader range of subject matter in the 21st

century has forced many agents to re-evaluate their training needs. The future of Extension programs will be governed by the ability of the Cooperative Extension Service to maintain a variety of well qualified agents (Cooper & Graham, 2001). Specialized in-service training programs are needed to ensure that Extension professionals are proficient in both the basic Extension education processes and specific subject matter to disseminate knowledge in their assigned communities (Gibson & Hillison, 1994). In an effort to develop quality agents in Virginia, the NEAT program was created to address the training needs of newly hired Extension agents.

Conceptual Framework

The framework for this study consisted of competencies related to the training needs of Extension agents as community educators. Professional competencies are essential for any educator to perform their jobs successfully. As educators in the community, Extensions agents must be proficient in a number of educational competencies that include capabilities, knowledge, and skills that are required to effectively do their job. Although competencies may be acquired in various ways, it is important to note that balance must be achieved and properly maintained between educational knowledge and subject-matter training. Also Extension agents must be aware of what Murnane and Levy (1996) described as “soft” skills, such as group activities and effective oral and written communication. As noted by Dobbins, “Effective teachers are gained through quality preparation programs that are designed and utilized to prepare prospective teachers” (Dobbins, 1999, p. 27).

As early as 1959, in his unpublished dissertation, McCormick developed a questionnaire based on the National Committee of Extension Administrators’ reported

competencies for effective Extension educators. These competencies have remained the foundation of research for over 40 years when studying the in-service needs of Extension agents (Gibson, 1994).

Competencies Required for Effective Extension Agents

Many state Extension agencies are starting to focus more on in-service training for their personnel. A study by Gibson and Hillison (1994) examined the training needs of Area Specialized Extension Agents (ASEA) in North Carolina's Cooperative Extension Service. According to the authors, although agents have specialized training in specific subject matter areas, they most need competencies in the Extension education process, human development, learning, social interaction, and an understanding of organization in which they work.

In the Gibson and Hillison (1994) research study, the population contained 66 ASEAs, 49 administrators (district and county directors), and 18 subject-matter specialists employed by the North Carolina Cooperative Extension Service. The questionnaire focused on the Extension Committee on Policy's eight general competency areas necessary for the effectiveness of Extension agents (National Policy Statement, 1968). The competencies were listed as follows:

- Extension organization and administration
- Program planning and development
- Communication
- Research
- Human development
- Educational processes
- Social systems
- Effective thinking (Gibson & Hillison, 1994, n.p.)

Based on the results of the study, administrators reported that training in all competencies is important for ASEAs. However both ASEAs and specialists agreed that

program planning, communication, human development, and educational processes were most important (Gibson & Hillison, 1994).

Respondents were asked to rate the importance and the need for ASEA's training in each competency area. Importance was rated on a four-point scale, with 1 indicating little importance and 4 indicating highly important. Need for training was also rated on a four-point scale with 1 indicating little need and 4 indicating great need. Although the ASEAs and subject-matter specialist groups did not rate training in each of competencies as highly needed, the administrators indicated a great need for training in the areas of program planning and development and educational processes. Ratings of the importance of training in specific elements of knowledge or ability within the various competency areas did show variation. In the Extension organization and administration competency section, the three groups exhibited differences in their mean ratings (on a 4.0 scale) of the need for training in understanding the history of Extension (1.0), the philosophy of Extension (1.1), the university-USDA partnership (1.0), and county responsibilities (1.2). Administrators gave considerably higher ratings to these elements than did the ASEAs and specialists (Gibson & Hillison, 1994).

In the section concerning program planning and development, the need for training in program planning was rated much greater by administrators (3.3) and subject-matter specialists (2.9) than by ASEAs (2.3). In ratings for the need for training in within the other general competency areas, there was little variability in responses among groups. As a result of these findings, training recommendations were developed and an ASEA Development Institute was proposed to address the training needs of local ASEA in North Carolina (Gibson & Hillison, 1994).

In a 1997 study of Texas Agricultural Extension Service (TAEX) competency based in-service training program, data collected from Extension employees to build competency models. The competencies were agreed upon based upon employees' responses to questions such as "What are those things we all share that makes us successful?", "What knowledge and skills will we need in the future to continue that success?" and "How does the best work get done?" (Stone, 1997, n.p.).

Stone attributes the project to build competency models in Texas Agricultural Extension Service (TAES) to recognizing the need for competency-based education across all employment positions within each of the basic four areas of Extension programming. District directors are also heavily involved in the process of competency modeling. When the model development is completed, Extension professionals will have the opportunity to "assess their level of knowledge and skills in relation to the competencies related to their assignment. Supervisors will provide input and offer assistance in preparing individual development plans (IDP)" (Stone, 1997, n.p.).

There are studies related to competency building in volunteer management. For example, in 1998, Ohio State University Extension (OSUE) conducted a study about the competencies associated with volunteer management within. The population for the study consisted of 100 OSUE 4-H youth development agents. A three-part questionnaire was developed for the agents based on competencies related to recruiting, selecting and evaluating 4-H volunteers, "personal and professional characteristics" and professional volunteer development events in the previous two years were studied (King & Safrit, 1998).

There was a 98% responses rate with no additional follow-up on the two non-respondents. Statistical Package for Social Sciences (SPSS) was used for data analysis. The results showed that local volunteers were satisfied with 4-H volunteer management. However, some administrators “(all providing components of administrative and programmatic support to 4-H Youth Development agents) may not fully recognize a 4-H agent's innovative and effective volunteer management system or role as volunteer manager” (King & Safrit, 1998, n.p.). Lastly, competencies associated with volunteer management may not be emphasized for 4-H volunteer managers. Overall the volunteers themselves indicated that they were only “somewhat competent” in volunteers management skills and further indicated that only “three of the competencies were very important, six were only somewhat important” (King & Safrit, 1998, n.p.). The authors of this article maintained that volunteer managers viewed all of the competencies as important they would take more of an interest in being proficient in all nine competencies (King & Safrit, 1998).

A study by Mincemoyer and Kelsey (1999) examined the need for in-service education as it relates to Pennsylvania's Cooperative Extension Service. Because of issues with Pennsylvania in-service training such as time, expenses, and Extension agents wanting a more active role in their in-service planning, a committee of Extension faculty and staff from Pennsylvania State University were asked to evaluate the effectiveness and determine the types of in-service training Extension staff would find most advantageous (Mincemoyer & Kelsey, 1999).

The authors developed their survey instrument partly based on the National Policy Guidelines for Staff Development (1977). The areas that participants were asked to evaluate were as follows:

- Subject matter,
- Skills development,
- Program sharing and ideas,
- Process skills training (Mincemoyer & Kelsey, 1999, n.p)

This questionnaire consisted of 24 open and closed-end questions related to in-service education in Pennsylvania State Cooperative Extension was mailed to 269 Extension staff with 228 respondents. An expert panel of faculty, Extension staff, and program support staff determined the validity of the questionnaire. Responses were analyzed using descriptive statistics such as the mean, percentage, and frequency (Mincemoyer & Kelsey, 1999).

The study reported that overall the agents (especially agricultural agents) were most interested in the technical subject matter and skill development. Most respondents reported that they did not attend various in-service activities because they either had previous commitments (56%), it required too much time out of the office (43%), or that the in-service had no relevance to their programs (41%). According to the results of the survey, less than ideal in-services have been the result of lack of sufficient content-depth (36%), the perception that agents were not learning anything new (33%), and poor instructors (23%). About 51% of respondents complained of not having enough input regarding the types of in-service programming (Mincemoyer & Kelsey, 1999).

As a result of this study, several changes were made in the in-service programming for Pennsylvania Extension personnel. Personnel now have to have clearly defined objectives for their jobs. These objectives must be updated annually. A

pilot, satellite-delivered, in-service initiative was implemented to help reduce the effect of time away from the office. Results of the survey were distributed to all Extension personnel in an effort to get more people involved in planning and implementing in-service programs (Mincemoyer & Kelsey, 1999).

A study by Cooper and Graham (2001) of Arkansas county Extension agents in the program areas of agriculture, family and consumer sciences, 4-H, and community development from Arkansas Extension Service. A panel of experts evaluated the responses from a survey distributed to all agents attending spring administrative conferences and categorized them into seven main areas:

- Program planning, implementation, and evaluation;
- Public relations;
- Personal and professional development;
- Faculty/staff relations;
- Personal skills;
- Management responsibility; and
- Work habits (Cooper & Graham, 2001, n.p.).

A second Likert-scale type questionnaire was mailed to participants who were asked to rank competencies for successful agents and supervisors on a scale of 1=least important through 6=very important. The results of the study showed that agents and supervisors agreed that among the skills listed above, the first three were the most important competencies for agents to value. Whereas the fourth item, faculty/staff relations, was assessed to be the most important competency area for agents and supervisors, as cooperative teamwork of people from a variety of specialized areas are used more in Extension programming efforts (Cooper & Graham, 2001).

All of these studies, North Carolina (Gibson & Hillison, 1994), Texas (Stone, 1997), Ohio (King & Safrit, 1998), Pennsylvania (Mincemoyer & Kelsey, 1999) and

Arkansas (Cooper & Graham, 2001) as well as the New Extension Agent Training manual (VCE, 2000) that is currently used in Virginia Cooperative Extension. are examples of research in which participants were asked to provide evaluations of programs that were useful in the overall improvement of in-service programs.

Academic Education for Extension Agents

A bachelor's degree is the minimum educational requirement for any Extension agent. Many state Extension services mandate that each applicant have an undergraduate grade-point average that will allow them to be accepted into a graduate program. Agents may also be required to begin graduate studies during their first few years of employment. VCE requires either having a master's degree when hired or obtaining a master's degree within six years of the initial employment date.

How important is the technical knowledge as an educator if one cannot effectively deliver the information to the target audience? One study on philosophical constructivist viewpoints suggested that learning styles may influence the amount of success in a given learning environment (Prawat & Floden, 1994). According to these authors, a study conducted by D. L. Ball (1993) in which second graders were taught about the concept of negative numbers. Ball started her discussion with the students by asking them to envision a building that had 12 floors above the ground, 12 floors below the ground and how the people in an elevator would get from floor to floor. As the students began to discuss this it became easier for them to understand the meaning of positive versus negative numbers and that “-5 is further away from 0 than -1” (Prawat & Floden, 1994, p. 46). A person who is a social learner may need a more interactive environment, than a person who is an independent learner. Therefore, instructors may conduct programs with

their adult learners in order to facilitate learning and the educational process (Prawat & Floden, 1994; Wiegel, 1994).

Different teaching and learning strategies must be used to effectively reach all members of a specific target audience. For example, there is another constructivist principle that learning should occur in practical, real world environments (Doolittle & Camp, 1999). Extension agents should also be aware that teaching, especially in career and technical education, involves five basic tenets:

1. All teaching within career and technical education must begin and end with an appreciation of the student's understanding.
2. The student must be facile with a core set of currently accepted knowledge and skills within career and technical education.
3. Career and technical knowledge and skills are dynamic; thus students must have the skills necessary to adapt.
4. Student's idiosyncratic understandings of career and technical knowledge and skills must be valued, as these understandings may lead to new discoveries, insights, and adaptations.
5. The goal of career and technical education must be an occupationally self-regulated, self-mediated, and self-aware individual (Doolittle & Camp, 1999, p. 27).

The NEAT program capitalizes on all of these tenets throughout various stages of the training program. For example, agents go into the field with their respective training agent to determine the conditions in which they will be working. Agents may then use the experiences they have in the field to construct knowledge about the way they can effectively relate the information to their clientele (Gibson & Brown, 2002).

Another teaching and learning philosophy, called social constructivism, involves social interactions (Steffe & Gale, 1995). An agent interacting with a client has to be

aware of the person's background. This will help ensure that the agent conveys information in such a way that the person will be receptive. According to the results of one study on beginning Iowa farmers, participants believed that using a variety of instructional methods was moderately important (Trede & Whittaker, 1998). Beginning farmers preferred on-site educational instruction, single meetings related to a specific topic, and the use of traditional educational tools such as radio, television, and newspaper as opposed to Internet, satellite, and fiber optics (Trede & Whittaker, 1998). An agent coming from a technologically advanced background may not realize how intimidating the Internet may be to some clients.

A third educational philosophy maintains that information should be made relevant to the client for effective learning to occur (Ormrod, 1999). If agents can see that the information is relevant to what the client will need to know, then the agents may deliver the information in a way that clients will see the relevance and will therefore be more receptive to it. If the clients do not see the relevance of the information, they are more likely to be resistant to learning the information (Sadoski, Goetz, & Rodriguez, 2000).

A fourth educational philosophy emphasizes that subject matter and proficiency should be understood within the realm of the learner's previous knowledge. For example, if the agent continues to have misconceptions related to education (such as that everyone learns best by lecture methods), then this misconception has to be deconstructed and then reconstructed correctly (Doolittle & Camp, 1999; Mayer, 1999).

A fifth educational philosophy explains that learning should be a process of self-regulation, self-mediation and self-awareness as part of meta-cognitive functions. An

examination of 128 experiments dealing with extrinsic rewards on intrinsic motivation research has stated the following:

“being intrinsically motivated in many applied settings such as education, sports and work environments...[providing] general benefits of supports for autonomy and competence for motivated persistence, performance and well-being. [T]he evidence indicates clearly that the focus primarily on extrinsic motivation does, indeed, run a serious risk of diminishing rather than promoting intrinsic motivation ” (Deci, Koestner, & Ryan, 1999, p. 659).

The NEAT program provides agents with the opportunity to learn about the effects of intrinsic versus extrinsic motivation on an individual’s behavior. It is also important for Extension educators to facilitate others being able to work, live, and learn outside of their comfort area. This will in turn help both the facilitator and the target audience. Therefore, it is critical for Extension educators to be willing and able to work outside of their comfort zone and facilitate others doing the same. In the *Seven Habits of Highly Effective People*, one of Covey’s principles is to first aim to understand and then to be understood (Covey, 1988). If Extension educators are aware that people perceive information differently, they can govern themselves accordingly to be able to accommodate their target audience and respect individual needs. Mutual respect and understanding will maximize any learning environment.

Demographic Considerations

Because Extension’s personnel and clientele have become so diverse, the training needs and acceptance of new information may be greatly affected. Demographic characteristics such as gender, age, years of service, previous training, education level, and primary area of program responsibility may also affect the effectiveness of in-service training. For example, a study by Nieuwsma (1983) found that the adaptation of a computer program called AGNET (designed to increase communication among agents

and clientele) did show some variation “among low, medium, and high users in some demographic characteristics” such as previous training experience, age, and years of service (Nieuwsma, 1983, n.p.).

In 1996, Radhakrishna and Thompson examined how Extension agents utilize various information resources. The authors found that there were demographic variations in how agents used information resources. For example, employees over the age of 44 tended to communicate with advisory committees while agents under the age of 44 tended to rely more on local teachers and administrators in the local school system. Males tended to develop more of a rapport with Extension specialists, while females relied more on local community leaders. In addition to these variables, the study found that agents with a B.S. degree tended to communicate with their immediate supervisors and people in the immediate locality while agents with a Ph.D. degree tend to communicate more with other agents outside of their locality.

According to a review of literature at Cornell University, cultural and racial diversity within and outside of the organization may also greatly impact the training needs of county agents (Ewert & King-Rice, 1994). For example, it has been documented that communities across the nation encompass a greater variety of ethnicities, cultures and religions than ever before. Ewert and King- Rice (1994) also noted in their findings “...as organizations become more culturally diverse, they: (a) are more able to recruit and retain culturally diverse staff, (b) expand their "reach" and increase their ability to attract new clientele, (c) create new work and management styles, (d) develop new patterns of personal relationships, (e) build structures that better meet the needs of diverse staff and clientele” (Ewert & King-Rice, 1994, n.p.) .

In addition to the previously mentioned study, a 55-item questionnaire was developed by Patreese Ingram (1999) from a review of literature to assess attitudes about diversity in Pennsylvania's 4-H Extension program. According to Ingram, most Extension agents are cognizant of the increasing diversity in the United States. Ingram stated that "[t]he majority of Extension professionals view education about different cultures as important in youth development programs. When asked specifically about those who have physical and mental challenges, the majority of Extension professionals agreed with the importance of learning to relate effectively with physically challenged people" (Ingram, 1999, n.p.). Also, it is estimated that about 43 million people with disabilities reside in the United States. Extension personnel will not only have to understand the dynamics of dealing with various populations out in the field, but also that a greater number of under represented people may enter the Extension realm as faculty and staff (CSREES, 2002; Ingram, 1999).

Summary

Extension has its foundations grounded in educational programming for over 85 years. The organization may contribute its success to the educational programs of the primary teachers of Extension programs known as agents. Although agents have been historically valued for their broad range of knowledge in a variety of subject matter, today's agents are becoming more specialized in their subject matter area. As a result of this increased subject matter specialization, many agents have little training in the area of education. For these new Extension agents to be effective community educators, they must be proficient in several competencies. Therefore, agents are usually required to complete Extension training before they are formally employed. These training courses

usually help agents adapt to their role in the community. Because of the dynamic nature of Extension work, core competencies need to be constantly evaluated and updated to meet the needs of the county agents.

Administrators, specialists, and agents need to be aware that there are several ways in which an individual may express his or her intelligence and information gathering. Studies have shown that an individualized training program may help new Extension agents learn the vital information they need to successfully fulfill their duties. Virginia Cooperative Extension has tailored its training program to meet the needs of the individual agent. This program is currently being used to enable training agents and administrators to train new Extension agents in their core competencies by designing a program to meet their individual needs.

In Chapter 3, the methodology and design of this research project including the population, instrumentation, data collection, and data analysis will be described.

Chapter 3

Research Design and Methodology

This chapter describes the population, the design, the instrumentation, the data collection, and the data analysis for the study. The focus of the study was to explore the importance and effectiveness of the New Extension Agent Training (NEAT) program reported by new Extension agents, Extension training agents, and Extension administrators in Virginia Cooperative Extension (VCE). The methods utilized in this study were similar to those of Gibson and Hillison (1994), Stone (1997), King and Safrirt (1998), Mincemoyer and Kelsey (1999), and Cooper and Graham (Arkansas, 2001).

Population

The population for this study consisted of 41 new Extension agents, 21 Extension training agents, and eight Extension administrators who have participated in the NEAT program since January 1, 2000. The administrators were included in this study because of their direct supervisory involvement with the new Extension agents who participated in the NEAT program. An application was submitted to the director of the Institutional Review Board (IRB) for approval of studies involving human subjects and the approval letter is located in Appendix B.

Design

The research design of the study was a cross-sectional, post survey of participants and administrators involved in the NEAT program. The survey was completed online by each study participant. There were a total of 20 goals that were randomly arranged in the form of questions related to each of the eight competencies as outlined by National Policy Statement on Staff Training and Development (1968).

Each of the 20 randomly itemized goals were later categorized under the following competencies:

1. Communication
 - A. To master the basic principles of communication
 - B. To connect the need for and the practical uses of subject-matter information to clientele
2. Educational Processes
 - A. To understand that different people learn in different ways
 - B. To utilize video, audio, computer-based, and written materials
3. Effective Thinking
 - A. To apply techniques for facilitating effective thinking within Extension groups
 - B. To determine and implement goals for a long term Extension program
4. Extension Organization and Administration
 - A. To understand the functions of surrounding agencies and their relationship with the Extension Service
 - B. To effectively represent VCE at local, state, and national events
5. Human Development
 - A. To master basic psychological motivations for people, such as the need for recognition and the need for acceptance
 - B. To understand various factors affecting personality
6. Program Planning
 - A. To understand the importance of situation analysis in the programming process
 - B. To master the role of an Extension agent in program planning committees
 - C. To involve community citizens, including volunteers, in program development
 - D. To utilize program specialists in program development
 - E. To understand and utilize local Extension Leadership Councils
7. Research
 - A. To master applying research results that benefit clientele
 - B. To master the procedures for evaluating a program
 - C. To master their role in calculating likely outcomes from known facts
8. Social Systems
 - A. To effectively engage volunteers in the programming process
 - B. To approach Extension work in a manner that considers the values, cultures and feelings of clientele

Instrumentation

The instrument that was used in this study was a self-administered questionnaire that used a rating-scale to assess competencies appropriate in Virginia Cooperative Extension and addressed in the NEAT program. The questionnaire was posted on a website for access by the participants. A questionnaire was the instrument of choice for this project because of its easy access for the research population as well as its success rate when used in other studies (Gibson & Hillison, 1994; Stone, 1997; Mincemoyer & Kelsey, 1999). The respondents rated the goal statements that came from previous research and the NEAT program content. The responses to the 20 items related to goals within the competencies on the questionnaire were in two categories (See Appendix A). The first category addressed the importance of the competencies as perceived by the respondent. Administrators, new Extension agents, and training agents expressed their opinion by selecting a rating of 1 = unimportant through 6=very important.

The second category of responses addressed the assessment of effectiveness of the NEAT program for new Extension agents. Administrators, new Extension agents, and training agents expressed their opinion by selecting a rating of 1= ineffective through 6= very effective. A response of NA (not applicable) was also included for those participants who had mastered a particular skill before NEAT. The NA option was only included in the survey for the new Extension agents who possessed a corresponding competency before entering the NEAT program.

Reliability of the Instrument

A pilot study was conducted with five VCE Extension personnel who were not included in the final study. These people were involved in the NEAT program either as administrators, training agents, or new Extension agents. The instrument used in this research was a modification of the instrument used in studies of training needs of agents in North Carolina (Gibson & Hillison, 1994), Ohio (King & Safrit, 1998), and Pennsylvania (Mincemoyer & Kelsey, 1999).

According to Trochim (2002), there are four methods that are commonly used to estimate the reliability of a test. The test-retest method involves giving the same test on different occasions. The assumption is that the test is reliable if scores are equal. However, a time factor between tests is a major limitation of this design. The parallel form (also known as equivalent forms) method involves creating parallel forms of a test and administering the test to the same sample. The assumption is that if the scores are equal then the test is reliable. However, it is often very difficult to create parallel tests.

The inter-rater or inter-observer reliability involves giving the same instrument to two different groups. The assumption is that if two groups give consistent data, then the test is reliable. However, this is just a rough measurement of agreement. Internal consistency reliability, which includes split-half reliability, is used to evaluate results of items within a given test. The assumption is that the more consistent the result, the more reliable is the test. Given the characteristics of the data in this study, the split-half method was believed to be the proper reliability assessment. In accordance with Santos' (1999) recommendations for the use of scale reliability, Cronbach's Alpha was used as an index of reliability.

Once the pilot test subjects completed the survey, they were asked questions about the aspects of the survey such as the following:

1. Did you have problems completing the survey?
2. Were there any questions that were confusing?
3. How much time did it take you to complete the survey?
4. Were there any technical glitches/problems?

These answers were used to help the researcher better assess the reliability of the selected instrument.

Validity of the Instrument

An expert panel determined the validity of the instrument before it was administered to the pilot study participants. The expert panel consisted of four faculty members in the Agricultural and Extension Education Department at Virginia Tech, a faculty member in the Career and Technical Education Program at Virginia Tech, and a faculty member in the Crop and Soil Environmental Sciences Department at Virginia Tech.

Data Collection

Data for this research study were collected using web-based self-administered questionnaires. The questionnaire was posted on a website so that new Extension agents, Extension training agents, Extension district directors, and Extension associate directors in VCE could access the instrument. In June of 2003, a letter from the Director announced the details of the research, including the purpose of the study, uses of the data collected and the website location for the questionnaire (Appendix C). As a reminder to non-respondents, a letter was emailed out about one week later (Appendix D), and follow-up emails (Appendix E) were mailed eight days later to those who were included

in the sample thanking respondents and reminding other participants to quickly respond (Salant & Dillman, 1994).

Data Analysis

In the analysis of the data, Statistical Package for Social Sciences (SPSS) software, descriptive parameters including percentages, rankings, and means were utilized. The research objectives were addressed using methods as follows:

Objective 1: Provide a profile of new Extension agents, Extension training agents and Extension administrators.

Procedures: Data gathered for this objective were age, gender, level of education, and years of experience with extension. This information was presented through summary parameters including frequencies, percentages, ranges, and means.

Objective 2: Determine the assessment of the importance of selected competencies of the NEAT program in enhancing those competencies as reported by Extension agents, Extension training agents, and Extension administrators who have participated in the NEAT program.

Procedures: A six-point scale was utilized to rate the importance of the goals that would later be divided among the eight competencies (See Appendix A).

Objective 3: Determine the assessment of the effectiveness of the NEAT program in enhancing selected competencies as reported by Extension agents, Extension training agents, and Extension administrators who have participated in the NEAT program.

Procedures: A seven-point scale was used to rate the effectiveness of the NEAT program to new Extension agents, with one response category being non-applicable (NA) for those responding agents who already possessed a particular skill before entering the

NEAT program . Measures of central tendency and dispersion of the data were reported (See Appendix A).

Objective 4: Compare differences in assessments among Extension agents, Extension training agents, and Extension administrators.

Procedures: ANOVA was used to explore differences in mean scores on importance and effectiveness among new Extension agents, training agents, and administrators.

Summary

The population selected for this research was comprised of new Extension agents, Extension training agents, and Extension administrators employed by Virginia Cooperative Extension who participated in the NEAT program. Data collected from each respective group were analyzed in terms of responses to a survey that included rating scales. The data were studied and the results for each group of respondents were evaluated. The results obtained have implications for the current New Extension Agent Training program in Virginia Cooperative Extension.

In Chapter 4, the results of the online survey will be outlined according to the objectives of this study.

Chapter 4

Results

This chapter contains the results obtained from the survey of Virginia Cooperative Extension (VCE) agents, Extension training agents, and Extension administrators who participated in the New Extension Agent Training (NEAT) program. This study was designed to establish how these participants assessed the importance and effectiveness of the NEAT program. Demographic data were utilized for descriptive purposes. The research conducted in this study is based on competencies used in the current training practices of Virginia Cooperative Extension.

The objectives of the study were to:

1. Provide a profile of new Extension agents, Extension training agents, and Extension administrators;
2. Assess the importance of selected competencies of the NEAT program as reported by Extension agents, Extension training agents, and Extension administrators who participated in the NEAT program;
3. Assess the effectiveness of the NEAT program in enhancing selected competencies as reported by Extension agents, Extension training agents, and Extension administrators who participated in the NEAT program; and
4. Compare differences in assessment results among Extension agents, Extension training agents, and Extension administrators.

The results of the survey may be utilized to improve the current practices for training new Extension agents employed by VCE.

Profile of NEAT Participants

There were 70 people selected to participate in the survey from a database of NEAT participants currently employed by VCE. These people were selected based on their current status as VCE employees and the researcher's accessibility to get information about the survey to them. This selected population consisted of 41 new Extension agents, 21 training agents, and eight administrators. Of these 70 people chosen, 47 responded to the questionnaire, which resulted in a 67% overall response rate. Twenty-six new Extension agents, 16 training agents, four administrators responded to the questionnaire, and one respondent did not indicate any involvement category.

Table 1 presents the demographics of respondents as well as known demographics of all possible participants (population) selected for the study. Population demographics are presented to determine the extent to which respondents are representative of the total population. Information about all of the population was not available for all variables. As indicated in Table 1, the respondents are representative of the total population of NEAT participants. The only groups that are somewhat under represented among the respondents are those who have a 4-H specialty area and VCE administrators. Most of the respondents had a master's degree (64%), were new Extension agents (55%), were female (51%), specialized in Agriculture and Natural Resources (ANR) (40%), and were between 40-49 years old (30%).

Respondents had the opportunity to comment on how they believed the NEAT program could be improved, based on their experiences. The responses were open ended and each respondent could provide as much information as they wanted. There were 25 responses in all and several people responded with more than one suggestion. Table 2

reports comments on how the NEAT program may be improved. As indicated in Table 2, eight responses indicated that more subjects needed to be covered in NEAT, six replies noted that they did not see the value of training outside of their home counties, and four responses indicated that training needs to be subject-specific. Two replies specified that they wanted to have training in other counties and two replies indicated a desire to train with retired agents. Only one response indicated the need for seminars, one respondent wanted to see a set of standards for training, and one indicated that there was a need for more resources to train effectively.

Importance of Competencies

Part of the survey was based on the National Policy Statement on Staff Training and Development (1968). The competencies are communication, educational processes, effective thinking, Extension organization and administration, human development, program planning, research, and social systems. As indicated in Chapter 3, there were 20 goals in the form of questions in the survey (See Appendix G) based in the eight by National Policy Statement on Staff Training and Development competencies (1968). The ratings and goals in each competency were combined with a mean rating for that particular competency. Means and standard deviations for importance ratings for the eight competencies for all respondents are presented in Table 3. The rating scale provided for the respondents ranged 6= very important to 1=not important. In the importance ratings, communication was rated as the most important competency with a mean of 5.54, followed by educational processes with a mean 5.29.

Table 1
Demographics of NEAT Respondents and Study Population

Topics	Response Categories	n of respondents	% of respondents	N of population	% of population
Current position in VCE	Agent	42	89	62	88
	Administrator	4	9	8	11
	No answer	1	2	1	1
Involvement in NEAT program	NEAT participant	26	55	41	59
	Training agent	16	34	21	30
	Administrator	4	9	8	11
	No answer	1	2		
^a Highest completed education	Bachelors	4	9		
	Bachelors +	7	15		
	Masters	30	64		
	Masters +	5	11		
	Doctoral	0	0		
^a Age range	No answer	1	2		
	20-29	8	17		
	30-39	12	26		
	40-49	14	30		
	50-59	12	26		
Gender	no answer	1	2		
	Female	24	51	39	56
	Male	22	47	31	44
Specialty area	No answer	1	2		
	ANR	19	40	23	33
	FCS	15	32	18	26
	4-H	9	19	24	34
	NA	3	6	5	7
^a Years in current position	No answer	1	2		
	1-5 years	31	66		
	6-10 years	3	6		
	11-15 years	5	11		
	16-20 years	2	4		
	21-25 years	2	4		
	26-30 years	2	4		
no answer	2	4			

^a Information was not available for the population related to these topics.

Table 1
Demographics of NEAT Respondents and Study Population (continued)

Topics	Response Categories	n of respondents	% of respondents	N of population	% of population
^a Years in VCE	1-5 years	25	53		
	6-10 years	3	3		
	11-15 years	5	11		
	16-20 years	4	8		
	21-25 years	5	11		
	26-30 years	3	6		
	no answer	1	2		
^a Years employed with an Extension service other than VCE	0 years	34	72		
	1-5 years	6	12		
	6-10 years	2	4		
	11-15 years	0	0		
	16-20 years	0	0		
	21-25 years	0	0		
	no answer	5	11		

^a Information was not available for the population related to these topics.

Table 2

Comments on How to Improve NEAT

Comments	n of responses	% of responses
More subjects need to be covered in NEAT	8	17
Did not see the value of training outside of home counties	6	13
Training needs to be subject specific	4	8
Want to train in other counties	2	4
Need to train with retiring agents	2	4
Seminars are needed	1	2
Set of standards for training	1	2
Need more resources to train effectively	1	2

Extension organization and administration had a mean of 5.07 and social systems had a mean of 5.06. Research produced a mean of 4.96, followed by program planning 4.78, and effective thinking with a mean of 4.69. Human development was rated as the least important competency with a mean of 4.36. It should be noted that all means were 4.36 or above for the importance rating with very small standard deviations, all of which were less than one (See Appendix G).

Table 3

Importance Ratings of the Eight Competencies

Competency	Mean	Standard Deviation
Communication	5.54	0.70
Educational Processes	5.29	0.79
Ext. Organization and Administration	5.07	0.77
Social Systems	5.06	0.70
Research	4.96	0.81
Program Planning	4.78	0.68
Effective Thinking	4.69	0.86
Human Development	4.36	0.98

Note: Rating scale ranged from 6=very important to 1=not important.

Table 4 contains information on how each group rated the importance of the eight competencies. As indicated in Table 4, all groups rated communication and educational processes as the most important of the eight competencies with all means above 5. All groups also rated human development as the least important of the eight competencies, with all three groups ranking it as 4.54 or below.

However, there were some differences in means for the other five competencies. For example, while new Extension agents and training agents rated social systems above 5, the administrators' mean was 4.75. Also new Extension agents and administrators rated extension organization and administration above 5, while the training agents' mean was 4.81. The largest difference was in research with the agents' having a mean of 4.86 while administrators' mean was 5.42.

Table 4

Importance of the Eight Competency Areas by position

Competency Area	New Extension agents	Training Agents	Administrators
Communication	5.44	5.66	5.75
Educational Processes	5.25	5.28	5.50
Ext. Organization and Administration	5.23	4.81	5.25
Social Systems	5.06	5.08	4.75
Research	4.86	4.98	5.42
Effective Thinking	4.71	4.59	4.88
Program Planning	4.62	4.89	5.15
Human Development	4.54	4.34	3.50

Note: Rating scale ranged from 6=very important to 1=not important.

Effectiveness of the New Extension Agent Training (NEAT) Program

Next, participants were asked to rate the effectiveness of the NEAT program using the 20 goals within the eight competencies as noted by the National Policy Statement (1968). Means and standard deviations for the effectiveness ratings of all

respondents of the NEAT program ratings are presented in Table 5. The rating scale for the 20 goals that was provided for the respondents ranged from 6= very effective to 1=not effective. The response of NA was included in the instructions for those agents who felt that they possessed a specific competency before entering the NEAT program (See Appendix H).

Table 5

Effectiveness Ratings of NEAT Program for the Eight Competencies

Competency	Mean	Standard Deviation
Communication	4.15	1.66
Educational Processes	3.96	1.66
Program Planning	3.80	1.48
Ext. Organization and Administration	3.79	1.84
Social Systems	3.78	1.58
Research	3.67	1.71
Effective Thinking	3.67	1.53
Human Development	3.37	1.59

Note: Rating scale ranged from 6=very effective to 1=not effective.

In the NEAT program effectiveness ratings, communication was rated as the most effectively delivered competency with a mean of 4.15, followed by educational processes with a mean of 3.96, and program planning with a mean of 3.80. Extension organization and administration had a mean of 3.79, followed by social systems with a mean of 3.78, and research and effective thinking, which both had means of 3.67. Human development

was rated as the least effectively taught competency within the NEAT program with a mean of 3.37.

It should be noted that the means and standard deviations varied greatly between the importance of the eight competencies and the effectiveness of the NEAT program in facilitating new Extension agents' growth in the eight competencies. For example, in the importance ratings, the means ranged between 4.36 and 5.54. while the effectiveness ratings ranged between 3.37 and 4.15. Also, while the standard deviations for importance ranged between 0.68 and 0.98, the standard deviations for effectiveness of the NEAT program ranged between 1.48 and 1.84. Table 6 contains information on how each group rated the effectiveness of the NEAT program for the eight competencies.

As indicated in Table 6, all groups rated communication as the most effectively taught of the eight competencies. All groups also rated human development as being the least effectively taught of the eight competencies, with the three groups mean ratings being 3.85, 3.20, and 1.75 respectively. There were some differences among the order in which the other six competencies were rated by the three groups. However, there was a clear pattern of new Extension agents having the highest mean ranking the effectiveness of the NEAT program in each competency area, followed by training agents, with administrators having the lowest means.

Differences in Responses Among Extension Agents, Training Agents, and Administrators

Differences between new Extension agents, training agents, and administrators' ratings were analyzed using Analysis of Variance (ANOVA) and Least Significant Difference (LSD) methods. The alpha value chosen for significance was 0.05 (using

Cronbach's alpha). Table 7 presents significant differences in mean ratings by position at the 0.05 alpha level.

Table 6

Means of Effectiveness of NEAT Program for Eight Competency Areas by Position

Competency area	New Extension agents	Training Agents	Administrators
Communication	4.56	4.00	3.13
Educational Processes	4.23	4.10	2.75
Social Systems	4.21	3.71	2.17
Research	4.13	3.64	1.75
Program Planning	4.09	3.83	2.75
Ext. Organization and Administration	4.08	3.88	2.50
Effective Thinking	3.98	3.73	2.38
Human Development	3.85	3.20	1.75

Note: Rating scale ranged from 6=very effective to 1=not effective.

Table 7

Significant Differences in Ratings by Position

Competency	Significant group differences	Alpha level
Effectiveness of NEAT in Research	New Extension agents and Administrators	0.006
Effectiveness of NEAT in Organization and Administration	New Extension agents and Administrators	0.009
Effectiveness of NEAT in Social Systems	New Extension agents and Administrators	0.010
Effectiveness of NEAT in Research	Training agents and Administrators	0.033
Effectiveness of NEAT in Effective Thinking	New Extension agents and Administrators	0.039
Importance of Human Development	New Extension agents and Administrators	0.049

More significant differences were noted between positions in the effectiveness of the NEAT program than the importance of having a selected competency. The only category in the importance aspect of the eight competencies that showed a significant difference between positions was in the area of human development. New Extension agents rated this competency as being significantly more important than did the administrators at the 0.049 alpha level. However, in the areas of effectiveness of the NEAT program, there were differences in mean rankings between new Extension agents and administrators in four of the eight competencies. In the area of effective thinking the alpha value was 0.039, in organization and administration the alpha value was 0.009, in research the alpha value was 0.006, and in social systems the alpha value was 0.010. As noted previously, in each of these cases, the new Extension agents had a higher mean rating than the administrators.

The only area in which significant differences were observed both between new Extension agents and administrators and between training agents and administrators was in the responses in the effectiveness of the NEAT program related to research. The research alpha value between training agents and administrators was 0.033, with training agents having a higher mean rating than administrators.

Summary

In Chapter 4, the results from a survey pertaining to competency areas as outlined by the Extension Committee on Policy's eight general competency areas (National Policy Statement, 1968) were analyzed and reported. SPSS statistical software was utilized to obtain data related to the objectives of the research. There was more variability in the results of the survey relating to the effectiveness of the NEAT program than to the importance of obtaining and mastering the competencies. In general, participants rated the importance of having the eight competencies as higher than the effectiveness of the NEAT program in facilitating new Extension agents in mastering those competencies.

Chapter 5 will include a summary of the study, conclusions, and proposed recommendations regarding the NEAT program currently implemented by Virginia Cooperative Extension.

Chapter 5

Summary, Conclusions, and Recommendations

This chapter contains the summary, conclusions, and recommendations based on the findings of this study. The chapter is organized by the (a) objectives of the study, (b) summary of methodology, (c) summary of results, (d) conclusions based on the results and (e) recommendations.

Objectives

This study was designed to determine how new Extension agents, Extension training agents, and Extension administrators who have participated in the New Extension Agent Training (NEAT) program rated the importance and effectiveness of the competencies featured in this program as outlined by the Extension Committee (National Policy Statement, 1968). Demographic characteristics were identified for descriptive purposes in this research study. The research conducted in this study was based on competencies utilized in the current training practices of Virginia Cooperative Extension (VCE).

The specific objectives of the study were to:

1. Provide a profile of new Extension agents, Extension training agents, and Extension administrators;
2. Assess of the importance of selected competencies of the NEAT program in enhancing those competencies as reported by Extension agents, Extension training agents, and Extension administrators who participated in the NEAT program;

3. Assess of the effectiveness of the NEAT program in enhancing selected competencies as reported by Extension agents, Extension training agents, and Extension administrators who participated in the NEAT program; and
4. Compare differences in assessment results among Extension agents, Extension training agents, and Extension administrators.

Summary of Methodology

The research design of the study was a survey of new Extension agents, training agents, and administrators involved in the NEAT program. The rating scale was completed online by each study participant. Questions contained in the survey were in the form of goals for each new Extension agent to reach that are related to the eight competencies as outlined by the Extension Committee on Policy's eight competency areas necessary for Extension agents (National Policy Statement, 1968). The competencies are communication, educational processes, effective thinking, Extension organization and administration, human development, program planning, research, and social systems.

The instrument that was used in this study was a self-administered questionnaire that used a rating scale to assess competencies important for Virginia Cooperative Extension and addressed in the NEAT program. Demographic questions were also included in the survey. The questionnaire was posted a website for access by the participants. A questionnaire was the instrument of choice for this project because of its easy access for the research population. There were 70 people selected to participate in the survey from a database of NEAT participants currently employed by VCE. These

people were selected based on their current status as VCE employees and the researcher's ability to contact them about the survey. This selected population consisted of 41 new Extension agents, 21 training agents, and eight administrators.

The rating scale provided for importance of the 20 goals that related to the eight competencies ranged from 6= very important to 1=not important (See Appendix A). The rating scale provided for the effectiveness of the NEAT program ranged from 6= very effective to 1=not effective. Agents also were given the option of selecting NA on the effectiveness scale if they felt they were already proficient in a certain area before entering the NEAT program.

Summary of Results

Of these 70 people chosen, 47 responded to the questionnaire, which resulted in a 67% overall response rate. Twenty-six new Extension agents, 16 training agents, four administrators responded to the questionnaire, and one person did not respond to an involvement category. Responses to the questions from the demographic section of the survey showed that most respondents had a master's degree (64%), were new Extension agents (55%), were female (51%), specialized in Agriculture and Natural Resources (ANR) (40%), and were between 40-49 years old (30%).

Respondents had the opportunity to comment on how they believed the NEAT program could be improved, based on their experiences. About twenty-five people responded, some with multiple responses. The most common responses related to a need to cover more subjects in NEAT and not seeing the value of training outside of their home counties.

The data related to the ratings of importance of the eight competencies showed that overall communication was rated the most important competency while human development was considered the least important. In the importance ratings overall, the means ranged between 4.36 and 5.54 while the standard deviations for the importance ranged between 0.68 and 0.98.

The data related to the ratings of effectiveness of the NEAT program in relation to the eight competencies also demonstrated that respondents rated communication as the most effectively taught competency covered in the NEAT program, while respondents rated human development as the least effectively taught competency. The mean effectiveness ratings ranged between 3.37 and 4.15, and the standard deviations for the effectiveness of the NEAT program ranged between 1.48 and 1.84.

Significant differences among ratings by position (new Extension agents, training agent, and administrator) in the NEAT program were measured at the 0.05 alpha level. More significant differences were noted among positions related to the effectiveness of the NEAT program than the importance of having a selected competency. The only area in which significant differences were observed both between new Extension agents and administrators and between training agents and administrators was in the effectiveness of the NEAT program in teaching the research competency. The new Extension agents rated research higher than administrators with an alpha value of 0.006. The least significant difference was in the rating of the importance of human development competency between new Extension agents and administrators. New Extension agents rated human development slightly higher than administrators which yielded a significant alpha value of 0.049.

Conclusions

One of the most valuable parts of this study was the respondents' comments on how they believed the NEAT program could be improved, based on their experiences. Their responses will help further program development that better meets the needs of individual agents. Perhaps discussion prior to the NEAT program on how and why things are done a particular way would help ease some of the respondents' concerns. In the researcher's opinion, many of the responses were very strongly expressed and some were contradictory to others. For example, while some respondents were very adamant about not seeing the value of training outside of their home counties, others seemed to want more experience in training in different counties. Others expressed the need for training to be more subject-specific. Perhaps they thought that some parts of the NEAT program were not practical for their daily activities. Three responses indicated a desire to train with retiring agents and the need for seminars. These people may some how feel disconnected from VCE. They may feel like responsibilities are put upon them and they have no available resources to turn to. Another noted a strong need for a set of training standards for the NEAT program. Perhaps this person did not value the individual attention that the NEAT program was set up to provide to each new Extension agent.

While most of the respondents in this survey rated the eight competencies as being important to a new Extension agent, the respondents' opinions ratings varied widely when it came to their ratings of the effectiveness of the NEAT program. For instance, the overall importance ratings for the competencies were all above 4 with four of the ratings above 5 on a 6-point scale. The standard deviations were also relatively small. However, when asked about the effectiveness of the NEAT program based on the

competencies, the ratings dropped considerably, with seven of the eight competencies being rated below 4 on a 6-point scale. It should be noted that the standard deviations were almost doubled from those reported in the importance section, which indicates a wider variation in ratings when it comes to the NEAT program's effectiveness.

When the researcher looked at each group's responses separately for effectiveness ratings, it was the new Extension agents who rated the NEAT program as being more effective than either the training agents or the administrators. New Extension agents rated every competency above 4 except effective thinking and human development, which both received ratings above 3 but less than 4 on a 6-point scale. Training agents rated only two competencies 4 or above—communication and education processes. All of the other competencies received ratings greater than 3 but less than 4 on a 6-point scale. Administrators rated most of the competencies within the NEAT program effectiveness between 2.38 and 2.75. The only competency that received a rating above 3 on a 6-point scale was communication. Both human development and research received a rating of 1.75.

The researcher hypothesizes that this disparity in ratings may be attributed to a number of factors. First, administrators are the most removed from the NEAT program as a whole. They are not working with the agents on a regular basis and therefore may not have a clear picture of how the NEAT program affects each new Extension agent. Secondly, only about 50% of the administrators in VCE who received the survey answered it, so the ideas expressed may not be representative of VCE administration as a whole. Thirdly, both administrators and training agents have had a number of years working in the field of Extension and may greatly underestimate the impact that the

NEAT program has on a new Extension agent. Finally, Extension often hires people with technical knowledge. Newly hired agents often lack “soft skills” that are needed to be effective Extension professionals (Bennett, 1979; Murnane & Levy, 1996). Extension professionals may not be fully aware of how a program such as NEAT can facilitate new Extension agents acquiring those non-technical skills needed to be effective Extension professionals.

Because VCE re-implemented the NEAT program in July 2003, despite current state budget cuts in education, the researcher has concluded that VCE new Extension agents, training agents, and administrators do see the overall value of the NEAT program. Virginia Cooperative Extension has an obligation to provide new Extension agents with the tools to be proficient in those eight general competency areas as outlined by the National Policy Statement (1968). This will allow them to be great assets to the citizens of Commonwealth of Virginia.

Recommendations

The recommendations in this section are the researcher’s opinions based upon the results and conclusions.

For improved professional practice the researcher recommends the following:

1. All Extension agents, specialists, and administrators need to look at the results of this study to determine how they should present information in the areas of in human development, effective thinking, and research. Participants rated goals associated with these competencies low.

2. A more effective way should be developed to communicate objectives of how and why the NEAT program is set up. Therefore, agents are less likely to feel like they are wasting their time by traveling to other counties to participate in training.
3. Training agents, specialists, and administrators should address some of the concerns indicated by the agents. For instance, VCE may request that some retired agents come back and present a seminar on how to work with special populations.
4. VCE should consider hiring someone exclusively to be in charge of the NEAT program. Then new Extension agents may feel that they have someone who deals with their issues on an exclusive basis and the new Extension agents may not feel like they do not have any available resources.

For further research, the researcher recommends the following:

1. A replication of this study should be conducted every two years to determine whether there are any differences in findings.
2. Replication of this study should be done at the national level to determine the importance and effectiveness of current training programs in Extension.

If the saying that “actions speak louder than words” is true then the NEAT program in Virginia is considered a success. The NEAT program was terminated in January 2002 due to budget cuts in VCE. However by re-implementing the program in July 2003 despite continuing budget cuts in VCE shows that the NEAT program is an essential in keeping VCE in the forefront of the national Extension community.