Teaching Style Preferences of Nutrition Education Assistants for Cooperative Extension Systems in the Southern Region

by

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Abstract

Extension provides non-formal education and learning activities to people throughout the country. The largest non-formal adult education organization in the world, Cooperative Extension takes knowledge gained through research and education directly to the community to create positive changes. Through the use of paraprofessionals, Extension is able to extend its resources to better meet the needs of limited resource individuals and families. Indigenous to the target audience, paraprofessionals provide a more effective way to engage at-risk communities. Although paraprofessionals are provided initial training and usually have some knowledge of the content area, a bachelor's degree is not required for employment. To develop and maintain high-quality nutrition paraprofessionals, this study sought to examine the preferred teaching style of Nutrition Education Assistants (NEAs). Additionally, this study examined NEAs attitudes toward teaching adults and their knowledge regarding basic adult education principles and practices. The Principles of Adult Learning Scale (PALS) was used to describe the preferred teaching style of Nutrition Education paraprofessionals employed by Extension Systems throughout the Southern Region of the United States as either teacher-centered or learner-centered. Results indicated that NEAs preferred a more teacher-centered style of instruction. While the attitudes of NEAs toward their role as adult educators were neutral to slightly positive, their knowledge level of basic adult education principles and practices was found to be low. Information from this study can guide and direct hiring practices and training of nutrition paraprofessionals and enhance future nutrition education programs.

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Chapter 1

Introduction

For more than 100 years, Cooperative Extension has provided non-formal education and learning activities to people throughout the country. Established by the Smith-Lever Act in 1914, Extension takes knowledge gained through research and education and brings it directly to the people to create positive changes. Although it's initial focus was on rural America, Extension has adapted to changing times and landscapes to address a wide range of human, plant, and animal needs in both urban and rural areas (National Institute of Food and Agriculture, 2015).

Today, Extension has broadened its reach and works to: Translate science for practical application; Identify emerging research questions, Find answers and encourage application of science and technology to improve agricultural, economic, and social conditions; Prepare people to break the cycle of poverty; Encourage healthful lifestyles, and Prepare youth for responsible adulthood; Provide rapid response regarding disasters and emergencies and connect people to information and assistance available online through eXtension.org. Through Extension, land-grant colleges and universities bring vital, practical information to agricultural producers, small business owners, consumers, families, and young people (National Institute of Food and Agriculture, 2015). An educational partner of the USDA, Extension provides a system of life-long learning which is available to people regardless of their race, color, national origin, gender, religion or physical abilities (Seevers & Graham, 2012).

Accomplishing Extension's mission to educate and disseminate research to all people can be quite challenging because minority and culturally diverse audiences are often difficult to engage (Hoorman, 2002). This is further complicated by the fact that current literature in adult education supports the idea that teaching adults is different than teaching children or adolescents (Knowles, 1980). Extension educators must consider their audience and how they learn best in order to provide effective instruction (Seevers & Clark, 1993). By offering a multitude of educational programs to both youth and adults, Extension personnel, especially NEAs have to be competent, versatile in their program implementation, delivery (Ghimire & Martin, 2011) and their knowledge should extend beyond their content area (Boone, 1989).

As the largest non-formal educator of adults in the world (Boone, 1985), Cooperative Extension System (CES) employees should have knowledge of basic adult education principles and be aware of their preferred teaching style to maximize adult learning (Seevers & Clark, 1993). Furthermore, having knowledge of basic adult education principles and understanding and recognizing differences in teaching style can help individuals and the organization make decisions about the personal and professional development of employees. This approach can also assist in the development of policies and guidelines for the hiring and retention of Extension employees (Seevers, 1995).

The Cooperative Extension System is a public-funded, non-formal educational organization that connects the education and research resources of the United States Department of Agriculture (USDA), land grant universities and county administrative units (Seevers & Graham, 2012). Created to take the university to the people, Cooperative Extension brings the rewards of higher education to all segments of our diverse population (Rasmussen, 1989).

Over the years, Extension has evolved from its initial focus on agriculture and home economics (Mayberry, 1977) to focusing on the emerging needs of rural, urban, suburban and non-traditional audiences (Ghimire & Martin, 2011; Terry, 1995; Zacharakis, 2008). Consequently, competency in the sphere of Extension work can be a difficult concept to assess (Ghimire & Martin, 2011). As the premiere adult education institution in America, (Boone, 1985) Cooperative Extension should ground organizational operations in adult education theory. This connection with theory is especially important as Extension systems work toward organizational transformation to create more participatory and democratic learning (Franz, 2007).

Statement of the Problem

While Cooperative Extension's mission assumes that Extension educators possess the knowledge and skills to anticipate and recognize adult needs and facilitate the appropriate learning activities to address those needs (Seevers & Clark, 1993), studies conducted within Ohio State University Extension and the Oklahoma Cooperative Service indicate additional training is needed to accomplish this task more effectively. In fact, these studies suggest that Extension educators lack the expertise to successfully engage adult audiences. Not being exposed to basic adult education principles can affect an educator's teaching style or the distinct qualities exhibited by a teacher that are consistent from situation to situation regardless of the content being taught (Conti, 1985; 2004). An essential part of being an effective educator is knowing one's strengths and how to adapt them to maximize student learning (Seevers & Clark, 1993). Furthermore, a look at pre-professional educational requirements, as well as on-the-job staff development opportunities indicate that most Extension professionals are not trained to assume the role as an adult educator (Seevers, 1995). Extension hires paraprofessionals on a

regular basis to expand their programs to limited resource and underserved populations which could be problematic if the proper professional development is not available as needed.

Paraprofessionals are an integral part in the implementation of Extension's programs so their need for relevant professional development and training in adult education principles is essential to bring about positive outcomes with clientele (Brown-Ukpaka, 1999). The paraprofessional's concept was introduced to address the nutrition, diet and health issues that plagued low income individuals and families throughout the United States in the 1960's (Randall, Brink & Joy, 1989). Hired to implement nutrition education programs, paraprofessionals are vital to the success of Extension programs because they are recruited from the target audience (Leidenfrost, 1977).

Also called nutrition educators and program assistants, nutrition education assistants work with adult learners in various settings including churches, community centers, senior centers and public housing. While a knowledge of general nutrition concepts is strongly encouraged, there are no requirements for nutrition education assistants to have previous teaching experience nor are they required to have teaching credentials (Brown-Ukpaka,1999).

Addressing this issue is of the utmost importance because adult educators are often given considerable latitude in deciding the parameters of their instruction and the methods they choose to most effectively meet the needs of learners in various educational settings (Hughes, 1997). Since the viability and continued funding of nutrition education programs depends on the successful outcomes of the clientele, it is important to examine how these programs are being delivered. Knowledge of one's teaching style preference can assist the instructor in facilitating successful learning outcomes (Conti, 1985).

Purpose of the Study

The purpose of this research was to describe the preferred teaching style of Nutrition Education Assistants employed by Cooperative Extension Systems in the Southern Region. Additionally, this study sought to examine the attitudes of Nutrition Education Assistants toward their role as an adult educator and their knowledge regarding basic adult education principles and practices.

Research Questions

1. What is the demographic profile of Nutrition Education Assistants employed by Cooperative Extension in the Southern Region?
2. What is the teaching style profile of Nutrition Education Assistants?
3. What is the attitude of Nutrition Education Assistants toward their role as an adult educator?
4. What is the knowledge level of Nutrition Education Assistants with respect to basic education principles and practices?
5. What is the relationship between teaching style and demographic variables of age, education, race and years of employment?

Assumptions

The following assumptions were made in this study. All participants hold at least a high school diploma or its equivalent. While none have been employed in professional teaching positions, it was assumed that they have prior non-formal teaching experience through church, social, and civic activities. Nutrition Education Assistants must participate in continuous and on-going educational training opportunities. It is therefore assumed they seek additional nutrition-related subject matter and program delivery learning opportunities.

Data was collected through the use of survey. A four part questionnaire was self-administered by study participants. Surveys are a cost efficient way to collect quantifiable data in a highly standardized manner (Touliatos & Compton, 1988). They provide one of the few means to collect certain kinds of data such as attitudes, beliefs, and behaviors. Some limitations are common to survey methods. Quality and validity of findings are dependent upon the accuracy and truthfulness of self-reports. It was assumed that participants responded truthfully to the survey questions.

This study was modeled after a study by Seevers (1991) and Brown-Ukpaka (1999). Therefore, instruments used in that study were used in this current study. Access to individual Nutrition Education Assistants throughout the Southern Region can be difficult. Therefore, data was collected using an online survey. Results from this study apply to the Nutrition Education Assistants that participated in the study and are not generalizable to all Cooperative Extension System employees.

Definitions of Terms

Adult Learner: Person of legal age engaged in self-directed learning activities designed to address an immediate concern or problem or to realize personal value from their efforts (Cross, 1981 p. 50; Knowles, 1978, p. 184).

CES: A universal term to denote the Cooperative Extension System in any of the Southern United States (United States Department of Agriculture, 2015).

Learner-centered: A measure of teaching style that supports the collaborative teaching-learning mode in which authority for curriculum formation is shared by the learner and practitioner/instructor (Conti, 1985). High scores on PALS have been designated to reflect a learner-centered approach to the teaching-learning transaction.

Low-Income audience or clientele: Individuals living in poverty, as defined by the Poverty Index: often living in low-grade housing with limited resources. Within this group, specific categories maybe identified – families with young children, youth 9 to 14 years of age, tenant farmers, and families with one or both parents in the household.

NEA: Nutrition Education Assistant is the title commonly used to identify the non-professional Extension staff member who implements nutrition education programs within the community.

NEP: Nutrition Education Programs provide non-formal nutrition education to individuals and families within the community.

NIFA: The National Institute of Food and Agriculture, a federal agency within the United States Department of Agriculture (USDA) — is part of USDA's Research, Education, and Economics (REE) mission area. The agency administers federal funding to address the agricultural issues impacting people's daily lives and the nation's future.

Paraprofessional: A paid staff member who receives direction from professionals and is employed to assist or extend the efforts of professionals through direct contact with clientele in the conduct of an educational program. Paraprofessionals are often called program assistants. The position is usually restricted to individuals who do not have a baccalaureate degree. The individual is usually indigenous to the target audience.

Participant: individual who is involved or enrolled in the program; the person with whom the paraprofessional works.

Principles of Adult Learning: A 44-item summated Likert-type instrument developed and validated which measures a practitioners overall preference for teaching behavior in an adult education setting. The continuum describes the degree to which behaviors associated with teaching adults are teacher-centered or learner-centered (Conti, 1985).

Professional: A person who is employed by the Cooperative Extension System and has a professional appointment with a state land-grant university, and who has responsibility for planning, conducting, and evaluating Extension programs. The person is a college/university graduate with at least a baccalaureate degree.

Program Coordinator: Professional Extension staff member who provides overall direct and/or delegated leadership and management of nutrition education within a given geographical area of the state.

Southern Region: One of NIFA's four administrative regions which house a Regional Nutrition Education and Obesity Prevention Center of Excellence (RNECE) dedicated to improving the health of low-income Americans through multiple strategies, including complementary nutrition education and public health approaches which exclusively serve the Supplemental Nutrition Assistance Program and Expanded Food and Nutrition Education Program (SNAP & EFNEP).

Teacher-centered: A measurement of teaching style in which the authority for curriculum formation resides with the instructor/practitioner (Conti, 1985). Low scores on the PALS have been identified to reflect a teacher-centered approach to the teaching-learning transactions.

Teaching Style: A mode of expression that has qualities that suggest appropriate behavior for the individual. It refers to the distinct qualities displayed by a teacher that are persistent regardless of the content and situation (Conti, 1990).

USDA: The United Sates Department of Agriculture provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on public policy, the best available science, and effective management. Made up of 29 agencies and offices with nearly 100,000 employees, the USDA serves the American people at more than 4,500 locations across the country and abroad.

Chapter 2

Review of the Literature

Extension is the largest non-formal adult education organization in the world. As such, Extension educators should be familiar with basic adult education principle and have knowledge of their preferred teaching style in order to provide effective instruction and create the positive lifestyle changes called for in Extension's mission.

The purpose of this research was to describe the preferred teaching style of Nutrition Education Assistants employed by Cooperative Extension Systems in the Southern Region. Additionally, this study sought to examine the attitudes of Nutrition Education Assistants toward their role as an adult educator and their knowledge regarding basic adult education principles and practices.

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Cooperative Extension

The mission of the Cooperative Extension Service, as a component of the land-grant university system, is to disseminate new knowledge and to foster its application and use (Mirando et al., 2012). The Smith-Lever Act formalized Extension in 1914, but its roots go back to agricultural clubs and societies of the early 1800s. The act expanded USDA's partnership with land-grant universities to apply research and provide education in agriculture (National Institute of Food and Agriculture, 2015).

Before the idea of Cooperative Extension was conceived, the land grant system was created in 1862. Introduced by Vermont Representative Justin Morrill in 1856, the land-grant bill allowed for states to receive Federal grants to establish training institutions for agriculture and industry. Known as The Morrill Act, this bill established a land-grant institution in each state (Comer, Campbell, Edwards & Hillison, 2006). The Morrill Act of 1862 established the land-grant colleges around an explicit commitment to education and public service for the broader society (Bonnen, 1998).

The land grant tradition introduced service to society as a function of U.S. higher education. The land-grant university in its mature form was devoted to science and education in the service of society by:

1. Educating and training the professional cadres of an industrial, increasingly urban, society;

2. Providing broad access to higher education, irrespective of wealth or social status; and

3. Working to improve the welfare and social status of the largest, then most disadvantaged, groups in society -- farmers and industrial workers, the latter called "mechanics" in the 19th century (Bonnen, 1998, p. 29).

The Hatch Act of 1887 established experiment stations which made it possible for universities to conduct basic and applied research activities focused on problem solving (Comer et al., 2006). By providing the means to apply scientific findings to real world agricultural problems, the Hatch Act increased the need for adult education in agriculture (Boone, Gartin, Wright, Lawrence, & Odell, 2002).

In 1890, a second Morrill Act was passed that led to the establishment of the 1890 land-grant institution for the agricultural training of Blacks (Comer et al., 2006). The two Morrill Acts represented the first comprehensive legislation to establish in each state a federally funded structure to provide higher education for all people (Zacharakis, 2008). The land-grant tradition has generated organizational arrangements that constitute one major historical model of university outreach. In an effort to move knowledge more effectively from the university campus to the farm and rural user, Extension systems were established to extend the resources of those universities to a wide range of citizens (Cornell University, 2015). This organization provides for on-campus specialists and for field staff to work together to relate the campus to the community. Thus, providing a means for facilitating community problem identification and the direction of university knowledge toward the problems selected for university action (Bonnen, 1998).

Part of a national educational effort, Cooperative Extension disseminates newly acquired information, knowledge, and innovations to Extension educators, who then could put the new

methods into practice (Rasmussen, 1989). Cooperative Extension programs around the country have a special commitment to identifying and meeting the learning needs of rural adults (Kovel-Jarboe, 1987). Guiding values of Extension are empowerment of the client, providing adult learners with the knowledge that will give them control of their world, the importance of rural life, accepting and valuing the beliefs and lifestyles and behaviors of the learner; and faith in the future, that a better life is possible with an equal measure of research, education and practice (Boone, 1989).

In the first several decades of the Extension system, agents' core work was to educate rural citizens across the nation in efforts to address a wide variety of practical problems and issues of public significance. Programs were centered around improving crops and animals, developing cooperative marketing, fighting diseases and pests, beautifying homes and communities, setting up 4-H clubs, advancing public health and nutrition, establishing community gardens, developing community arts and recreation programs and events and responding to the emergency relief needs of both war and depression (Franz & Townson, 2008). In recent years, Extension has become more diverse in its effort and built on a unique infrastructure that includes the presence of local educators in rural, urban, and suburban communities across the country and their partnerships with land-grant universities, state governments, and the federal government (Hegg et al., 2002).

The Cooperative Extension System today is a unique achievement in American education. In addition to providing an opportunity for the working man’s children to secure higher education, Cooperative Extension embodied the concept that the knowledge within the land-grant institutions should be made available to those not attending colleges or universities and continues throughout one’s lifespan (Rasmussen, 1989).

The programming principles for the Cooperative Extension System embody the concepts of needs-based education, collaborative learning, learning by doing, and lifelong learning. From its inception, Extension promoted program development based on the needs, concerns, and problems of individuals and communities. More importantly, its programs were developed with people, not for people, and were based on a thorough analysis of the facts relevant to particular situations (Zacharakis, 2008). The underlying philosophy of the Cooperative Extension System was to help people help themselves by taking the university to the people. " The system has evolved into an institution that is responsive to priority needs and focuses on providing quality information, education and problem solving programs on real concerns" (Rasmussen, 1989, p. vii).

Finally, Extension's programming has always embraced adult education's teaching-learning process, where the goal is not to tell people what to do but to teach them how to solve their problems and learn from others who have had similar problems (Prawl, Medlin, & Gross, 1984; Zacharakis, 2008). Cooperative Extension is viewed as a dynamic, responsive system oriented to the delivery of educational programs, designed to satisfy or fulfill the constantly changing needs of many diverse publics (Boone, 1971). According to Boone (1971) the philosophy of Extension is that people must be assisted within a democratic frame-work where self-expression and self-direction and self-improvement are encouraged. By meeting people where they are, Extension fosters purposeful continuing education which allows participants to be directly involved in finding solutions that will help them to attain a more satisfying way of life.

In addition to offering a variety of educational programs, Cooperative Extension is concerned with being able to effectively develop and deliver educational programs (Birkenholz,

1999). This is especially important because Extension professionals must be more than subject matter experts (Boone, 1989). According to Marvin Anderson, former director of Iowa Cooperative Extension Service, "The agent is not so much the subject matter specialist but needs to know more about people's needs, their problems, not to give answers but to mobilize the staff and resources to meet them." (Rasmussen, 1989, p. 8) Today, Extension staff is educating the city as well as rural people on the importance of diet, to health, environmental stewardship, youth development and more (Rasmussen, 1989).

Effective delivery methods are important to the impact of Extension programs (Israel, 1991). According to Deshler and Kiely (1995) the success of Extension programs depends not only on the quality of the content that is offered, but also on the ability of Extension educators to effectively facilitate adult learning. In order to be effective in reaching Extension's clientele, educators have to consider that they are likely to acquire a greater benefit when information is relevant to the needs of the audience and when detailed or individualized information is delivered appropriately (Israel, 1991).

Effective delivery requires taking into account the audience of a program and matching the information channel preferred by them to those used by Extension. Information channel refers to the use of mass media, printed material, meetings, workshops, and demonstrations. Another important element of these educational programs is the use of participatory audience involvement in both information dissemination and motivation in the areas of education and training. A shift from teaching participants to learning with them – through practical applications – has assumed vital importance in Cooperative Extension Programs (Coldevin, 2003). A successful Extension program will identify the needs of the client both in terms of content and

delivery method, and provide specific information to meet the needs of each segment of the targeted audience (Gaul, Hochmuth, Israel, & Treadwell, 2011).

From the beginning, Cooperative Extension's philosophy has been one of advocating positive, lifelong, individual and behavioral change. Primarily educators of adults, Cooperative Extension is in the forefront of lifelong learning and behavioral change for the adult learner (Seevers & Clark, 1993). Today in every state, an institution exists that is part of a nationwide system known as Cooperative Extension–a network of largely off-campus educators who extend research-based knowledge to the public and engage people in life-long learning (National Institute of Food and Agriculture, 2015).

The identification and selection of staff members who have the training, educational background, competencies, and potential capacity for growth required of the job to be performed, is of paramount importance to the viability and success of Cooperative Extension (Boone,1971). Unless careful attention is given to this process at all system levels, management will have to be satisfied to spend enormous amounts of energy on professional development. Conscious and deliberate efforts must be made to seek and secure county personnel, specialists, supervisors, and administrators who have the qualities and competencies that are in consonance with the philosophy and objectives of the system.

Staff development is also paramount. Staff members at all levels should have the opportunity to define their training needs and be given the opportunity to engage in professional development as part of, and requisite to the changing requirements of and hence performance of their roles (Boone, 1971). "Extension is a system of non-formal education whose professional practitioners must be well-grounded in foundation disciplines as well as dynamic and adaptive to changing practices" (Blackburn, 1989, p. vii). Much like Adult Education, emphasis is on

learning rather than teaching, and professionals are used as facilitators and teachers (Boone, 1989). Lastly, for those that educate Extension professionals, we could profit from a closer examination of how Extension practices are being carried out (Boone, 1989).

Nutrition Education

Nutrition education is a process by which we apply knowledge about the relationship between diet and health to assist people with making decisions regarding their eating practices (Anderson, 1994). Designed to encourage participants to make healthier food choices to improve health (Dollahite, Kenkel, & Thompson, 2008), nutrition education programs are a deliberate effort to improve the nutritional well-being of the public (Anderson, 1994). Nutrition education programs are also an important component of increasing nutrition knowledge and understanding as well as preventing chronic disease (Shankar et al., 2007). A cost effective prevention strategy, (Darnton-Hill, Nishida, & James, 2004), nutrition education is one important pathway to dietary improvement (Shankar et al., 2007) and better health (Campbell, Honess-Morreale, Farrell, Carbone & Brasure, 1999). Nutritional knowledge is among the factors that affect the nutrition habits of individuals, families and societies (Dollahite, Pijai, Scott-Pierce, Parker, & Trochim, 2013). Consequently, nutrition educators should "target specific demographics subgroups with tailored interventions to move all Americans toward achievement of dietary guidelines" (Stables et al., 2002, p 809).

A variety of nutrition education programs exists to respond to the needs of diverse audiences. Some target a specific age group, gender or ethnicity, while others have special eligibility requirements, like the Extended Food and Nutrition Education Program (EFNEP), Supplemental Nutrition Assistance Program (SNAP), The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and the Farmer's Market Nutrition Education

Program (FMNP). Funded by the United States Department of Agriculture (USDA), these well-established programs address the knowledge gaps that exist between limited resource individuals and families while teaching management skills that promote making the most of limited time and money (Dollahite et al., 2013).

These nutrition interventions are extremely important because diets of poorer quality have been associated with families from low socioeconomic backgrounds (Darmon & Drewnowski, 2008; Guo, Warden, Paeratakul & Bray, 2004). EFNEP has reported positive behavior change among its participants. Two months after completing EFNEP workshops which included experiential learning, participants maintained improvements in nutrition practices, food resource management practices and food safety practices (Dollahite et al., 2013). Likewise, Arnold and Sobal (2000) indicated that one year after the completion of EFNEP, graduates continued healthy behavior changes which included consuming more fruits and vegetables, whole grains and improved food management skills. Additionally, an innovative project which expanded EFNEP to evaluate improvements in family health habits also revealed an increase of fruit and vegetable intake among adults as well as an increase in the consumption of low-fat dairy and a decrease in soda intake (Dickin, Hill, & Dollahite, 2013).

SNAP (formerly known as the Food Stamp Nutrition Education Program) provides nutrition education to food stamp recipients and families who have not been served by the EFNEP. Butler and Raymond (1996) suggested that even rudimentary knowledge of nutrition can improve nutrient intake for SNAP participants. However, studies have shown that participation in the Food Stamp Program is positively related to obesity in low income women (Gibson, 2003; Meyerhoefer & Pylypchuk, 2008). In addition to participation in the Food Stamp Program increasing the prevalence of obesity, it is also associated with increased health care

spending (Meyerhoefer & Pylypchuk, 2008). According to Joy and Doisy (1996), more effective nutrition education is needed to combat this problem yet the major challenge in developing a nutrition education plan is finding a 50% match of non-federal dollars from other state agencies. On the other hand, The FMNP has reported positive outcomes. The Farmers' Market Nutrition Program provides fresh, nutritious, unprepared, locally grown produce from farmers' markets, roadside stands, and community-supported agriculture programs (Kunkel, Luccia, & Moore, 2003). Often used as an intervention to increase the intake of fresh fruits and vegetables among low-income senior citizens, some states allow SNAP and WIC recipients to participate in the program (Ragland & Tropp, 2009). Because Farmers' Markets are usually more expensive than grocery stores, vouchers provided through the FMNP have facilitated the purchase of more vegetables by WIC participants (Wheeler & Chapman-Novakofski, 2014) and is an effective method for increasing consumption of agricultural commodities in low-income seniors (Kunkel et al., 2003) and fruit and vegetable intake in homebound seniors (Johnson, Beaudoin, Smith, Beresford & LoGerfo, 2004).

Recent studies have shown other methods to be more effective with helping participants change unhealthy behaviors or adopt healthier behaviors (Cena et al., 2008; Brug, Oenema, & Campbell, 2003). In contrast to the traditional didactic approach, WIC has begun using a more learner or participant-centered approach (Deehy et al., 2010). Learner or participant-centered education goes beyond conveying information, it provides an essential bridge from nutrition assessment to nutrition education and ultimately to positive behavior change (Deehy, et al., 2010; Gerstein et al., 2010). California WIC demonstrated that messages delivered through learner-centered education can be retained and integrated into family life practices, specifically fruit and

vegetable intake (Gerstein et al., 2010). Learner-centered nutrition education also improves folate intake and food-related behaviors in WIC participants (Cena et al., 2008).

Facilitated group discussions provide another alternative to lecture and one on one approaches for conducting more meaningful nutrition education (AbuSabha, Peacock, & Achterberg, 1999). Results from a nutrition education intervention conducted in Washington DC for women residents of public housing communities indicated that small group interventions helped participants lower their total calories as well as their fat calories (Shankar et. al., 2006). Whitaker, Sherman, Chamberlin and Powers (2004) also indicated that viewing a video-documentary followed by a facilitated group discussion altered the perceptions of WIC health professionals making them more responsive to the nutritional needs of their clientele.

In addition, nutrition educators must explore alternative forms of delivery to reach and educate busy consumers (Nichols & Schmidt, 1995). Video instruction is one innovative way to enrich learning and engage adult learners (Brace, Abbott, & Mobley, 2010; Nichols & Schmidt, 1995). Ramsay, Holyoke, Branen, and Fletcher (2012) found six characteristics that support learning and motivation to learn when using video to teach nutrition education to adults which included using real scenarios, providing short segments, presenting simple messages, demonstrating a skill, developing videos in settings that are relatable to participants and supporting participants' abilities to conceptualize information. An impact study that explored the ability of in-store videos to increase consumers' nutrition knowledge indicated an increase in nutrition knowledge for consumers who viewed segments while grocery shopping (Nichols & Schmidt, 1995), whereas a study conducted by Cox, White, and Gaylord, (2003) found that a video lesson series was an effective and economical way to deliver nutrition education to limited resources individuals.

Research suggests that multiple approaches to health and nutrition education complement one another (Gregson et al., 2001). Results from a study conducted by Jantz, Anderson, and Gould (2002) support the use of Interactive Multimedia (IMM) to disseminate nutrition education programs in low income Hispanic individuals. IMM uses audio, text, video and/or other graphics to facilitate 2-way communication between a user and the computer (Gould & Anderson, 2000). This alternative may prevent health information from being misunderstood by English as Second Language (ESL) participants with low literacy skills which was reported in a study by Elder et al., (1998).

Delivering nutrition education programs using the internet could allow educators to reach larger audiences at a lower cost (Case, Cluskey & Hino 2011). Case et al. (2011) also found that the internet could be a portal for more frequent connections with the learner and/or more in-depth learning experiences. A variety of studies indicate that web-based nutrition education is an effective way to increase nutrition-related behaviors and broaden delivery reach for low-income populations and other audiences (Atkinson et al., 2010; Bensley, Anderson, Brusk, Mercer, & Rivas, 2011; Wantland, Portillo, Holzemer, Slaughter, & McGhee, 2004).

A study conducted by Devine, Brunson, Jastran, and Bisogni (2006) found that nutritional education programs could be more effective if readiness to learn and motivation for joining programs were known prior to the intervention in order to tailor programs to participants needs. Pasick (1997) described tailoring as the adaptation of interventions to best fit the relevant needs and characteristics of a specific target audience. Computer-tailored nutrition education is an innovative and promising tool to motivate people to make healthy food choices (Brug et al., 2003). Additional studies on computer tailoring show promising results which suggest that interactive web-based computer tailored nutrition education can lead to behavior change because

messages can be tailored to individual behavior, needs, beliefs and have personal relevance (Brug, Campbell & Van Assema, 1999; Oenema, Brug, & Lechner, 2001; Brug et al., 2003; Campbell et al., 1999).

Data on the economic value of nutrition education programs can help policy makers with decisions regarding funding for alternative programs (Burney & Haughton, 2002). Several studies have also been conducted to determine the cost-effectiveness of nutrition education programs. Families involved in EFNEP save an average of $124.00 to 234.00 annually on food expenditures (Burney et al., 2002). In addition, the EFNEP program provides a positive cost-benefit based on its potential to prevent diet-related chronic disease and other conditions (Rajgopal, Cox, Lambur, & Lewis, 2002). Similarly, a cost-benefit analysis revealed that maternal participation in prenatal WIC programs in North Carolina improved incidence of low birth weight which also provides a cost savings (Buescher, Larson, Nelson Jr, & Lenihan, 1993). According to this data, effective nutrition education programs that provide actual quality of life and monetary benefits are a good investment for society (Dollahite et al. 2008).

Effective nutrition education programs can enable individuals to improve their health and prevent diet-related chronic diseases (Campbell et al., 1999). Despite the many different approaches used to implement nutrition education programs, they have been found to be a beneficial way to increase nutrition knowledge, empower participants to make healthier food choices and save consumers and the economy money.

The Role of Paraprofessionals in Cooperative Extension

Cooperative Extension's experience with paraprofessionals began early in the 1960's. In 1963 and 1964, the USDA provided funding to Rhode Island and Alabama Extension Services to conduct projects using trained paraprofessionals to teach low-income families. These projects

resulted in the development and testing of methods and materials for working with low-income audiences. They also evaluated the practicality of using paraprofessionals to work directly with the families. These individuals are trained and supervised by an Extension professional to ensure compliance is met with Extension guidelines, policies and overall program goals.

Often called a program assistant, an Extension paraprofessional is an individual employed to assist or expand the efforts of professionals. Hired for the distinct purpose of working with limited resources individuals and families, the program assistant is usually indigenous to the target audience. This practice is vital to the success of educational programs for low-income people because they have experienced most of the challenges that low-income families face, and have developed special skills in dealing with and solving those problems (Leidenfrost, 1977).

Currently paraprofessionals operate as extensions of the professionals who may lack credibility with the low-income clientele, making it difficult for them, if not impossible, to reach such clientele as effectively as indigenous paraprofessionals (Gehrt, 1994). According to Coldevin (2003), participatory communication and adult learning is associated with incorporating indigenous knowledge and practice early on in project formulation. To get buy in from clientele, it is important to use educators that clientele can relate to or are familiar with. Therefore, the practice of using people indigenous to the community is a best practice to ensure participation from the target audience.

Leidenfrost (1977) indicated that the value of paraprofessionals has been conclusively proven. Paraprofessionals have brought new dimensions to the way Extension delivers programs, extended its resources and become an important solution to a growing demand for more

personalized delivery by human service agencies. The introduction of the paraprofessional position served two purposes. The first was to rapidly expand a specific function of an organization. The second was to provide jobs and career opportunities for unemployed or underemployed individuals.

In more recent years, staffing with paraprofessionals has been considered a matter of cost-effectiveness. The nature of the program and the characteristics of the community will determine whether paraprofessionals can be used and what qualities and attributes they need. While this position is usually restricted to individuals who do not have a baccalaureate degree, some paraprofessionals have earned associates, bachelors, and master's degrees. The minimum amount of formal education required by paraprofessionals varies by state (Leidenfrost, 1977). Typically a high school diploma or its equivalent is required to be considered for this position. The paraprofessional position can be established and implemented in most professions or programs (Leidenfrost, 1986). To better facilitate this transition, training manuals and publications have been developed by Cooperative Extension and the USDA to help professionals conduct educational programs employing paraprofessionals.

In-service training and development programs are imperative for paraprofessionals and must be designed carefully. An in-service program for paraprofessionals should cover: structure, policies, and procedures of the agency, objectives and intended results of the program, subject-matter content, program delivery methods (how to teach, recruit participants, and assess needs) and evaluation (how to assess progress and record behavioral changes) (Leidenfrost, 1977; 1986).

Program Delivery Methods and Training

According to Leidenfrost (1986), teaching techniques, methods, and skills used in program delivery must be appropriate for the clientele. To accomplish this, in-service training for paraprofessionals should consists of two phases. The initial training, when the paraprofessional is first employed and during the early stages on the job, and on-the-job training throughout the employment period. The initial training should prepare the paraprofessionals to begin working with the audience, giving them basic skills and some opportunities to practice those skills. Paraprofessionals should be further prepared for the job by providing them with classroom instruction and field experience to give a realistic picture of the job. However, this mix will vary with the individuals' abilities and previous experiences.

Best practices for paraprofessional should include opportunities for group interaction so that program assistants can learn from each other, training in selecting appropriate teaching methods suited to the subject matter and the use of a variety of methods such as: demonstrations, visual aids, slides and tapes, video tapes, role playing, field trips, workshops and case studies or problem discussion. On-the-Job Training should be a continuous process because continued learning contributes to personal growth. After the paraprofessionals start work, they should meet together regularly for on-the-job training and to discuss their reactions, specific problems, and approaches (Leidenfrost, 1986).

On-the-job training should build on the competencies developed during initial training and early work experience. A review of the paraprofessional's experiences can identify what future training is needed. The supervisor should frequently provide new information or teach

new skills to paraprofessionals. Periodically, changes in program emphasis or new personnel policies must be explained (Leidenfrost, 1986).

A study conducted by Cason and Poling (1999) which examined the educational effectiveness of paraprofessionals indicated a relationship exists between teaching style and the level of positive behavioral change in participants. In this particular study, a teacher-centered approach elicited a more effective program impact which contrasted with adult education literature (Conti, 1985; Freire, 1970; Knowles,1980) which suggests that the collaborative, learner-centered method of teaching is generally the most effective. This study also noted that administrators should explore preferred teaching style in the paraprofessional recruitment, selection, orientation, and in-service training processes since hiring, training, and ongoing staff support decisions are critical for the provision of quality paraprofessional-delivered programs (Cason & Poling, 1999). Analysis of PALS indicated that EFNEP paraprofessionals in this study were more teacher-centered. The identification of characteristics of effective paraprofessionals has become one of the major dilemmas encountered when implementing the paraprofessional model (Cason & Poling, 1999). In-service training has been emphasized as a way to provide these paraprofessionals the EFNEP subject matter information that they use in their work (Cason & Poling, 1999).

Yerka's (1975) research and later the research of Cadwallader and Olson (1986), as well as the commentary of Giblin (1989), however, questioned whether the paraprofessionals' subject matter knowledge is the most important characteristic in determining program outcomes with clients. Yerka (1975) found that job persistence, experience, attitude toward work, age, and knowledge of teaching learning strategies also contributed greatly in explaining variance in program knowledge outcomes.

Adult Education and Learning

Knowledge of adult learning theory can provide a basis for effective practice (Ross-Gordon, 2003). Before educational programs can be designed or implemented successfully for adult audiences, educators need to first understand how adults learn. Described as "the art and science of helping adults learn" (Knowles 1980, p. 43), Andragogy is one of the most commonly used frameworks of adult education (Ross-Gordon, 2003). Often credited for popularizing this adult learning approach, Malcolm Knowles (1980) proposed four major assumptions which describe the adult learner as someone who 1) has an independent self-concept and can direct his or her own learning 2) has accumulated a reservoir of experiences that provide a rich resource for learning 3) has learning needs closely related to changing social roles and 4) is problem centered and interested in immediate application of knowledge.

Self-directed learning is another framework of adult education. According to Knowles (1975), self-directed learning occurs when individuals take the initiative to diagnose their learning needs, formulate learning goals, choose and implement learning strategies, identify and locate the appropriate learning resources, and evaluate their learning. Similarly, Allen Tough, a pioneer of self-directed learning found that adults are more than capable of choosing, planning and conducting their own learning (1979). Tough (1979) also discovered that the predominant means of adult learning is self-directed or self-planned.

On the other hand, Mezirow (2000) offers transformative learning as an alternative to andragogy and self-directed learning (Merriam, 2001). The process of making meaning out of experience, transformational learning is characterized by three common themes, experience, critical reflection, and rational discourse which can lead to more independent thinking in adult learners (Mezirow, 1990;Taylor, 1998). Experiential learning is another established approach in

the tradition of adult education theory (Miettinen, 2000). As stated by Kolb and Kolb (2005) experiential learning is "the process whereby knowledge is created through the transformation of experience" (p, 194). It is best accomplished through the creation of learning spaces which promote growth producing experiences for learners. As stated by Merriam (2001), no one theory or model of adult learning can explain how adults learn in its entirety. However, it is imperative that adult educators are familiar with these frameworks in order to teach adults effectively and make the learning process more meaningful.

"Facilitation of adult learning occurs throughout our society as people need to increase their competence and others try to help them" (Knox, 1974, p.2). Adult educators "must attempt to provide the specialized educational resource adult learners seek" and "respond to the learner's educational need in a way which will improve the quality of his or her self-directedness as a learner" (Mezirow 1981, p.79). In adult education, the learning-teaching transaction is the mutual responsibility of the learners and the teacher (Knowles, 1980). Good teaching should be a balance of understanding one's self as a teacher and understanding how to develop learning encounters which are meaningful and promote personal and professional growth (Galbraith, 2004). According to Galbraith (2008), self-awareness is the first thing an individual should consider before becoming an adult educator. Understanding your beliefs, values, and attitudes establishes the basis for practice implications, such as formulating a personal philosophy or vision for teaching, establishing authenticity and credibility, and determining a teaching perspective.

"Becoming an effective teacher of adults means acquiring essential knowledge of the instructional process" (Galbraith, 2004, p. 4). Furthermore, Galbraith (2004) indicated that effective teachers should be authentic, discover and develop their own learning style and have an

awareness of the principles that guide their practice. Adult educators should also conduct learning experiences as facilitators (Galbraith, 2004; Knox 1974) and act as mentors guiding learners on an educational journey (Daloz, 1986). According to Knox (1974), the mentor role is most effective when the mentor focuses on the learner, the setting, the learning objectives, the learning activities, and the process of evaluation.

Adult educators should be equally aware of the learning characteristics of adults in order to provide effective instruction. Adult learners are diverse, versatile and their knowledge, skills and abilities vary across disciplines, subject matter and areas of interest (Long, 2004; Steinbach, 1993). Having lived longer, adults enter into any undertaking with a different background of experience from that of their youth (Knowles, 1980).

> "Because adults define themselves largely by their experiences, they have a deep investment in its value. And so when they find themselves in situations in which their experience is not being used, or its worth minimized, it is not just their experience that is being rejected – they feel rejected as persons" (Knowles, 1980, p. 50).

Making sure the learning environment is conducive to adult learning and adults feel at ease (Knowles, 1980) is one way to remedy this problem. To be more specific, the learning environment should be physically and mentally stimulating (Knowles, 1980). This includes seating arrangements and décor which appeal to adults as well as acoustics and lighting that take into account any audiovisual impairments (Knowles, 1980). By the same token, Steinbach (1993) offers that both time and place are integral to achieving optimal learning and a personalized learning environment. "Even more importantly, the psychological climate should be one which causes adults to feel accepted, respected and supported" (Knowles, 1980, p. 47). By creating a

more adult atmosphere, learners feel free to express themselves without fear of punishment or ridicule (Knowles, 1980).

In addition to the role of experience, adult educators must consider readiness to learn in order to stimulate ideas about what adults at different stages of development (early adulthood, middle age, and later maturity) are ready to learn (Knowles, 1980). Adult learners are "more deeply motivated to learn those things they see they need to learn" (Knowles, 1980, p. 47). Houle's typology identifies three types of learning motives which help to explain why adults seek new knowledge. Houle (1961) suggested that adults engage in continuing education to accomplish goals, participate in learning activities or for the sake of learning, while Tough (1979) stated that adults engage in learning activities for a variety of reasons. More specifically, many are trying to educate themselves, to find solutions to their questions and to formulate more useful questions (Knox, 1974). Adults also have an "immediacy of application toward most of their learning" (Knowles, 1980, p. 53). Practical application should be built into instructional design where ever possible to help adults apply what they have learned in real life situations (Forrest & Peterson 2006; Knowles, 1980).

Diagnosing the needs of the learner is particularly helpful when designing learning activities for adults (Knowles, 1980). Information must be relevant to the target audience in order to be effective. Customizing instruction to meet the audience' needs and expectations is critical as students use knowledge previously acquired to understand and build new information (Knowles, 1980; Schmidt, 1983). There is no "generic learner" in adult education, people learn in different ways (Kilgore, 2001, p.53). Instructors of adults must also pay attention to program delivery methods. Using multiple learning styles is one way to help the learner grasp course content by organizing it in a way that appeals to his or her mode of learning (Cercone, 2008;

Steinbach, 1993).

Furthermore, learning should be a collaboration between both facilitator and the learner (Brookfield, 1986). Since adult learners wish to participate in their own learning, techniques that place more emphasis on the role of experience should be incorporated into the class (Knowles, 1980; Hansman, 2001). For example, group discussions, role-playing, simulation exercises, projects and demonstrations work particularly well in adult education because learning in context occurs when the situation in which it is applied closely resembles the situation in which it is learned (Knowles, 1980; Schmidt, 1983). Information is also better understood when students have the opportunity to elaborate on knowledge by answering questions, taking notes and discussing the subject matter they are learning with others (Schmidt, 1983). As more adult learners use the internet to achieve different types of learning experiences, placing within a context of previous experience can also help adult educators enhance learning. This type of experiential learning is most effective in distance learning when students use the internet to complete and submit assignments and communicate via email, online discussions, web conferencing and real-time chat (Eastmond, 1998).

Moreover, those who help adults to plan and conduct a learning episode should give attention to the most desirable mix of emphasis on changes in knowledge, skills and attitudes as intended outcomes (Knox, 1974). However, to observe if adult learners reach these intended outcomes, learning must also be evaluated (Knowles, 1980). This must be done carefully not to make adult learners feel judged. For this reason, the best process is self-evaluation in which the teacher helps the learner assess their progress toward educational goals (Knowles, 1980). Providing feedback is a critical step in the learning process because the learner needs to know whether learner objectives have been met (Ference & Vockell, 1994).

In essence, adult education means many things to many people. It can be formal and deliberate as well as informal and incidental (Marsick & Watkins, 2001). With today's growing number of learners with apparent and hidden disabilities combined with learners at risk for academic failure, new approaches are required to provide accessible and effective instruction for this diverse group of adults (Scott, 2003). There is no such thing as one kind of learner, one learning goal, one way to learn, nor one setting in which adults learn best (Kilgore, 2001). Each learner will undoubtedly bring his or her own unique learning characteristics to the learning situation (Ference & Vockell, 1994). In order to bring about effective instruction and ensure that learning takes place, instructors must also be familiar with adult learner characteristics, adult learning theory and instructional design.

As stated by Mezirow (1981), conventional wisdom teaches us "that educational design and methodology must be a function of the learning needs of adults and that formula or package programs which do not fully address the differences in goal and the nature of learning task are of questionable value" (p. 75). Successful facilitators of learning seem to possess three types of understanding. They understand the content being learned, the learner, and the procedures necessary to assist the learner build on existing competencies to achieve the educational objectives (Knox, 1974). Since lifelong learners vary so greatly in attitudes, abilities, goals and background (Steinbach, 1993) it is not possible to create the perfect adult learning environment but by knowing your audience, it is possible to design engaging and relevant educational activities for adults.

Andragogy facilitates the understanding of learner behavior in the teaching relationship, provides a theoretical reason for teaching behavior and is a guiding philosophy for how to manage the learning environment towards an effective outcome (Bedi, 2004). "Because teaching

style is comprehensive and the overt implementation of the teacher's beliefs about teaching, it is directly linked to the teacher's educational philosophy" (Conti, 2004, p. 76). Familiarity with adult education concepts can help educators meet the particular needs of adult learners. One of the characteristics of professional development activities among this diverse group of adult educators is an attempt to better understand the teaching-learning process. By better understanding what we do in the classroom and why we do it, we can become more effective adult educators (Evans, Harkins & Young, 2008). This becomes more apparent as we learn what influences teaching style and identify our own teaching style.

Teaching Style

Over the years, research has shifted from focusing on the characteristics that make an effective teacher to teaching style and its effect on academic performance, learning and student engagement. While similar definitions for teaching styles have emerged, it continues to mean different things to different people. According to Fisher and Fisher (1970), teaching style refers "to a pervasive way of approaching learners that might be consistent with several methods of teaching" (p. 251). Style in teaching is more than a superficial collection of interesting mannerisms used to create an impression. It is also best viewed as a pervasive quality that plays an important role in several aspects of our teaching. Style becomes the mechanism responsible for how we convey the substance of our disciplines.

The personal qualities of teachers and their effects on the learning styles of students and upon what transpired in the classroom are sometimes called teaching styles (Grasha, 1994). More specifically, teaching styles are a pattern of needs, beliefs, and behaviors that instructors display in the classroom. It affects how people present information, interact with students, manage

classroom tasks, supervise coursework, socialize students to the field, and mentor students (Grasha, 1994). It also involves the implementation of the teacher's philosophy about teaching (Conti, 2004) or what Galbraith (2008) called self-awareness, the foundation on which you build your teaching practice.

While Conti (1985, 2004) defined teaching style as the distinct qualities exhibited by a teacher that are consistent from situation to situation regardless of the content being taught, Galbraith (2004) described teaching style as "the overall characteristics, attitudes, traits, and qualities that a teacher displays in the teaching and learning encounter" (p. 6). He also discussed five knowledge areas that are essential in the development of a teaching style. These areas include knowledge of principles of practice, knowledge of self, knowledge of learners, knowledge of methods, and knowledge of content.

The definition of teaching style articulated by Heimlich and Norland (2002) defined teaching style as "the congruence between an educator's teaching behaviors and teaching beliefs" (p. 17). In other words, teaching style is a result of what teachers do in the classroom and how those actions and practices align with their teaching philosophy (Howe, 2011).

Kaplan and Klies (1995) stated that teaching style refers to "a teacher's personal behaviors and media used to transmit data to or receive it from the learner" (p. 29). This suggested that educational materials and technology used during instruction can be considered a part of your teaching style. Teachers' classroom behaviors have an impact on many different areas of the teaching-learning process, such as teacher preparation, classroom presentation, learning activities and approaches to the assessment of learning (Lacey, Selah & Gorman, 1998; Masse & Popovich, 2006).

Peacock (2001), on the other hand, asserted that teaching style is the manner a person teaches by nature, habitual, inclination or even a custom that is used to convey information and skills in the classroom. Coldren and Hively (2009) used style to refer to a cluster of personal attributes and characteristics that function to create and convey an interpersonal social context within which instruction and cognitive processing between partners may occur. Their study suggested that style is as important as content in teaching which is consistent with socio-instructional theories of learning. However, it is important to note that the institutional context can hinder or promote relationship building as well as influence the types of teaching styles adopted within classrooms (Cheung, Hayes, Liu, & Su, 2014).

According to Heimlich and Norland (2002), teachers compare the beliefs set out by their profession with their own set of beliefs to develop their own personal teaching style, and this in turn influences their decisions in how they run their classes. Zhang (2004) adopts the term teaching style to refer to teachers' cognitive, learning, and thinking styles in teaching. Teaching styles are concerned with teachers and their distinct approach to teaching (Evans et al., 2008). Through an awareness of their preferred teaching style, teachers may gain a better understanding of themselves and how their teaching style can be adapted, modified, or supported to improve their instructional delivery (Evans et al., 2008; Kulinna, Cothran, & Zhu, 2000; Lacey et al., 1998).

Teachers play a critical role in the teaching-learning process. While no consistent definition of teaching style has emerged, it is commonly believed that an educator will, over time, perform to their strengths (Heimlich, 1990). Knowing one's strengths and how to adapt them to maximize student learning should be the goal of every adult educator (Seevers & Clark, 1993). If teachers are to know if style really makes a difference in student learning, then they

must first identify that style and then critically reflect on their own behaviors in the learning environment related to that style (Conti, 2004). Educators must also examine their preferred teaching style for flaws and then be willing to make the necessary adjustments to enhance the learning process (Fischer & Fisher, 1979).

Teaching and Learning

A number of schemes for describing teaching style have been mentioned in the literature but other than beliefs, ideas and values, what else influences your preferred teaching style? According to Cornett (1983), the teacher's learning style will have an effect on his or her teaching style. "We tend to teach the way we learn, unless there is a conscious reason to do otherwise" (p. 14). Interestingly, teachers also tend to choose areas of teaching based on their personal learning proclivities. Since many teachers have experienced academic success in learning environments that were instructor centered and relied heavily on lecture, it is understandable that their preferred style of teaching, at least initially, would be to repeat what worked with them. One reason instructors are led to teach the way they learn is that they are not skilled in adult learning theory (Brown, 2003).

Teaching style is developed as a result of what comes naturally to an individual, the training and feedback they have received, and their experiences. Individuals will become more aware of the nature of their teaching style and how effective it is from continuing reflection, feedback, and evaluation of their teaching over the years. The more that is known about a person's preferred teaching style, the better he/she will become at making the necessary adjustments to accommodate the needs and levels of the learner(s) and the purpose of the learning activity (Mohanna, Cottrell, Wall, & Chambers, 2011).

Nearly all supporters of teaching style would agree that everyone needs to know his or her style, realizing that it will change over time and even during daily interactions. The goal is to have teachers become knowledgeable about their styles so they can consciously adjust, adapt, or modify them in order to increase learning. The first step in reaching this goal is to assess your own learning and teaching style. The more teachers know about their teaching and learning styles, the easier it will be for them to see specific ways their styles can be amplified or modified. While teachers generally have an overall style, this does not mean that they cannot add to or modify that style as circumstances warrant (Cornett, 1983).

Types of Teaching Styles

Just as there are many learning styles, there are identifiable styles of teaching (Fischer & Fischer, 1979). Researchers have identified different teaching behaviors, which have demonstrated that teachers do have a preferred or dominant teaching style (Conti, 1985; Evans et al., 2008). Mosston (2002) developed a spectrum of teaching styles. Each style is differentiated by the decisions made during the teaching-learning process. Originally seven but now eleven, this spectrum includes Styles A through K or Command Style, Practice Style, Reciprocal Style, Self-Check Style, Inclusion Style, Guided discovery Style, Convergent discovery Style, Divergent production Style, Learner-designed Style, Learner-initiated Style, and Self-teaching Style, respectively. Using these unique styles alone or in combination will assist the teacher with providing new and exciting challenges for the learner (Barney & Christenson, 2009).

Grasha (1996) divided the teaching styles into five dimensions which are the expert style, formal authority style, personal model style, delegator style and facilitator style. According to Grasha (1994) the five styles can be combined or used individually but in most cases a primary or dominant blend of styles emerges while the other styles are in the background. In contrast,

Cheung, Hayes, Liu, and Su (2014) derived two categories of teaching styles: responsive-based and technical-based. Building on themes in the literature, (Deemer, 2004; Thornton, 2006) the responsive teaching style sets the teacher as the decision maker and critical thinker where they respond to their students' needs and actions while taking into account their backgrounds and skill levels, and the change in education and society (Thornton, 2006). On the other hand, the technical based teaching style is reflexive in nature (Cheung et al., 2014).

Likewise, teacher-centered and learner-centered are two types of teaching styles. Similar to Conti (1985), Dupin-Bryant (2004) defines learner-centered teaching style as "a style of instruction that is responsive, collaborative, problem-centered, and democratic in which both students and the instructor decide how, what, and when learning occurs" (p. 42). In contrast, teacher-centered teaching style is considered as "a style of instruction that is formal, controlled, and autocratic in which the instructor directs how, what, and when students learn" (p. 42). In recent years, learner-centered instruction has been a catch phrase or buzzword in teaching methodologies (Schumacher & Kennedy, 2008; Wohlfarth et al., 2008). "Learner-centered teaching involves connecting with knowledge and students at the same time." (Wohlfarth et al., 2008, p. 68) In a learner-centered classroom, lecture based instruction is replaced with a more active, engaging, collaborative style of teaching (Wohlfarth et al., 2008).

Duckworth (2009) asserted that teacher-centered learning stifles students' educational growth. Additionally, educational theory suggests that lectures may not be the best way to impart knowledge to students. Costa, Rensburg and Rushton (2007) found that interactive teaching styles are preferred over didactic lectures. The study also suggested that interactive teaching facilitates better knowledge retention following an interactive teaching style.

Zhang (2004) classified teaching styles into three groups or types based on the Theory of Mental Self-Government proposed by Sternberg (1988). According to Zhang's (2001) Type I tends to be oriented toward and concerned with students' conceptual change, whereas teachers who use Type 2 teaching styles tend to be content-oriented and to emphasize the reproduction of information. Type 3 teaching styles belong to neither the Type 1 group nor the Type 2 group. Various studies based on the theory of mental self-government have consistently suggested that Type 1 styles are superior to the other two types of styles. Therefore, teachers should use Type 1 teaching styles with great confidence. Other studies by Zhang (2001, 2006) also suggested that teaching approaches were related to teaching style, and showed the impact of student-teacher style matching on student achievement. Zhang and Sternberg (2002) also revealed that teacher characteristics (i.e. age, gender, perception about teaching environment) affected teaching style.

Style Matching

Effective teachers are adaptable and flexible in providing variety in their teaching activities, aiming to match their manipulation of the teaching and learning environment to the learner's needs, but teachers should also know what types of activities they can deliver most effectively (Mohanna et al., 2007). Students learn in many ways and teaching methods also vary. How much a given student learns in a class is governed in part by that student's native ability and prior preparation but also by the compatibility of his or her learning style and the instructor's teaching style.

Felder and Silverman (1988) concluded that the diversity of styles students learn from is numerous. Furthermore, the inclusion of a small number of educational techniques should be sufficient to meet the needs of most or all of the students. By using trial and an error an educator can keep the ones that work and discard the ones that don't work. In this way, a teaching style

that is both effective for learners and comfortable for the instructor will evolve naturally and relatively painlessly, with a potentially dramatic effect on the quality of learning that subsequently occurs.

Other studies have tried to predict which teaching style is better for a particular student's learning style by matching both styles to see how they complement one another. With respect to style matching, "good teachers have always adapted their teaching style by using humor, changing tempo, varying the frequency and type of reinforcement, and capitalizing on student interest even as the lesson progresses" (Cornett, 1983, p. 39). The more teachers know about various style elements, the better able they will be to make these adaptations consciously. Ultimately, there are no right answers, but only right questions, with tentative answers, which are validated during the teaching and learning process (Cornett, 1983). Although teachers should diversify their teaching styles so that students with different learning styles can benefit from their instruction, teachers do not need to be overly concerned about matching their teaching styles to every single learning style among their students. Instead, teachers could accommodate the learning styles of the majority of students by a more learner-centered approach (Zhang, 2004).

Finally, no one teaching style is better than another, (Guthrie, 2011; Hartman and Stewart, 2010) however knowledge of your preferred teaching style has been proven to be a great asset in becoming a more effective teacher (Conti, 1985). Consistency in these patterns is essential for improvement as a teacher and for enhancing learner achievement (Conti &Welborn, 1986). Using a consistent teaching style is most important when it comes to teaching adult learners (Elliott, 1996). Many instructors prefer one style to the other, while they may practice behaviors of both. Research continues to investigate the impact that different teaching styles have in various learning environments. Many adult learners require more time and energy to

master what is taught (Galbraith, 2004); therefore, the instructor's responsibility continues to be improving curriculum delivery to meet individual learner needs (Conti, 1985). If adult educators want to be successful, it is imperative that they understand their current teaching style and how that style can be strengthened or improved (Heimlich & Norland, 1994).

Chapter 3

Methods

This chapter describes the sample, the instrument, data collection and analysis procedures. The purpose of this research was to describe the preferred teaching style of Nutrition Education Assistants employed by Cooperative Extension Systems in the Southern Region. Additionally, this study sought to examine the attitudes of Nutrition Education Assistants toward their role as an adult educator and their knowledge regarding basic adult education principles and practices. To accomplish the purpose of this study, data was collected from 117 Nutrition Education Assistants employed by Cooperative Extension across the Southern Region. Demographic information gathered included gender, race, age, educational background, and place of program implementation. Teaching style was measured with the Principles of Adult Education Learning Scale (PALS). Total scores and factor scores were calculated, and these scores were used to profile the group and to examine the relationship of demographic variables to the seven factors in PALS.

Research Questions

1. What is the demographic profile of Nutrition Education Assistants employed by Cooperative Extension in the Southern Region?
2. What is the teaching style profile of Nutrition Education Assistants?
3. What is the attitude of Nutrition Education Assistants toward their role as an adult educator?

4. What is the knowledge level of Nutrition Education Assistants with respect to basic education principles and practices?
5. What is the relationship between teaching style and demographic variables of age, education, race and years of employment?

Design

A descriptive research design was used for this study. Descriptive research, also called survey research is useful is answering a variety of educational problems and concerns. Typically, descriptive studies are designed to assess attitudes, beliefs, opinions, preferences, demographics, practices and procedures (Gay & Airasian, 2000, Touliatos & Compton, 1988). In this study the nutrition education paraprofessionals employed by Cooperative Extension systems in the Southern Region of the United States were surveyed. This study fulfills the purpose of a descriptive study because it sought to describe the teaching style preferences of the Nutrition Education Assistants. Furthermore, it sought to examine the NEAs attitudes toward teaching adults and their knowledge regarding basic adult educational principles and practices.

This particular study is further categorized as a descriptive study because it sought to collect information about current Cooperative Extension personnel. No attempt was made to influence Nutrition Education Assistant's preferences or to manipulate knowledge scores. This study is an extension of Seevers (1991) and Brown-Ukpaka (1999) research on Extension employees, and is concerned with evaluating if nutrition paraprofessionals in the Southern Region are more learner-centered or teacher-centered.

Population

Defining a population from which to sample is the first step in data collection (Gay & Airasian, 2000). Selecting a sample is also a very important step in conducting a research study.

A good sample is one that is representative of the population. “The goodness of the sample determines the meaningfulness and generalizability of the results” (Gay & Airasian, 2000, p. 123). Some surveys provide information about people but they also seek to attain comprehensive quantitative descriptions of the characteristics of some defined population or a sample of that population. “A population refers to a specified group of events, objects, or persons that meet a set of specifications or have a common measurable characteristic" (Touliatos & Compton, 1988, p. 55). The population for this study was Nutrition Education Assistants employed within the National Institute of Food and Agriculture’s (NIFA) Southern Region which included the following states and U.S. territories: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, and the Virgin Islands (see Figure 1). This study targeted Nutrition Education Assistants that implemented the Expanded Food and Nutrition Education Program (EFNEP), Supplemental Nutrition Assistance Program (SNAP) or any other nutrition education program specific to Cooperative Extension Systems in the Southern Region.

Figure 1. Map of Cooperative Extension System Regions

Procedures

Nutrition Education Programs are provided as a regular part of Extension programming. These programs target limited resources individuals and families across the nation. While the State of Alabama was the initial focus of the study, the Southern Region was chosen for several reasons: to ensure that an adequate sample could be reached, to expand Seever's (1991) research which recommended similar studies be conducted within Cooperative Extension to determine similarities and/or differences and to extend Brown-Ukpaka's (1999) study which concentrated on nutrition education paraprofessionals and recommended that a similar study be completed in any of the states in the Southern Region. Moreover, the Southern Region was a good fit because of the work being done through Regional Nutrition Education and Obesity Prevention Centers of Excellence (RNECE) for SNAP and EFNEP. Through these centers, regions are able to develop effective education/extension, environmental, systems, and policy translational activities that promote health and prevent/reduce obesity in disadvantaged low-income families and children. Finally, Program Coordinators for nutrition education are separated into regional teams that correspond with each other throughout the year and attend regional and national conferences annually to share best practices and provide updates about their programs.

Using a survey link provided by Qualtrics, surveys were distributed to Program Coordinators in the Southern Region through an email which included an electronic information letter and e-mail invitation (See Appendix). Survey information was then forwarded to Nutrition Education Assistants by Program Coordinators who were interested in participating in the study. To increase participation by institutions in the Southern Region, I secured a spot on the agenda during the 2014 EFNEP Southern Region Coordinators' Conference in Lithonia, Georgia. A mini-presentation was presented during the pre-conference activities to explain the study in more

detail. In addition, an information sheet which included an invitation to participate was extended to coordinators during the conference's general session to make sure that all interested institutions were aware of this research opportunity. A link to the NIFA national directory of program coordinators was also provided by the Southern Region Conference Chair to assist with recruitment of SNAP education assistants, follow up with interested institutions and contact institutions that did not attend the conference. After survey distribution, email reminders were sent out to encourage survey completion. The initial reminder was sent out two weeks after the survey, followed by another reminder one week later. The final reminder was sent out a week before the survey deadline with an electronic thank you card addressed to program coordinators and Nutrition Education Assistants. Phones calls were also made to the program coordinators to thank them for their support and to provide updates on survey participation. Each institution was given approximately 30 days to complete the instrument. However, survey remained opened two months pass the deadline in an effort to increase response rates.

Instrument

Descriptive data are usually collected by questionnaire, interview, telephone or observation (Gay & Airasian, 2000). This study used a questionnaire for survey data collection purposes. Surveys have several advantages. Surveys are a cost effective way to collect extensive, quantifiable data in a highly standardized manner (Touliatos & Compton, 1988). They are also easy to administer (online, mail, email, or telephone) and can provide anonymity (Gay & Airasian, 2000). Surveys are one of the few ways to gather data about attitudes, feelings, beliefs and past behaviors which are not directly observable. A few limitations are commonly associated with the use of surveys. The quality of the information and validity of the findings depend a great deal on the accuracy and truthfulness of respondents to questions, response rates may vary,

respondents may not complete the entire instrument and questions may be interpreted incorrectly (Gay & Airasian, 2000; Touliatos & Compton, 1988) .

The survey was developed using Qualtrics, a web-based software that allows the user to create surveys and generate reports without having any previous programming knowledge. This method was the most feasible since nutrition paraprofessionals were located in multiple states across the Southern Region and it provided a convenient, secure way to deliver, track and analyze survey information. When used properly, "[web]-based surveys have the potential to eliminate some of the more labor-intensive fielding tasks, such as survey package preparation and mailing and the subsequent data entry" (Fricker & Schonlau, 2002, p. 18).

The survey for this study was organized into four sections. The first section contained a demographics section with questions related to age, race, gender, educational attainment, educational experiences, course work, area where programs are conducted, years of employment, and years of teaching experience. The second section contained the attitude scale. It included questions that related to adult educator's attitudes about the way a learner should be taught and the extent to which the teacher controls the learning environment. The third portion was developed by Seevers (1991). This knowledge and adult education principles section contained questions that related to the practice of adult education. It focused on the educators' absolute agreement or disagreement with the statement. For example, a statement read, "The primary function of the educator is to provide knowledge to the learner." The response choices were agree or disagree. The fourth section included the PALS assessment which was modified by Seevers (1991) with approval from its creator Gary Conti. The modified version contained 44 statements rated on a Likert scale with descriptors ranging from Never to Always. The items on this portion were designed to allow extension educators to assess their teaching style preferences

(Seevers, 1991). Once surveys were completed, results were securely stored in Qualtrics where they could be analyzed and/or exported for further analysis.

The Principles of Adult Learning Scale

Teaching style preferences of practitioners can be assessed using the Principles of Adult Education Learning Scale (PALS). PALS seeks to associate the teacher behavior with principles described in adult education literature (Conti, 1985, 2004). This tool is a 44-item summative rating scale using a modified-Likert scale. The self-administered questionnaire can be completed in 10-20 minutes. Respondents report how often they practice the teaching behaviors described in each item by choosing a number from 0 to 5 to rate their agreement with the item. The numeric scale was inverted during scoring depending on whether the question asked was positive or negative and omitted questions were assigned a neutral value of 2.5. The Likert Scale options for this study were slightly different than PALS original descriptors to coincide with the options offered by Qualtrics. Descriptors were changed from Never, Almost Never, Seldom, Often, Almost Always, and Always to Never, Rarely, Sometimes, Often, Most of the Time, and Always, respectively. All other PALS features remained that same. Responses to these items produce an overall PALS score. PALS scores may range from 0-220, and the average score for PALS is 146 with a standard deviation of 20. Scores above 146 indicate a tendency toward the learner-centered mode. Lower scores suggest support of teacher-centered approach. Scores near the mean indicate that the teaching behaviors of the person being assessed are both teacher-centered and learner-centered (Conti, 2004).

The overall PALS scores can be divided into seven factors. Conti (1985, 2004) labeled the seven factors as follows: Learner-Centered Activities, Personalizing Instruction, Relating to

Experiences, Assessing Student Needs, Climate Building, Participation in the Learning Process, and Flexibility for Personal Development. The main factor in PALS is Factor 1-Learner-Centered Activities. Made up of twelve of the negative items in the instrument, this factor relates to evaluation by formal tests and to a comparison of the learner to outside standards. Opposition to these items implies a preference for more collaborative learning behaviors. Factor 2-Personalizing Instruction contains positive and negative items that relate to personalizing learning to meet learner needs. Factor 3-Relating to Experience is comprised of positive items that take into account the learners prior experiences. Factor 4-Assessing Student Needs contains positive items which aim to know the students' needs. Factor 5- Climate Building has positive elements that relate to a positive climate in the learning environment and the use of dialogue and student interaction. Factor 6- Participation in the Learning Process specifically addresses the amount of involvement of the student in determining the kind and type of evaluation of the content material. Factor 7-Flexibility for Personal Development contains negative items that do not encourage flexibility or sensitivity to the individual.

Validity

Validity is concerned with accurate interpretability of results and the generalizability of those results (Wiersma & Jurs, 2009). The validity of research findings indicates the soundness of the answers obtained from the study. Validity is considered the most important quality of any research test. Therefore, validity is specific to the interpretation being made and the group being tested (Gay & Airasian, 2000, p. 162). There are three important types of validity which are construct, content, and criterion related.

Construct validity is the degree to which a test measures a non-observable trait (Gay & Airasian, 2000).Traits such as intelligence, depression, or attitudes are not directly observable. However, they are used to explain behavior. Construct validity in the Principles of Adult Learning Scale was established through testimony of juries of adult educators (Conti 1978, 1979, 1983).

Content validity is the degree of adequacy of measuring and sampling of the intended content area (Gay & Airasian, 2000).This type of validity is determined by expert judgements. In PALS content validity was established by field tests using full-time adult basic education practitioners in schools in Illinois. The first phase of the field-testing consisted of activities to improve the discriminating power of potential items. The second phase involved the testing of a similar form of the instrument with 57 practitioners in a variety of adult education settings (Conti, 1983).

Criterion-related validity compares an instrument's scores with external criteria known or believed to measure the attributes under study (Kerlinger, 1973). Criterion validity was established by comparing PALS scores to the Flanders Interaction Analysis Categories (FIAC), which also measures the construct of initiating responsive behaviors in the classroom. The Flanders Interaction Analysis Categories was selected as the external criterion because the actions described in Flanders' definition of initiating are highly congruent with the characteristics of the collaborative mode (Conti, 1982).

Reliability

The reliability of research findings refers to the repeatability of results. Findings are reliable when another investigator follows the same procedures, uses the same type of subjects,

and method of analysis and achieves comparable results (Touliatos & Compton, 1988). To be useable an instrument must be reliable and valid. Reliability is the dependability that repeated responses will exhibit little variability (Gay & Airasian, 2000; Touliatos & Compton, 1988). There are two ways to address reliability. One is through internal consistency and the other is through repeated test measures. The reliability of the Principles of Adult Learning Scale was established through the test- retest method with a correlation of .92. In a study using the modified form of PALS which was also used in this study, Seevers (1991) adjusted the scale to better suit Extension employees.

Seevers (1991) examined the teaching style preferences of Extension personnel employed in the Ohio State University Extension Service using a modified version of the PALS instrument. Teaching style preferences of Nutrition Education Assistants employed in the Oklahoma State Cooperative Extension Service were also measured using the instrument from the Seevers studies. Modifications to PALS resulted in the rewording of several PALS statements in such a way that they better reflected the role of an Extension employee rather than the role of a teacher in a formal classroom setting. For example, an original PALS statement is followed by a modified version.

I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions.

When I teach adults, I encourage an individual to motivate himself/herself by confronting him/her in the presence of others during group discussions.

Five questions of the PALS instrument were totally rewritten to apply to Cooperative Extension audiences. The changes helped make the instrument fit Cooperative Extension

audiences more appropriately. Modifications were obtained with the assistance of the PALS author (Seevers, 1991). The modified version was also changed in an effort to make the statements less wordy and reflect the current language used by Cooperative Extension.

Chapter 4

Findings

The purpose of this research was to describe the preferred teaching style of Nutrition Education Assistants employed by Cooperative Extension Systems in the Southern Region. Additionally, this study sought to examine the attitudes of Nutrition Education Assistants toward their role as an adult educator and their knowledge regarding basic adult education principles and practices.

Research Questions

1. What is the demographic profile of Nutrition Education Assistants employed by Cooperative Extension in the Southern Region?
2. What is the teaching style profile of Nutrition Education Assistants?
3. What is the attitude of Nutrition Education Assistants toward their role as an adult educator?
4. What is the knowledge level of Nutrition Education Assistants with respect to basic education principles and practices?
5. What is the relationship between teaching style and demographic variables of age, education, race and years of employment?

Profile of the Nutrition Education Assistants

The sample consisted of 117 Nutrition Education Assistants from the Southern Region of the United States, although 159 surveys were submitted. Ten (10) surveys were disqualified because respondents did not meet paraprofessional criteria and the remaining thirty -two (32) surveys were excluded because they were only partially completed. Out of the 15 states and U.S. Territories represented in NIFA's Southern Region, only 7 states participated. These states included Alabama, Arkansas, Florida, Kentucky, Mississippi, Oklahoma, and Texas. Nutrition Education Assistants surveyed for this study were employed in the Expanded Food and Nutrition Education Program (EFNEP), Supplemental Nutrition Assistance Program (SNAP) or other community nutrition education Programs exclusive to their Cooperative Extension System.

While hiring paraprofessionals that are indigenous to the target audience is common for nutrition education programs, today's nutrition education assistants are just as diverse as the clientele served by today's Cooperative Extension. The ethnic distribution of the group was as follows: 43 Black, 13 Hispanic, 3 Indian, 52 White and 5 identified as Other (see Table 1).

Table 1.

Frequency Distribution of Nutrition Education Assistants by Race

	Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
Black	43	36.8	37.1	37.1
Hispanic	13	11.1	11.2	48.3
Indian	3	2.6	2.6	50.9
White	52	44.4	44.8	95.7
Other	5	4.3	4.3	100.0
Total	116	99.1	100.0	
Missing	1	.9		
	117	100.0		

Females (96%) were the majority and males made up approximately 4% of the nutrition education assistants in this study. Nutrition paraprofessionals also represented various age groups. While the average age of someone in this position was 46 years old, the youngest person serving in this capacity was 23 years of age and the oldest was 67 years of age.

The Nutrition Education Assistants varied in education level attainment. However, completion of high school or its' equivalent is a requirement for a position as a Nutrition Education Assistant. Approximately 9.5% had a high school education, 27.6% had some college experience, and 17.2% held an associate's degree. In addition, 35.3% indicated they possessed a bachelor's degree and 10.3% reported receiving a master's degree although it was not a prerequisite for the position (see Table 2).

Table 2.

Frequency Distribution of Nutrition Education Assistants by Education

	Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
High School/GED	11	9.4	9.5	9.5
Some College	32	27.4	27.6	37.1
Associates Degree	20	17.1	17.2	54.3
Bachelor's Degree	41	35.0	35.3	89.7
Master's Degree	12	10.3	10.3	100.0
Total	116	99.1	100.0	
Missing	1	.9		
Total	117	100.0		

The majority of nutrition education assistants were employed full time by Cooperative Extension. 97% of NEA's worked 40 hours per week whereas 3% worked 30 hours or less. With respect to years of experience, 23 participants reported being employed for less than one year, 23 have 1-3 years of experience 25 have 4-7 years of experience,19 have 8-10 years of experience, 6 have 11-15 years of experience and 21 have worked in this field for over 15 years. Close to 18%

indicated more than 15 years of employment with Cooperative Extension. However, most had more than 5 years of experience with the Cooperative Extension System.

Over 75% have taught youth and adults outside of their work with Cooperative Extension with the majority having more experience teaching youth. Although Extension has expanded its programs to more cities and developed areas, the majority (53%) of programs are still conducted in rural areas with a little more than 1/3 of the program being conducted in urban areas and even fewer (12%) in suburban areas.

Throughout the entire national Cooperative Extension Service various titles are used for the non-professional staff who work in the community nutrition education programs. The majority of the Nutrition Education Assistants, 49.6%, indicated the term EFNEP Educator as the best job title for their position. Over 15 % felt that NEP Educator best represented their job title, whereas 23.1% preferred the title Program Assistant. Few of the nutrition paraprofessionals identified themselves as an Urban EFNEP Assistant (0.9%) and Urban NEP Assistant (6%) while a little over 5% indicated "other" as their choice of job title (see Table 3).

Table 3

Frequency Distribution of Nutrition Education Assistants by Title

	Frequency	Percent	Valid Percent	Cumulative Percent
EFNEP Educator	58	49.6	49.6	49.6
NEP Educator	18	15.4	15.4	65.0
Program Assistant	27	23.1	23.1	88.0
Urban EFNEP Assistant	1	.9	.9	88.9
Urban NEP Assistant	7	6.0	6.0	94.9
Other	6	5.1	5.1	100.0
Total	117	100.0	100.0	

All employees employed in the position of Nutrition Education Assistant must have completed high school or its' equivalent. The various scores in all areas of this study indicate that this was a group that preferred and supported the teacher-centered mode of teaching style. This is not surprising because 90% of the group indicated that they had completed some type of post-secondary school level educational course work. This may include vocational and or technology course work. More than 60% of participants reported completing at least an Associate's Degree. Research supports the concept that most teachers teach the way they learn (Stitt-Gohdes, 2001). Since many teachers have experienced academic success in learning environments that were teacher-centered and relied heavily on lecture, it is understandable that their preferred style of teaching, would mirror the same approach (Brown, 2003;Cornett, 1983).

Participants were also asked to report the number of adult education courses they had taken. According to Seevers (1991), professional training, including the number of formal adult education classes taken, was one of the best predictors in determining perceived teaching style. Forced choice response results were as follows: over 50% of participants reported taking formal adult education courses. Of those 61 Nutrition Education Assistants, 37 took courses in teaching methods, 28 in program planning, 23 in philosophy of adult education, 23 in adult characteristics and learning theory and 11% took other types of adult education classes. There were 46% who indicated they had never taken any adult education course work.

Teaching Style Profile

A profile of the teaching style of Nutrition Education Assistants was constructed to answer the second research question of this study. The Principles of Adult Learning Scale (PALS) was used to measure the teaching style preferences of paraprofessionals employed as

Nutrition Education Assistants for Cooperative Extension Systems in the Southern Region. The total score on PALS measures "the frequency with which one practices teaching-learning principles that are described in the adult education literature" (Conti, 2004, p. 79). PALS consists of 44 positive and negative items and uses a six-point Likert scale to determine the degree to which a respondent agrees with adult learning principles that support the collaborative learner-centered teaching mode.

PALS Scores

Two types of scores are produced by PALS. The total scores identify a person's overall teaching style. Seven individual factor scores break this total score down into separate concepts that make up teaching style. The total score is the sum of the 44 items in the instrument. “Omitted items are assigned a neutral value of 2.5" (Conti, 2004, p. 90). Scores may range from 0 to 220, and PALS has a mean of 146 with a standard deviation of 20. Scores above 146 indicate a tendency toward the learner-centered approach while scores below 146 indicate support of the teacher-centered approach (Conti, 2004). The Teacher-Centered approach is the traditional approach where authority rests with the instructor whereas the Learner-Centered approach is more focused on the needs of the learner. Scores near the mean indicate that teaching preference supports elements from both the Teacher-Centered and the Learner-Centered approach (Conti, 1985). A very strong commitment toward a teaching style is implied in scores two standard deviations from the mean. Scores less than 106 or more than 186 fall three standard deviations from the mean and indicate an extremely strong commitment to a particular teaching style. Scores for NEAs ranged from 91 to 186 with a median of 132. The mean for the group was 132.53 with a standard deviation of 16.20.

Factor Scores

The total score for The Principle of Adult Learning Scale (PALS) can be subdivided into seven factor scores. Each factor identifies those elements that make up the general teaching style of an adult educator. Factor scores are determined by adding up the points for each item within that factor. High scores in each area represent support for the concept implied in the factor name (Conti, 2004). Those who support the collaborative mode of instruction promote students taking responsibility for their own learning.

The score for Factor 1, Learner-Centered Activities, relates "to evaluation by formal tests and to a comparison of students to outside standards" (Conti, 2004, p. 80). Low scores on this factor indicate a support for the teacher-centered mode while high scores indicate support for the collaborative mode and a rejection of the teacher-centered approach. The factor contains 12 items. Scores may range from 0 to 60, and the factor has a mean of 38 with a standard deviation of 8.3. Scores for the Nutrition Education Assistants ranged from 1-60 with a median of 32. The mean score for Factor 1 was 30.55 with a standard deviation of 9.81.

The score for Factor 2, Personalizing Instruction, relates to doing "a variety of things that personalize learning to meet the unique needs of each student" (Conti, 2004, p. 80). Factor 2 contains nine items. Scores may range from 0 to 45, and the factor has a mean of 31 with a standard deviation of 6.8. Scores for the Nutrition Education Assistants ranged from 15 to 45 with a median of 31. The mean was 31.36 with a standard deviation of 5.68.

The score for Factor 3, Relating to Experience, relates to planning "learning activities that take into account your students' prior experiences and encourage students to relate their new learning to experiences" (Conti, 2004, p. 80). Factor 3 contains six items. Scores may range from

0 to 30, and the factor has a mean of 21 with a standard deviation of 4.9. Scores for the Nutrition Education Assistants ranged from 0 to 30 with a median of 21.50. The mean was 21.41 with a standard deviation of 4.76.

The score for Factor 4, Assessing Student Needs, relates to “treating a student as an adult by finding out what each student wants and needs to know" (Conti, 2004, p. 81). The factor contains four items. Scores may range from 0 to 20, and the factor has a mean of 14 with a standard deviation of 3.6. Scores for the Nutrition Education Assistants ranged from 0 to 20 with a median of 14. The mean was 13.64 with a standard deviation of 4.34.

The score for Factor 5, Climate Building, relates to “setting a friendly and informal climate as an initial step in the learning process. Dialogue and interaction with other students are encouraged" (Conti, 2004, p. 81). According to Knowles (1990), a friendly and informal atmosphere is a major step in establishing an adult education learning climate. A less formal and friendly climate is crucial in a learner-centered atmosphere. The factor contains four items. Scores may range from 0 to 20, and the factor has a mean of 16 with a standard deviation of 3.0. Scores for the Nutrition Education Assistants ranged from 0 to 20 with a median of 14. The mean was 13.78 with a standard deviation of 3.65.

The score for Factor 6, Participation in the Learning Process, relates to “the amount of involvement of the student in determining the nature and evaluation of the content material" (Conti, 2004, p. 81). Factor 6 contains four items. Scores may range from 0 to 20, and the factor has a mean of 13 with a standard deviation of 3.5. Scores for the Nutrition Education Assistants ranged from 0 to 20 with a median of 16. The mean was 15.36 with a standard deviation of 4.05.

The score for Factor 7, Flexibility for Personal Development, relates to whether teachers see themselves as a provider of knowledge or as a facilitator (Conti, 2004, p. 82). The factor contains seven items. Scores may range from 0 to 35, and the factor has a mean of 13 with a standard deviation of 3.9. Scores for the Nutrition Education Assistants ranged from 0 to 25 with a median of 6. The mean was 6.42 with a standard deviation of 4.16 (see Table 4).

Table 4

Principles of Adult Learning Scale (PALS) Score of Nutrition Education Assistants by Factor and Total

	N	Minimum	Maximum	Mean	Std. Deviation
Learner-Centered Activities	117	1.0	60.0	30.551	9.8104
Personalizing Instruction	117	15.0	45.0	31.363	5.6765
Relating to Experience	117	.0	30.0	21.410	4.7632
Assessing Student Needs	117	0	20	13.64	4.338
Climate Building	117	.0	20.0	13.782	3.6515
Participation in the Learning Process	117	.0	20.0	15.359	4.0481
Flexibility for Personal Development	117	0	25	6.42	4.161
PALS Total Score	117	91.0	186.0	132.526	16.1993

Attitudes and Knowledge Scores

Nutrition Education Assistants were asked about their attitudes toward understanding adult learners. A 15-item scale was used. Mean scores were calculated based on a one to five Likert type scale with 1 = Strongly Disagree and 5 = Strongly Agree. A score of 3 would be average or neutral. All scores were added. Possible scores for perceived attitude related to role as an adult educator ranged from 5-75. The average total score for the Nutrition Education Assistants was 54.97. Attitude scores show that approximately 75% of the respondents had a slightly positive attitude toward their role as an adult educator. The mean score of all respondents was slightly positive with a score of 3.68.

The Knowledge Scale contained 10 items. Statements were written so that they contradicted with Adult Education literature. Participants received one point if they disagreed with the statement and two points if they agreed. All items were added together, and therefore the possible range of scores was 10-20. High scores indicate a lack of agreement with basic adult education principles while low scores indicate an agreement with these principles. The range of responses for Nutrition Education Assistants was 10 to 20. The average total score for the test was 16.66 indicating that over 80% of Nutrition Education Assistants were not knowledgeable about basic adult education principles. The mean score for Nutrition Education Assistants was 1.69.

Relationship of Variables to Factors

The relationship between PALS and various demographic variables was investigated. For this analysis, the individual factor scores of PALS were used. The selected demographic variables included age, race, educational level, and years of employment. Each of these variables was related to the seven PALS factors using a one-way analysis of variance (ANOVA). A one-way analysis of variance is an inferential statistical procedure that allows group comparison of the mean scores. ANOVA is used to compare two or more groups. Groupings were arranged so that approximately two equal size groups were obtained for each variable (age, race, and education) except for years of employment which was divided into five groups.

Age

The Nutrition Education Assistants were arranged into two groups: those ages 23 to 46 and those ages 47 to 67 years of age. The ANOVA of the relationship of age to each of the seven factors indicated no significant differences for Factor 1, Learner-Centered Activities, Factor 2,

Personalizing Instruction, Factor 3, Relating to Experience, Factor 4, Assessing Student Needs, Factor 5, Climate Building, Factor 6, Participation in the Learning Process, and Factor 7, Flexibility for Personal Development. Both age groups seemed to be more teacher-centered when evaluating the independent variable of age. However, the largest difference seemed to be between the groups with respect to Factor 1, Learner-Centered Activities. Older nutrition assistants seemed to support learned centered activities a bit more than the younger nutrition assistants.

Race

The Nutrition Education Assistants were separated into two groups based on ethnic background. One group included all non-white and "other" study participants. The other group included the white participants. Significant differences were found on the Factor 1, Factor 4 and Factor 6 scores (see Table 5).With respect to Factor 1, Learner-Centered Activities, a significant difference exists between white and non-white Nutrition Education Assistants. Although both groups were below the mean of 38 for this factor, white Nutrition Education Assistants had a mean of 32.58 indicating that they were more willing to relate learning experiences to the real-life situations of the learner whereas non-white group of nutrition educations had a slightly lower mean of 29.24 indicating there were less likely to incorporate learner-centered activities into their program. A significant difference between groups was also found on for Factor 4, Assessing Student Needs. This factor relates to collaborative assessment of student needs which involves treating the learner as an adult and counseling them to identify goals and objectives. The non-white group was more supportive of this factor with a mean score of 13.67. The other group which was made up of people who identified as white had a mean score of 12.10. This group was less inclined to support or engage in

activities that would advocate assessing student needs. Thus, while both groups were below the mean of 14 on this factor, the non-white group was more committed to assessing student needs than the white group. Finally, there was a significant difference with regard to Factor 6, Participation in the Learning Process. This factor addresses the amount of involvement the student has in determining content material and evaluating classroom performance. When it came to this particular factor, both groups scored above the mean of 13. White Nutrition Education Assistants were less supportive of involving learners in the learning process with a mean score of 14.10 than non-white nutrition paraprofessionals who had a mean score of 16.42. However, based on these results, both groups are committed to allowing the learner to participate in making decisions about coursework and evaluation.

Table 5

Analysis of Variance (ANOVA) of PALS Factors by Race

Source		Sum of Squares	df	Mean Square	F	P
Learner-Centered Activities	Between Groups	560.663	1	560.663	6.039	.015*****
	Within Groups	10583.567	114	92.838		
Personalizing Instruction	Between Groups	85.227	1	85.227	2.664	.105
	Within Groups	3646.952	114	31.991		
Relating to Experience	Between Groups	45.346	1	45.346	1.999	.160
	Within Groups	2040.861	114	17.902		
Assessing Student Needs	Between Groups	122.898	1	122.898	6.865	.010*****
	Within Groups	2040.861	114	17.902		
Climate Building	Between Groups	1.970	1	1.970	.145	.704
	Within Groups	1544.106	114	13.545		
Participation in Learning Process	Between Groups	155.182	1	155.182	10.166	.002*****
	Within Groups	1740.129	114	15.264		
Flexibility for Personal Development	Between Groups	40.130	1	40.130	2.327	.130
	Within Groups	1965.827	114	17.244		
PALS Total Score	Between Groups	118.793	1	118.793	.447	.505
	Within Groups	30291.403	114	265.714		

*****Significant at the $p < 0.05$ level.

Educational Background

The Nutrition Education Assistants were arranged into two groups: those that have completed a four year degree or more and those that have not. The ANOVA of the relationship of education to each of the seven factors indicated no significant relationship was found on any of the seven factors. However, Factor 4- Assessing Student Needs was a factor that was most affected by education. Although there was no significant difference, results indicate that those having a bachelor's degree or higher were less open to assessing students' needs than their colleagues that had some college experience and a high school diploma.

Years of Employment

The Nutrition Education Assistants had a variety of a number of years of employment with Cooperative Extension. They were divided into five groups by years of employment. These groupings were as follows: less than one year, 1-3 years, 4-7 years, 8-10 years and 11 years or more of employment. No significant difference was found with respect to Factor score for PALS regarding the number of years Nutrition Education Assistants have worked for Cooperative Extension.

Summary

Whether an individual's teaching style preference is teacher-centered or learner-centered, knowledge of your preferred style is an important part of being an effective adult educator. It is also important to understand what factors influence or contribute to the preference in order to make adjustments or adaptations to establish the most effective teaching- learning interaction. A positive attitude is also an integral part of what constitutes an individual's teaching style. Fisher and Fisher (1970) state that the attitudes teachers hold toward instructional programs, resources

and the type of learner they prefer to work with make up their teaching style. Finally, familiarity with adult education principle and practices is the key to meeting the needs of adult learners. Additional trainings are needed to introduce and reinforce these concepts so that Nutrition Education Assistants are more prepared to achieve extension's mission.

Chapter 5

Summary, Discussion, Conclusions, Recommendations for Future Studies and Implications

Cooperative Extension has had over 100 years of experience educating adults. Its capacity to evolve and adapt in times of economic shifts and changing priorities has been a vital part of its continued success. Also contributing to its longevity has been the practice of hiring competent Extensionists that deliver relevant, research-based information to meet the needs of its target audience. This practice is more important than ever as Cooperative Extension restructures due to decreased funding from the federal government and increased expectations from stakeholders (Gehrt,1994; Schmitt & Bartholomay, 2009). As the largest nonformal adult education organization in the world, dedicated to providing education across the lifespan, lifelong learning must also be a priority of Extension employees (Seevers and Clark,1993). Assessing teaching styles of Extension educators and their knowledge of basic adult education principles is one way to ensure Cooperative Extension continues its service to society another hundred years.

Providing professional development that addresses deficiencies in the knowledge, skills and abilities of Cooperative Extension personnel is essential to sustaining its legacy of service (Ghimire & Martin, 2011). The best way to accomplish this task is by understanding what motivates adults to learn and how to use foundations of adult education to engage the adult learner. Teaching style is the personification of an educator's attitudes, beliefs and behaviors in a classroom setting. Derived from our educational philosophy, teaching style is an important

component of learner achievement. Teaching style can be measured with the Principles of Adult Learning Scale assessment tool. This tool seeks to associate the teacher behavior with principles found in adult education literature. Teachers should be aware of their own teaching style preferences in order to bring about more effective instruction (Conti, 1985; 2004). Knowledge of teaching style empowers educators by allowing them to examine their classroom behaviors and make the necessary changes to increase learning.

In a 1991 study by Seevers, the Principles of Adult Learning Scales (PALS) was used to assess teaching style preferences of Ohio State Extension Service employees. That study involved professional, non-professional, and administrative staff. Seevers found that overall the Extension Service staff scored lower than the normal average on the Principles of Adult Learning Scale, indicating a preference toward a teacher-centered rather than a learner-centered approach to teaching style. Based on the findings, Seevers recommended that the study be adapted and conducted with other formal and informal adult education organizations. Additionally, she recommended that replication of the study should be conducted with Cooperative Extension Service in other states to determine similarities and/or differences.

Similarly, a study by Brown-Ukpaka (1999) that assessed the teaching styles of Nutrition Education Assistants employed by the Oklahoma Cooperative Extension Service indicated that paraprofessionals were extremely teacher-centered in their teaching style preference. The study further implied that the people hired to teach community nutrition education programs lack exposure to adult education principles.

Overall nutrition paraprofessionals in the Southern Region exhibited low levels of knowledge of adult education practices and principles as related to the current literature. They

indicated a neutral to slightly positive attitude toward their role as an adult educator. However, measurement of the frequency of specific behaviors on the Principles of Adult Learning Scale (PALS) indicated that a more teacher-centered teaching style has been adopted by the majority of Nutrition Education Assistants. Scores on the total PALS and six of the seven factors demonstrated that these Nutrition Educators exhibit more teacher-centered tendencies than learner-centered.

Similar to Brown-Ukpaka's (1999) study, Nutrition Education Assistants from this study were also found to be more teacher-centered. However this group had higher Total PALS scores as well as higher scores in each factor of PALS except Factor 7 when compared to Oklahoma Nutrition Education Assistants. Factor 7 deals with Flexibility for Personal Development. While Oklahoma Nutrition Education Assistants supported the collaborative mode as it relates to flexibility in the learning environment. Nutrition paraprofessionals in the Southern Region scored extremely low on Factor 7 indicating that they see themselves as the provider of knowledge rather than a facilitator. Additionally, Nutrition Education Assistants for the Southern Region scored higher than the average mean of 13 for Factor 6, Participation in the Learning Process. This suggests that Nutrition Education Assistants in Southern states may allow the learner to be involved in planning learning activities and have input into the evaluation process. Southern Region nutrition paraprofessionals were found to be similar across most characteristics defined.

Malcolm Knowles (1970) suggested that the teacher is the single most important variable influencing the dynamics of the learning environment. Past research efforts have focused on understanding learning styles of students, teaching methods, and adaption of teaching methods to student learning styles (Dunn & Dunn, 1993; Fischer & Fischer, 1979; Grasha,1996; Spoon &

Schell, 1998). In recent years, we have seen an emergence of the need to understand the inherent style of the educator and the impact that style has on learner outcomes (Seevers, 1991). The measurement and understanding of one's style provides not only an external measure of classroom effectiveness but also serves as an internal assessment of values, beliefs and philosophical orientation.

Cooperative Extension employees provide educational programs and learning opportunities for the clientele it serves. The mission of the Cooperative Extension continues to focus on extending knowledge to improve the quality of life and economic well-being of every person within its reach (Zacharakis, 2008). Nutrition education programs seek to do just that by providing limited resources individuals and families with relevant knowledge and skills that when applied lead to improved health.

While Cooperative Extension Systems differ across the nation, current hiring and training practices do not ascertain the preferred teaching style of its educators, especially its paraprofessionals. This simple measure has the potential to provide Extension professionals and paraprofessionals with additional insight which can help them make a greater impact within the communities they serve. The findings of this study can be used to assist individuals in the organization in making decisions regarding their personal teaching style, including decisions regarding professional development opportunities. Additionally, the findings should be made available to aid administrators in decision-making, to assist in developing guidelines and policies for hiring and retention, and for the development of personal and professional development of its employees.

Implications for Future Studies

1. Nutrition Education Assistants were found to be more teacher-centered than learner-centered in their approach to teaching style. Teaching style preference assessment should be completed with each newly hired employee during the probation period of employment. It is important for individuals to understand that a preference for one style versus another is neither good nor bad. Although one's teaching style might be ingrained and difficult to change, it can be expanded to respond to varied learning styles if the instructor understands why one's teaching style cannot be effective with all students and strives to acquire new skills (Dunn & Dunn, 1979). Furthermore, the literature also supports that teaching style preference is a composite of an individuals' beliefs, values, and personal and professional philosophy. Individuals as well as the Cooperative Extension organization should assess their own philosophy and values and determine if the preferences determined are congruent with their philosophy. Results of these assessments could form the basis for future professional development and training recommendations.
2. Additional training should also be provided when Nutrition Education Assistants are hired to make sure they have the knowledge and skills to effectively implement nutrition education programs with adult learners. These training sessions should provide paraprofessionals with opportunities to identify and learn about their own teaching style and include learning sessions that introduce the principles of adult education and teach methods for implementing these principles.

3. Attitudes for Nutrition Education Assistants were found to be neutral to slightly positive. What individuals believe to be true about themselves represent a major influence on attitude. According to Heimlich and Norland (2002), teachers compare the beliefs set out by their profession with their own set of beliefs to develop their own personal teaching style, and this in turn influences their decisions in how they run their classes. If an Extension employee believes that the organization is supportive and committed to enhancing adult education, and recognizes and rewards behavior consistent with that mission, attitude can be positively influenced. The organization can send messages to support and reward good teaching. Support and encouragement should be provided through opportunities for personal and professional growth and training.
4. Knowledge levels of adult education principles and practices for Nutrition Education Assistants were found to be low. Nutrition paraprofessionals should be encouraged and provided opportunities to improve their knowledge level through personal encouragement as well as in-service training and professional development opportunities provided by Cooperative Extension.
5. A little over 50% of Nutrition Education Assistants had some formal training in adult education coursework. However, in-service trainings for paraprofessionals rarely focus on this issue. Cooperative Extension Systems in the Southern Region should require as a qualification for hire, and/or continued employment some formal training in adult education.
6. Cooperative Extension can also assist individuals who desire to make changes or adaptations to their preferred teaching style. Personal development plans that provide support and encouragement for growth can be developed with the individual, their

supervisors and administration. In-service training and professional development opportunities can be provided for teacher-centered individuals desiring to make changes in their style. Opportunities for learner-centered individuals desiring to improve their effectiveness should also be made available.

7. A mentorship program, pairing teacher-centered individuals desiring to make adjustments in their personal style, with learner-centered educators could be implemented. A mentoring program could be beneficial to the individuals as well as the organization. Individuals participating in the mentoring program would have the opportunity to observe and model behaviors they may wish to adopt. Working with a positive role model can influence attitude and increase self-esteem and confidence. Opportunities would be available to share ideas, concerns, challenges and success as well as individuals would have an opportunity for immediate feedback on all phases of the teaching-learning exchange from planning to evaluation.

Recommendations for Future Studies

Over the past three decades more instruments have been developed and used to measure teaching style. Moreover, increasing research studies have been conducted to examine the relationships between teaching style and adult learning. In this study, knowledge of adult education principles, attitude toward implementing adult education programs and teaching style preferences were assessed in Nutrition paraprofessionals employed by Cooperative Extension Systems in the Southern Region. Suggestions for further study are as follows:

1. Replications of the study should be conducted in Cooperative Extension's Southern Region using a larger sample size of Nutrition Education paraprofessionals.

2. Replications of the study should be conducted with Cooperative Extension Systems in other states targeting paraprofessionals in all program areas.
3. Replications of the study should be conducted with Cooperative Extension Systems in other states targeting employees at every level.
4. Replications of the study should be conducted with Cooperative Extension Systems in other states to determine similarities and/or differences.
5. The measurements of teaching style preference used in this study were self-reports of behaviors and beliefs. Additional research should be conducted to determine if differences exist between self-reported teaching style (behavior) and actual (observed) teaching style. And, if differences exist, what are they?
6. The study should be adapted and conducted with other formal and informal adult education organizations and institutions.

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Appendix 1

Teaching Styles Survey
Understanding and Teaching the Adult Learner.

General Information. Please select the best answer for each statement.

1. What is your gender?
- ❍ Male (1)
- ❍ Female (2)

2. What is your age?

3. What is your ethnic group?
- ❍ Asian/Pacific islander (1)
- ❍ Black (2)
- ❍ Hispanic (3)
- ❍ Indian (4)
- ❍ White (5)
- ❍ Other (6) _____

4. What is the highest level of education you have completed?
- ❍ High School/GED (1)
- ❍ Some College (2)
- ❍ Associates Degree (3)
- ❍ Bachelor's Degree (4)
- ❍ Master's Degree (5)

5. Have you taken any formal adult education courses?
- ❍ Yes (1)
- ❍ No (2)

Answer If Have you taken any formal adult education courses? Yes Is Selected

6. Indicate the number of formal courses in adult education you have completed in each of the following areas?
- ❑ Philosophy of Adult Education (1) _____
- ❑ Teaching Methods (2) _____
- ❑ Adult Characteristics & Learning Theory (3) _____
- ❑ Program Planning in Adult Education (4) _____
- ❑ Other: (5) _____

7. Where do you conduct the majority of your programs?
- ❍ Rural Area (1)
- ❍ Suburban Area (2)
- ❍ Urban Area (3)

8. How many hours do you work per week?
- ❍ 30 hours or less (1)
- ❍ 40 hours (2)

9. Indicate the number of years you have worked for Cooperative Extension:
- ❍ Less than one year (1)
- ❍ 1-3 years (2)
- ❍ 4-7 years (3)
- ❍ 8-10 years (4)
- ❍ 11-15 years (5)
- ❍ More than 15 years (6)

10. Which job title best describes your work with Cooperative Extension?
- ❍ a. EFNEP Educator (1)
- ❍ b. NEP Educator (2)
- ❍ c. Program Assistant (3)
- ❍ d. Urban EFNEP Assistant (4)
- ❍ e. Urban NEP Assistant (5)
- ❍ f. Other (6) _____

11. Indicate the audience you work with most frequently.
- ❍ Youth (1)
- ❍ Adults (2)
- ❍ Both youth and adults (3)

12. Have you taught youth or adults in any capacity outside of your position with Cooperative Extension (i.e. Sunday School, Boy Scouts, etc.)?
- ❍ Yes (1)
- ❍ No (2)

Answer If Have you taught youth or adults in any capacity outside of your position with Cooperative Extension (i.e. Sunday School, Boy Scouts, etc.)? Yes Is Selected

13. Indicate the number of years you have taught youth or adults outside of Cooperative Extension (i.e. Sunday School, Boy Scouts, etc.)

- ❑ Number of years teaching Youth (1) _____
- ❑ Number of years teaching Adults (2) _____

14. Indicate the University for which you work._____

Part I. Attitude Scale. Please select the best answer for each statement.

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
The term that best describes my job is adult educator.	❍	❍	❍	❍	❍
Awareness of the diversity of program participants helps me improve my teaching quality.	❍	❍	❍	❍	❍
All CES employees should be required to have some training in adult education.	❍	❍	❍	❍	❍
Adult education concepts apply in parent education training.	❍	❍	❍	❍	❍
An effective adult educator encourages maximum learner participation in the learning process.	❍	❍	❍	❍	

Part I. Attitude Scale. Please select the best answer for each statement.

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
Fully involving participants in taking responsibility for their own learning probably will not work well with Extension audiences.	❍	❍	❍	❍	❍

The Extension adult educator should be in control of the learning activity at all times.	❍	❍	❍	❍	❍
The role of the Extension Adult Educator is to be a facilitator of learning rather than an information provider.	❍	❍	❍	❍	❍
A good teacher takes into account the previous experiences of the learner when planning educational goals.	❍	❍	❍	❍	❍
Children and adults should be taught in the same way.	❍	❍	❍	❍	❍

Part I. Attitude Scale. Please select the best answer for each statement.

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
The amount of learning is influenced by the amount of interaction between an individual and his/her environment.	❍	❍	❍	❍	❍
I would be willing to receive additional training to become a better adult educator.	❍	❍	❍	❍	❍
The business of Cooperative Extension is adult education.	❍	❍	❍	❍	❍
Quality adult education calls for educators who are learner-centered rather than subject-matter centered.	❍	❍	❍	❍	❍
I use the “teachable moment” by accepting mistakes as a natural part of the learning process	❍	❍	❍	❍	❍

Part II. Adult Education Practices. Please select the best answer for each statement.

	Disagree (1)	Agree (2)
Adults have a subject-centered orientation to learning.	❍	❍
Success of the program should be determined by the educator establishing learning objectives.	❍	❍
The primary function of the adult educator is to provide knowledge to the learner.	❍	❍
Most adults share a basic style of learning.	❍	❍
Each adult learner prefers one type of teaching style.	❍	❍

Part II. Adult Education Practices. Please select the best answer for each statement.

	Disagree (1)	Agree (2)
Learning climates that reduce conflict among the learners should be maintained.	❍	❍
Teaching Style has a minimum effect on the achievement of the learner.	❍	❍
Adults and children should be taught differently.	❍	❍
Pedagogy is the art and science of helping adults learn.	❍	❍
Similar to children, adults also have separate stages in the life cycle which include acquiring certain skills and social roles.	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
allow the learner to participate in developing the standards for measuring his/her success.	❍	❍	❍	❍	❍	❍

use whatever practices are necessary to maintain control of the learning situation.	❍	❍	❍	❍	❍	❍
allow learners with special needs more time to complete activities if needed.	❍	❍	❍	❍	❍	❍
encourage learners to accept the information presented without question.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
help learners figure out the gaps between their goals and their present level of performance.	❍	❍	❍	❍	❍	❍
provide knowledge rather than serve as a facilitator.	❍	❍	❍	❍	❍	❍
stick to the learning objectives planned for each lesson.	❍	❍	❍	❍	❍	❍
meet informally with participants to talk about their interests, needs and experiences.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
use lecture as the primary method for presenting lessons to adult learners.	❍	❍	❍	❍	❍	❍
arrange the meeting place to get the best possible interaction during the lesson.	❍	❍	❍	❍	❍	❍
spend time determining the educational objectives for each learner I enroll.	❍	❍	❍	❍	❍	❍
plan lessons that may not be familiar to the learner due to his/her socio-economic background.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
try to motivate the learner by confronting him/her in front of fellow learners.	❍	❍	❍	❍	❍	❍
plan learning activities that take into account the participants prior experiences.	❍	❍	❍	❍	❍	❍
ask for input from participants regarding the content of the curriculum lessons.	❍	❍	❍	❍	❍	❍

use one basic teaching method because I have found that most adults have a similar style of learning.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
use different teaching techniques depending on the individuals being taught.	❍	❍	❍	❍	❍	❍
encourage lots of discussion about the topic when teaching adults.	❍	❍	❍	❍	❍	❍
use written evaluations at the end of a series of lessons or course completion to determine the learners behavior change	❍	❍	❍	❍	❍	❍
rely greatly on the skills that most adults already have to reach educational objectives.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
use what the literature suggests adults need to learn as my main	❍	❍	❍	❍	❍	❍

source for planning learning activities.						
accept errors as a natural part of the learning process.	❍	❍	❍	❍	❍	❍
meet individually with participants to help identify their educational needs.	❍	❍	❍	❍	❍	❍
let each person work at his/her own pace regardless of the amount of time it takes to complete the program.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
help participants develop short-term as well as long-term objectives.	❍	❍	❍	❍	❍	❍
maintain a well-controlled learning environment to reduce learner distractions.	❍	❍	❍	❍	❍	❍
avoid discussions of controversial topics that participants may not agree with.	❍	❍	❍	❍	❍	❍
plan periodic breaks in the lesson when doing a group lesson with adults	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
use teaching methods that encourage quiet, productive study by the adult learner.	❍	❍	❍	❍	❍	❍
use a pre-planned evaluation at the end of the program as the main way to tell how much progress the learner has made	❍	❍	❍	❍	❍	❍
plan activities that will encourage behavior change within each learner so the learner becomes more self-sufficient.	❍	❍	❍	❍	❍	❍
try to match my teaching objectives to the individual needs of the learner.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
avoid issues that may make the participant feel embarrassed or annoyed.	❍	❍	❍	❍	❍	❍
encourage participants to ask questions when they do not understand any part of the lesson	❍	❍	❍	❍	❍	❍

try to find out what the learner hopes to gain from participation in a Cooperative Extension Program before planning any learning activities	❍	❍	❍	❍	❍	❍
encourage participants to identify concerns that the program can help them address.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
give program participants the same learning activity on any given topic.	❍	❍	❍	❍	❍	❍
use materials that were originally designed for youth audience without making any adjustments.	❍	❍	❍	❍	❍	❍
organize adult learning activities by the kind of problems that participants face in everyday life.	❍	❍	❍	❍	❍	❍
use the same criteria with all participants to know what they have learned.	❍	❍	❍	❍	❍	❍

Part III. Modified PALS. The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Consider the type of teaching experiences in which you have engaged adults over the past two years and indicate the frequency that you practice each action using the following scale: 0-Never, 1-Rarely, 2-Sometimes, 3-Often, 4-Most of the time, and 5-Always:

When I teach adults, I

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Most of the Time (4)	Always (5)
encourage competition among my program participants.	❍	❍	❍	❍	❍	❍
use everyday problems as examples.	❍	❍	❍	❍	❍	❍
use different educational materials with different learners enrolled in the same program.	❍	❍	❍	❍	❍	❍
help participants relate new learning to their previous lessons.	❍	❍	❍	❍	❍	❍

Appendix 2

AUBURN UNIVERSITY
COLLEGE OF EDUCATION
EDUCATIONAL FOUNDATIONS, LEADERSHIP AND TECHNOLOGY

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
"Preferred Teaching Styles of Nutrition Education Assistants Employed by Cooperative Extension Systems in the Southern Region"

You are invited to participate in a research study to identify the teaching styles of nutrition education paraprofessionals and explore their knowledge of basic adult education principles and practices. The study is being conducted by Metara T. Austin, Graduate Student under the direction of Dr. Maria Witte, Associate Professor in the Auburn University Department of Educational Foundations, Leadership, and Technology. You are invited to participate because you are a nutrition education assistant and are age 19 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 a brief online survey. Your total time commitment will be approximately 30 minutes.

Are there any risks or discomforts? There are no foreseeable risks associated with participating in this study.

Are there any benefits to yourself or others? Your participation in this study will help to facilitate the completion of my doctoral degree as well as provide valuable information to Nutrition Education Programs Coordinators about the professional development needs of nutrition education assistants. This information can also lead to more effective instruction by nutrition education assistants and successful outcomes by clientele.

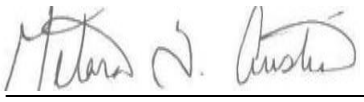
If you change your mind about participating, you can withdraw at any time by closing your browser window. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Educational Foundations, Leadership, and Technology.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by making sure no school or individual will be identified in the data analysis and no email or IP addresses are collected by the web server. Information collected through your participation will be used to fulfill an educational requirement and may be published in a professional journal.

If you have questions about this study, please contact Metara T. Austin at mta0001@auburn.edu or by phone at (334)707-5319 or Dr. Maria Witte at wittemm@auburn.edu or by phone at (334) 844-3078.

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.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CLICK ON THE LINK BELOW. YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.



11/19/14

Investigator *Date*

12/02/14

Co-Investigator *Date*

The Auburn University Institutional Review Board has approved this document for use from November 25, 2014 to November 24, 2017. Protocol #14-538 EX 1411

https://qtrial2014az1.az1.qualtrics.com/SE/?SID=SV_envFOJ8fPv7gUFD