TEACHING STYLE PREFERENCES OF NUTRITION EDUCATION ASSISTANTS EMPLOYED IN THE OKLAHOMA STATE COOPERATIVE EXTENSION SERVICE

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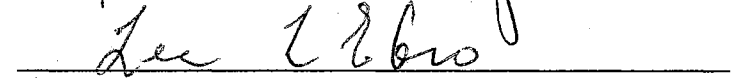

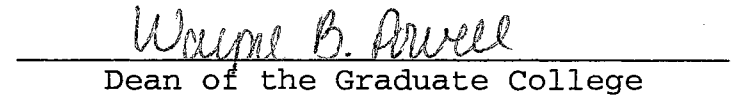

Dean of the Graduate College

PREFACE

This study was conducted to provide new knowledge about the teaching styles of non-professionals employed in Oklahoma State Extension Service. Adults teaching adults tend to operationalize their teaching behaviors based on their own learning experiences. Specific objectives of this research were to describe the preferred teaching style of paraprofessional aides employed in the Community Nutrition Education Programs throughout the state. Additionally, this study sought to examine respondent's attitudes toward teaching and their knowledge regarding adult education principles and practices. The Principles of Adult Learning Scale was employed to categorize respondents as either teacher centered or learner centered in their teaching style preference. I very sincerely thank my doctoral committee—Drs. Gary Conti (Chair), James Gregson, Martin Burlingame, and Lea Ebro—for guidance and sharing their expertise throughout this effort. I also thank Drs. Patricia Bell, and Earl Mitchell for their continued encouragement throughout this process.

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CHAPTER I

INTRODUCTION

Background

The United States Department of Agriculture Cooperative Extension Service has historically addressed the changing needs of the majority population of adult learners through non-formal educational activities. Demographics for the next century suggest the need for involvement in lifelong learning efforts by all segments of the adult population of this country. "The future will require that we better understand the implications of lifelong learning (Gayle, 1990, p. 11). Futurist and education forecasters predict dramatic changes in society in the 21st century. At the forefront of these are demographic changes in the population, as well as in the diverse educational needs of the future population (Feldman & Sweeney, 1989, p. 14). The big picture of these changes will reveal increasing ethnic and racial diversity (American Diversity, 1998).

Early in the next century, 70 million "baby boomers" will become lifelong learners (Gayle, 1990 p. 11). As the face of the adult learner changes, educators will need to

assure that their teaching styles meet the needs of learners for successful learning outcomes to occur. Educators will need to address the changing needs of adult learners. A shift from long term course work to short courses, seminars, and workshops may better suit the learner of tomorrow (Draves, 1967, pp. 54-55). The strength of the Cooperative Extension System has long been its ability to address learner needs through these types of modalities.

Historical Perspective

The Cooperative Extension System is an educational system comprised of professional educators, scientists, and various classes of paraprofessionals. The Extension Service is a part of the system that provides services to the public. The Extension Service is a public funded, non-formal educational system that links the education and research resources and activities of the U.S. Department of Agriculture (USDA) to all of the 1862 Land Grant Universities, 16 - 1890's Historically Black Colleges and Universities, and 3,150 county administrative units (Gehert, 1994; USDA, 1976).

Paraprofessionals and volunteers are integral components of the Extension Service. These groups receive training and direction from professional Extension Service staff. This inter-connected system of teaching, training,

and provision of service with linkages to the USDA and Congress has functioned successfully for over 70 years.

The actual formation of the Extension Service evolved from a two-part effort involving the political and national legislative process. The original effort resulted in the Morrill Act of 1862 or the Land-Grant Act. President Abraham Lincoln signed this into law. This bill established the land-grant institution system but allowed no provision for recurring federal funds to the states (Nease, 1975, p.3; Rasmussen, 1989). Thirty years later the original sponsor of the bill, Legislator Justin Morrill guided efforts to pass a second Morrill Act. This second act not only secured the needed continued funding for the colleges and universities, but it also opened up the educational land-grant system to the predominately African-American institutions in the south and border states (Gehert, 1994; Mayberry, 1991; Rasmussen, 1989;).

The land-grant system was further expanded with the Hatch Act of 1887. This act provided for acquiring land for the establishment of an Agriculture Experimental Station in each land-grant institution. The act encouraged scientific investigation and experimentation in the application of new research. Any useful and practical information on subjects about and related to agriculture was to be passed on to the public (Gehert, 1994, p. 7; Mayberry, 1991, p. 199). This was the true founding of the research base of the system's educational efforts. It was through the Hatch Act that the

philosophical base that knowledge must be dispersed to all people was articulated (Cavendar, 1978; Mayberry, 1991,).

While both Morrill Acts and the Hatch Act laid the ground work for the establishment and recognition of what is now known as the Cooperative Extension Service, a coordinated, nationwide effort by the universities to reach the rural masses of people was made possible with the passage of the Smith-Lever Act of 1914. The Association of American Agricultural Colleges and Experiment Stations first voiced demands in 1908 for federal appropriations to help defray the cost of diffusing practical information to a mostly rural population. It was the Smith-Lever Act that specified that extension must be carried on in connection with the land-grant colleges and universities.

The term "cooperative" stems from conditions set forth in this act. Initially a cap of $10,000 was distributed to each state. Once this cap of $10,000 had been distributed to a state, no more federal dollars would be made available for Cooperative Extension until a matching amount from the state legislature, county, or college had been received (Williams, 1991, p. 3). Although present day caps have increased to reflect current day economic conditions, this base cooperative funding pattern continues today. The passage of the Smith-Lever Act created a partnership between each land-grant institution and the federal government. As a result, the Extension Service in each state follows the

policies, procedures, and goals of the university system of which it is a part.

While the partners within the Extension Service work interdependently, each enjoys autonomy in funding, staffing, and specific program delivery. The thrust of programs continues to be aimed at disseminating information that pertains to the needs of those served in the environments in which they function daily(USDA, 1997; Williams, 1991). A highly systematic approach to program success is achieved by providing non-formal education and training beyond the formal classroom setting.

Program delivery concentrates on the practical, problem-centered concerns of the clientele served. A key component is the objective presentation of factual research based information. Factual information is derived from scientific inquiry and resident-teaching functions of faculty at university sites. The free flow of communication throughout all levels of the system and among the partners of the system makes this a viable form of adult education (Darkenwald & Merriam, 1982, pp. 164-65; Shannon & Schoenfeld, 1967, pp. 48-50).

In the State of Oklahoma, the Cooperative Extension System has a proud history of serving the state's residents. Today, the Extension Service has offices in 76 of the 77 Oklahoma counties. Nationally, this three-way federal, state, and local partnership has made the Extension Service a successful model for providing non-formal education to the

citizens of the state (Curl, 1998). Currently, within the Oklahoma State University Cooperative Extension Service, there are many types of programs and services offered. These include statewide outreach services, grass-roots program planning, volunteer training, workshops, conferences, special programs, and in-service training (Extension Service, USDA, 1976).

Problem

Over the years, several congressional acts created the nationwide Extension Service. The goal of the Extension Service has always been to disseminate information that can best help people solve their problems. In Oklahoma, the Extension Service continues to offer programs that address the needs of people of all ages. Youth concerns are addressed through the 4-H Programs. Rural America is served through outreach programs for adults. For residents in urban areas, issues of health and nutrition are addressed through Community Nutrition Education Programs.

The mission of Cooperative Extension Service is to achieve significant and equitable improvements in domestic environmental and social conditions. The Extension Service is committed to creating relevant and useful research, education, and extension programs that address the changing needs of the citizens. Adults teaching adults often

accomplish this. Focus on this mission has resulted in the Extension Service being one of the world's largest adult education organizations (Severs, 1991; USDA, 1997).

Adult learners generally are concerned with solving problems that impact them on a daily basis. Because they are focused on a remedy, their motivation to learn is usually at a high level. Adult learning does not require the rigid sequential pathway often used in pedagogical learning. Adult learning can and does build on life experiences and attitudes acquired over time. It is much like adding another piece to the puzzle of life. Often times these puzzles, problems, or concerns are not well defined as would be in a structured formal classroom arena.

Community Nutrition Education Programs in Oklahoma are one example of the concept of adults teaching adults. The Nutrition Education Assistant delivers hands-on practical solutions to real life concerns. The efforts of Community Nutrition Education Programs are directed toward providing knowledge about how to use available food resources and the importance of nutrition to enhance overall quality of life (Muyengwa & Ebert, 1991). Central to the program is the efforts of the Nutrition Education Assistant who work primarily in the community. These paraprofessionals disseminate nutrition knowledge to a targeted audience. Paraprofessionals work with adult learners in a variety of formats. They may work with an adult in a one-on-one teaching situation; however in recent years, increased

emphasis has been placed on teaching in cluster groups of 2-4 people or in small groups of 5-10 people (Chipman & Kendall, 1989). Nutrition Education Assistants are hired because they possess the humanistic characteristics needed to effectively work with low-income, limited resource, and low-level education audiences (USDA, 1979, pp. 16-17; USDA, 1986, pp. 36-37). Currently, there are no requirements for Nutrition Education Assistants to have previous teaching experience nor are they required to have teaching credentials.

The Cooperative Extension Service is the world's largest publicly supported informal adult education and development organization (Seevers, 1991). It is the first and only national system of adult education in America (Boone, 1985). Historically it has been assumed that adults who teach other adults have the prerequisite technical skill to teach those adults (Draves, 1984, pp. 16-20). It has also been assumed that they will be able to assist the learner by directing and facilitating the learning process. In this way the needs of these adult learners can be addressed.

Based on this premise, the training of the Nutrition Education Assistant should rely on the principals of adult education, which is the foundation for learning. However, current hiring practices and training opportunities for the Nutrition Education Assistants employed in Community Nutrition Education Programs in Oklahoma State Extension Service do not support this assumption. Since the viability

and continued funding of community nutrition education programs depends on success with clientele served, effective teaching by the instructor with desirable behavior change by the learner must be evidenced. Knowledge of ones teaching style preference can assist the instructor in facilitating successful learning outcomes (Conti, 1985, pp. 7-8; Whitford & Hyman, 1990, pp. 24-25).

Purpose

The purpose of this research was to describe the preferred teaching style of the community nutrition education staff members employed in the State of Oklahoma Extension Service. Additionally this study sought to examine respondent's knowledge regarding basic adult education principles and practices.

Research Questions

Continuing education and training of Extension staff is accepted as a critical factor in the effectiveness of the Extension employee. The minimum qualifications for professional county extension staff include possession of advanced degrees (Lyles & Warmbrod 1994; Seevers, 1991). However, the possession of an advanced degree does not assure that effective teaching practices with adult audiences will occur (Seevers, 1991) examined the teaching

style preferences of all levels of Extension staff at Ohio State University including paraprofessionals employed in Community Nutrition Education Programs. There is an expectation that Nutrition Education Assistants will utilize teaching behaviors that are supportive of the learner. Awareness and knowledge of what those behaviors may be are not intuitively known by the Nutrition Education Assistant. Assessment of the teaching style preferences among non-degreed Extension staff has not been completed in the Oklahoma State Cooperative Extension Service. Therefore, the following research questions were addressed in this study.

1. What is the demographic profile of the paraprofessional staff employed in the Oklahoma Extension Service Community Nutrition Education Programs?
2. What is the teaching style profile of Community Nutrition Education Assistant?
3. What is the knowledge level of Community Nutrition Education paraprofessionals about basic adult education principles and practices?
4. What is the relationship between teaching style and the demographic variables of age, education, race and teaching experience?

Definitions

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 pp. 50-51; Knowles, 1978, pp. 184-185).

CES: A universal term to denote the Cooperative Extension Service in any of the 50 United States (United States Department of Agriculture, 1997).

CNEP: This is the term for the Community Nutrition Education Programs which provides non-formal nutrition education programs available to local community residents.

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).

NEA: Nutrition Education Assistant is the current title used to identify the non-professional extension staff member employed in a community nutrition education program.

Paraprofessional Aide: Original term used to identify the Extension Service staff member who implements

the food and nutrition education program for low-income homemakers.

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).

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.

Professional Staff: Oklahoma Extension Service employees at the state, district, and county levels who have earned at least a university bachelors degree and are responsible for planning, conducting, and evaluating educational programs.

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).

Assumptions

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 learning opportunities.

Limitations

Survey method data collection was utilized. A five-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, 1992, pp. 62-66). 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. This study was patterned after a study by Seevers (1991). Therefore, instruments used in that study were used in this current study.

Access to individual Nutrition Education Assistants throughout the state of Oklahoma is difficult. Therefore data was collected at an annual statewide conference which Nutrition Education Assistants are required to attend. Only those who attended the conference participated in the study. Results from this study apply to Oklahoma Extension Service staff, and are not generalized to all Cooperative Extension Service employees.

CHAPTER II

REVIEW OF LITERATURE

Research about adult education and the practitioner who teaches adults continues to evolve. The concept of teaching style has attracted the interest of an increasing number of adult education researchers. More specifically, current focus is on the actual behavior that adult educators exhibit in the practice of teaching (Conti, 1984, p. 1).

Cooperative Extension System

The United States Department of Agriculture (USDA) is the political arm of the Cooperative Extension Service (CES). The CES is often referred to as the world's largest publicly supported informal adult education organization (Boone, 1970). The mission of Cooperative Extension Service is to help people improve their lives through an educational process that uses science-based knowledge to address their needs (Extension Committee on Organization and Policy, 1990, p. 1). The Joint Committee Report on Extension Programs,

Policies, and Goals stated that "the goal of Cooperative Extension Service is to help people help themselves to the end that they through their own initiative may effectively solve various problems directly affecting their welfare" (p. 4). As America's first and only national system of adult education, the Cooperative Extension Service has continued this goal for more than 75 years.

The origination and passage of legislation between 1862 and 1914 resulted in the Cooperative Extension System that exist today. Through a combination of legislative acts, the land-grant institutions and experiment stations were created. Between 1862 and 1914, there were several political actions that resulted in the Extension Service. They included the first Morrill Act of 1862, the Hatch Act of 1887, and the Smith-Lever Act of 1914. The Morrill Act of 1862 provided government land to be used in providing practical education in mechanical and agricultural arts. The Hatch Act of 1887 established the research function of the land-grant institutions by providing for one Agricultural Experiment Station at each institution. The second Morrill Act of 1890 provided for the continuing funding of each land-grant institution. Mutual cooperation and increased funding was established between the United Stated Department of Agriculture and the land-grant institutions in 1914. Through these political acts a very effective partnership of legislation, education, and

research was formed that is still in existence (Edwards, 1987, p. 16; Gehert, 1994, pp. 9-10).

Even though the second Morrill Act did not permit racial discrimination in admissions to institutions that received federal funds, for all practical purposes many southern and border states used this legislation to establish "separate but equal" facilities for black and white students (Mayberry, 1991 pp. 7-8; Rasmussen, 1989, p. 24). The "white" south was already aware of the significance of education in a free society. Southern educational institutions had been established for white youths as early as 1794 in Tennessee, 1801 in South Carolina, 1833 in Delaware, 1839 in Missouri, 1853 in Florida, and 1860 in Louisiana.

Until the Emancipation Proclamation was signed by President Abraham Lincoln, education of slaves was forbidden (Mayberry, 1990). The threat of reprisals and the daily struggle to survive precluded a desire for education among the so-called Negro race. During this same period, the need for practical, survival skills increased. Collectively the so-called Negro race understood the need to prepare itself to live in a politically free society.

The establishment of Negro schools in the South was society's attempt to address the education of the Negro issue. The period between the years of 1866-1912 was a 46-year period when 18 predominately black institution were established in southern states (Mayberry, 1991, pp. 2-6).

These land-grant institutions are referred to as the Historically Black Colleges and Universities. From their origins, these institutions have been committed to the land-grant philosophy.

The early roles of these institutions included providing teacher training and general education to the student body. The mission of the land-grant institution is to provide for instruction, research, and extension activities. Among the original 18 members, only Alcorn State, Prairie View University, and Tuskegee University established early extension research activities. Most well known among these is the work of Booker T. Washington at Tuskegee. Dr. Washington was committed to the philosophy of extending the influence of the university beyond the campus borders (Mayberry, 1991, pp. 59-60). It was through the efforts of Washington that the first Cooperative Extension Program for African-Americans was established.

The passage of the Hatch Act of 1887 shaped the beginning form of Extension. This legislation formalized the research-based function of the universities. With a research base of operation, the need to efficiently disseminate and demonstrate the practicality of the research became apparent. The most effective method was through the "demonstration" technique utilized at the grass-roots level among local farmers, in agriculture schools, and by home demonstration agents. This method worked well in informal and non-formal teaching situations designed to help adults

help themselves. The dissemination and encouragement in the use of practical knowledge was primarily in the areas of agriculture and home economics and was targeted toward those not enrolled in land-grant institutions (Mayberry, 1991, pp. 6-7, 23).

The Cooperative Extension System assumed its final form with the passage of the Smith-Lever Act of 1914 (Gehert, 1994; Shannon & Schoenfeld, 1967, pp. 46-47). In performing its assigned mission, the Cooperative Extension Service aimed to help people identify and solve their own problems at the local level, and the provision of federal funds would greatly assist states in performing their role through Extension (Shannon & Schoenfeld, 1967, p. 44). As a result, a memorandum of understanding between the Secretary of Agriculture and the Executive Committee of each land-grant institution required states to match federal funds. The overall role of the Cooperative Extension Service is specified in the memorandum that includes three major functions:

1. The "education" aim function which encompasses responsibility for leadership in and coordination of all educational programs of the department;
2. The state program support functions which includes stimulation, planning and execution of extension programs within the state; and

3. The establishment and maintenance of relationships with other governmental agencies germane to the national Extension function. (Ferguson,1964 cited in Edwards, 1987)

This arrangement continues today.

Extension Services

Every state Cooperative Extension System is funded through a three-tier arrangement that includes the federal, state, and local governments. This combined funding allows each state to provide Extension Services to its residents. Each tier provides a measure of support on an annual recurring basis that is administered by the land-grant university designated by the state legislature. The Extension Service does not dispense funds directly to the public. Professional and para-professional staff use an educational approach to help people solve problems (Curl, 1997, p. 4).

Over time, the Cooperative Extension Service has shown great ability to respond to the needs of citizens at the local level. Emphasis of service changes periodically depending on the critical issues facing any particular community. For example since World War I, the Extension Service has provided leadership in areas of food production and preservation, crops and livestock production, and clothing conservation. In communities throughout the 1920s

and 30s, the Extension Service assisted in establishing farm cooperatives that provided a means to economically purchase farm supplies. Home Economics programs sponsored by the Extension Service during this time stressed family self-sufficiency by incorporating conservation approaches to food production and food preservation (Gehert, 1994, pp. 4-11). During the 1940s and 50s, technological changes contributed to societal prosperity. These changes allowed Extension Service to assist the agriculture sector in adopting more efficient production techniques. Home appliance conveniences and other work saving devices became standard in many homes. This increased the demand for home economics related education (Vines & Anderson, 1976).

New research and continued rapid technological change since the 1950s contributed to increased complexity of living. As a result, the Extension Service has broadened its educational perspective to include areas of marketing, resource development, community development, as well as family living (Gehert, 1994, p. 12). From its beginning, the Extension Service focused on issues of concern in the rural areas. Changes in the environment make it necessary for the Extension Service to adapt to the shifting needs and priorities of the people it serves. For example, programs and services for low-income, urban-dwelling minority groups, migrant workers, and the elderly began to receive attention in the 1960's.

A publication, Hunger--U.S.A., released in 1968 told of millions of Americans who had incomes inadequate to supply basic necessities of life and the inadequacy of government food and assistance programs in remedying the situation. During this period, a series of pilot projects were funded to test the feasibility of programs such as the food and nutrition programs. Paraprofessionals, Nutrition Program Aides, and Nutrition Education Assistants were hired and trained to work with low-income families.

The paraprofessionals helped implement the educational objectives of the Extension Service. Their specific goal was to assist the families with strategies to improve the nutritional quality and adequacy of their diets through education. As a result, the Federal Extension Service provided $10 million of federal funds to expand Extension Home Economics Education programs for low-income families with primary emphasis on foods and nutrition (Gehert, 1994, p.23; Williams, 1991). These programs utilized para-professionals to help implement the educational objectives of the Extension Service.

Urbanization of the country continued throughout the 1970s and 80s. The need to deliver relevant services and programs to the urban sector had to be addressed. In 1986 a Futures Task Force at the national level was appointed to serve as a think tank focusing on delivery of Cooperative Extension programs to the urban population. By the early 1990s, the Program Committee Leadership Committee had

charged a National Task Force with defining a framework for urban Extension. The report submitted by this task force set forth its vision of the future of the U.S. urban Extension Service and identified the types of urban programming needed for this segment of society. Issues common to this group include dysfunctional families, ill-prepared work force, illiteracy, poverty, unemployment, parenting skills, and nutrition and health issues (USDA, 1996).

Considering this formidable task faced by the Cooperative Extension Service, it has experienced considerable success in confronting these challenges in the urban environment. For example, the University of Florida at Miami reported $1.1 million annual savings in nutrition program family food bills in 1993. Similarly, in Chicago, nearly 6,000 students participated in the school component of the Urban Gardening Program during the 1993-94 school year (USDA, 1994). Produce from the gardens was used to augment home produce supplies. In turn the nutritional aspects of home gardening was incorporated into nutrition education lessons provided by the nutrition program paraprofessional (USDA, May, 1996).

The Community Nutrition Education Program

Over the years, Cooperative Extension System has added many new programs. In the past 25 years, it has reached out

to "non-traditional" audiences. During the 1960s, several significant projects, congressional hearings, and investigations by the Senate Select Committee on Nutrition and Human Needs confirmed that 5 million American families were living in poverty and suffered from malnutrition (Gehert, 1994). The evidence suggested that the poor nutritional status was not due to a lack of food but rather was due to a lack of knowledge about skillful use of limited resources.

At that time there were no national educational programs in place that reached out to these millions of at-risk families. Consequently, the USDA piloted nutrition education programs targeted at low income families and utilized paraprofessionals in Alabama, Rhode Island, Texas and other states (Chipman & Kendall, 1989 pp. 265-266). These piloted programs confirmed the need and potential success of Community Nutrition Education Programs.

Fortunately, the country was experiencing economic growth and prosperity at this time as well as a social climate that was more favorable toward the less fortunate and poor. In the political climate of the day, events converged to create an atmosphere that allowed President Kennedy to implement plans to rid the country of poverty (Rauch, 1969, p. 21).

By 1963 this plan had evolved into the "War on Poverty". The main focus of this effort was on community

programs that utilized indigenous people to deliver a variety of social programs and employment services (Rauch, 1969, p. 21). Improving the overall plight of the poor required attention to the health status of American's families and especially to those living in the rural South. Monies were made available to fund the Expanded Food and Nutrition Education Program. The Extension Service was designated to administer and deliver the program nation wide (Gehert, 1994).

The Expanded Food and Nutrition Education Program was created to address the hunger that existed among the very poor of the nations' citizens. The fundamental objective of the Expanded Food and Nutrition Education Program is to promote sound nutritional principles among low-income urban and rural poor families (Science and Education Administration, 1979, pp. 1-3). Hunger conditions were addressed by providing families with the knowledge to better utilize the food resources available to them. Emphasis was placed on the importance of nutrition knowledge and its application to food resources.

The Food Stamp Program

The Food Stamp Program was the result of a major piece of legislation during the "War on Poverty". However, it traces its earliest origins back to the Food Stamp Plan, which helped the needy families in the Depression era. The

modern day program began as a pilot project in 1961 during the same time that the Extension Service nutrition delivery programs were getting started. It was authorized as a permanent program in 1964; however, it took another 10 years before Congress authorized all states to offer the program to low-income households.

As a result, a major expansion occurred in 1974 that was followed by the Food Stamp Act of 1977. This act resulted in significant changes in program regulations. Eligibility requirements were tightened, the administration become more accountable, and the requirement was made that food stamps be purchased by participants was removed. Program growth has continued since then, reaching an all-time high of almost 28 million in 1994. It is a massive program with current levels of enrollment estimated to be about 20 million households (United States Department of Agriculture, 1988). Benefits from the program allow participants to reserve their hard currency to purchase non-foodstuff household essentials. At the same time they are able to use their food stamp allotment to purchase eligible food items.

Since the inception of the Expanded Food and Nutrition Education Program, there have been many changes in society. The Extension Service has always tried to change with the times to provide a diversity of services needed for the times. Out of this diversity of services rose the Oklahoma Nutrition Education Program. By 1994 in the State of

Oklahoma, the Expanded Food and Nutrition Education Program was linked with the Oklahoma Nutrition Education (ONE) Program. The Oklahoma Nutrition Education Program goals are similar to the Expanded Food and Nutrition Education Program (Williams, 1997). Specifically it targets food stamp recipients, individuals, and families. This program is the result of a collaborative effort between the Oklahoma Extension Service and the Oklahoma Department of Human Services Food Stamp Program.

At its inception, participants in the Food Stamp Program were issued a monthly allotment of printed coupons worth specific dollar amounts. Food purchases up to the dollar amount stamped on the coupon were used in place of U.S. Treasury notes. This method was replaced with the use of electronic benefits. This system uses a plastic access card to access monthly credit amounts. Electronic transfers are made each month to recipients' accounts. The cost of purchases made at participating stores is automatically removed from the account of the cardholder. Recipients use the allotment of credit to purchase groceries throughout the month. The goal is to purchase food items known to improve the diet.

The Food Stamp Program is the corner stone of the Federal Food Assistance Programs. The United States Department of Agriculture administers the Food Stamp Program at the Federal level through the Food and Nutrition Service. State agencies administer the program at the state and local

levels including determination of eligibility and monthly allotments.

In 1997 a collaborative effort between the Oklahoma Cooperative Extension Service, Community Nutrition Education Program and the Department of Human Services Food Stamp Division was formed. This operating agreement between the Department of Human Services and the Oklahoma Nutrition Education Program was summarized by Margaret Morgan, Administrative Office for the State Food Stamp Section, as follows:

> The cooperative programming between the Department of Human Services and the Oklahoma Cooperative Extension Service will allow food stamp recipients to receive nutrition education that will promote good health and management of resources in order to eat healthy everyday of the month. In view of this arrangement, all requested client information should be made available to the Community Nutrition Education Nutrition Education Assistant with the full cooperation from the Department of Human Services.

The Expanded Food and Nutrition Education Program originally provided its service to low-income homemakers with children in the household. The Extension Service recognized that there is a need for sound nutrition education to all adult members of the society. In

recognition of this need, the Oklahoma Nutrition Education Program provides service to any household as long as at least one adult member of the household received food stamps. As an alternative, some households that were eligible opted instead to receive monthly food packages provided through food commodity distribution centers.

The expertise of the Extension Service in nutrition and non-formal education allows the Extension Service to deliver in-depth nutrition education lessons to households enrolled in the Expanded Food and Nutrition Education or those enrolled in the Oklahoma Nutrition Education Program. These programs combine the expertise and resources of federal, state, and local governments. In the State of Oklahoma they comprise the Community Nutrition Education Programs and function under the arm of the Extension Service in Oklahoma. The goals of the both programs are to help low-income families and youth acquire the knowledge, skills, and attitudes needed for behavior changes which contribute to nutritionally sound diets (Chipman & Kendal, 1989, pp. 265-269; Science and Education Administration, 1979; Williams, 1997, p. 6). In Oklahoma, these programs utilize Nutrition Education Assistants (NEA) to implement program goals.

Community Nutrition Education Paraprofessional

The use of paraprofessionals in the law and nursing professions and more recently in home health care agencies

has long been practiced. Paraprofessionals are also used within the Extension Service. The value of the paraprofessional has been proven over the last 20 years (Hiatt, Sampson, & Baird, in press). For example, a recent quantitative meta-analysis of 42 studies that looked at the effectiveness of paraprofessionals concluded that paraprofessionals were at least as effective in home visitation outcomes as that found in clinical or office settings (Hiatt, et. al., in press).

A typical home visit by a paraprofessional in the Community Nutrition Education Program is designed to deliver a nutrition education lesson, collect data mandated by the administrative arm of the program, monitor behavior change toward positive desired outcomes, inform homemakers about collateral community resources for which they may qualify, and address their non-nutrition and health related concerns. For instance, a client may be faced with a utility cut-off notice on the day of a scheduled Nutrition Education Assistant home visit and therefore may not be able to focus on the home visit lesson about food preservation. Therefore, they may look to the Nutrition Education Assistant's scheduled visit as a means of obtaining help to solve the more immediate utility shut-off problem. As the Nutrition Education Assistant guides the homemaker in addressing these stressful events, the type of trust, bonding, and respect for the Nutrition Education Assistant's

expertise and problem solving abilities are developed (Science and Education Administration, 1979).

The approach of beginning with the homemaker at their existing level of education, experience, interest, or level of need allows the Nutrition Education Assistant to demonstrate the philosophy of the Extension Service. The need for this approach is an indication that the paraprofessional has become an important part of the solution to a growing demand for more personalized delivery by human service agencies and in non-formal educational settings (United States Department of Agriculture, 1977).

The Extension Service has employed paraprofessionals since World War II. Since that time the profile of the paraprofessional has changed. Prior to the War on Poverty of the 1960s, paraprofessionals used by the Extension Service tended to reflect the mores and values of the middle-class professionals under whom they worked (Nease, 1975, p. 2).

Paraprofessionals in the Extension Service differ from professionals in two important ways. First, a paraprofessional is an individual who does not possess a baccalaureate, post baccalaureate, or the professional training necessary to be employed in the higher skilled positions. However, this type of employee has acquired practical experience in the community and is familiar with local resources that may be useful to a paraprofessional (Cavendar, 1978, p. 84; Hiatt, et. al., in press).

Working under the direction of a Extension Service professional staff member, the paraprofessional in the Community Nutrition Education Programs receives initial and continuing training in food and nutrition and other food related topics. Indigenous paraprofessional workers come from the low-income community in which they are employed (Gehert, 1994; Nease, 1975). They tend to range in age between 35-49 years old when first employed by the Extension Service, are slightly older than the homemakers with whom they work, have children in primary and junior high school, and possess at least a high school education (USDA, 1977).

Nutrition Education Assistant

There have been changes in the role of paraprofessional employed in the Community-Nutrition Education Programs. As originally designed for the Expanded Food and Nutrition Education Program, the indigenous paraprofessional's took the program to the people who needed it. During that time, much effort concentrated on practical hands-on activities such as providing cooking classes, recipe demonstrations, and instruction on grocery shopping. The prevailing thought was that if the homemaker's diet improved due to the Nutrition Education Assistants efforts, then a trickle down effect would occur. An improved mother's diet would allow her to better nourish her children. Well-fed, healthier children do better in school and experience fewer illness

episodes (USDA, 1994). This in turn translates into fewer absences from work by parents who must stay home to nurse the child.

In the State of Oklahoma, the Nutrition Education Assistant (NEA) is expected to provide practical cost-effective nutrition education for low-income families under the supervision of a professional Family and Consumer Sciences Extension Educator (Williams, 1997). The NEA is expected to function as a sounding board for the enrolled homemaker as they are guided toward decisions most advantageous to their situation (Buck, 1986, p. 8).

Consequently, "the uniqueness of the paraprofessional is his/her ability to act as a liaison between the middle-class oriented professional and members from the lower socioeconomic groups" (Cavendar, 1978, p. 85). Implicit in the Nutrition Assistant role expectation is the notion that an effective Nutrition Education Assistant will possess the personal skills to effectively provide leadership, expertise, and camaraderie to participants enrolled in the program.

Adult Education

The definition of adult education has been based on assumptions and value judgements that are not embraced by all (Darkenwald & Merriam, 1982, p. 8). Because the word education is so closely associated with young people and

with the concept of schools, the phrase adult education has an inconsonant quality about it even in the minds of many professional educators (p.2).

By looking at the purpose of adult education one may better be able to determine the nature of adult education. In the traditional sense, schools and colleges function as agencies of socialization. Additionally, their role is to prepare children and youth for adulthood. However, for learners who have already reached adulthood, it seems more fitting that adult education function to prepare adult to live a more successful life. In this society, the ability to solve personal and community problems is recognized as a hallmark of maturity and adulthood.

Eloquent elucidation on the nature of adult education can be found in the work of Eduard Lindeman. He is considered a major philosopher of adult education (Nixon-Ponder, 1995, p. 2). His writings on adult education span the period between World War I and World II, and they attest to the relevance of adult education. His conceptualization of practice still guides many adult educators; Lindeman outlined critical theory of adult learning; he introduced the concept of andragogy into American literature; and he constantly argued for the social relevance of adult education (Brookfield, 1984, pp. 186-187).

According to Lindeman, adult education is "a co-operative venture in non-authoritarian, informal learning" (Brookfield, 1984, pp. 185-186). This co-operative venture

is based on the four principles of adult education contained in his most important work, The Meaning of Adult Education (1926). In that work, Lindeman discussed concepts such as education as a lifelong process, adult education as a non-vocational exercise, the importance of organizing learning around the situations people face in everyday life rather than around preconceived subjects, and the importance of each learner's experience in adult education. It is not ironic that the nature of the Extension Service embraces these concepts and strives to exhibit them in the type of program planning and delivery that it provides to the public.

Adult Learners

Researchers associated with adult learning such as Brunner, Kidd, Kemper, and Verner and Booth have approached this topic by trying to adapt theories about child learning to adults (Knowles, 1990, pp. 46-47). The traditional adult learner has been characterized as fitting into five distinct categories (Endorf & McNeff, 1991, p.20). In this assessment, the method used by adult learners to survive the rigors of a formal classroom environment was used as the criteria for assessment. Earlier Houle had identified three categories of adult learners in continuing education activities. Through the use of learner interviews, he found that these categories included the goal-oriented learner,

the activity-oriented learner, and the learning-oriented learner.

Predominately middle-aged adults mostly populate today's society. It is a society that is rapidly becoming oriented more to the older-adult. As more adults participate in the learning process, it becomes apparent that a major goal of learning is to assist adult learners in their adult development process (Merriam & Caffarella; Knowles, 1991).

As recent as 1926, Lindeman had just begun to explore adult learning. Through his translation of German writings about the folk high school system, the term of andragogy emerged. However, Knowles popularized the term in American literature in his attempts to spark debate about the adult learning processes. The concept of andragogy, its place in adult education as well as his theoretical assumptions allow Knowles to be generally accepted as the father of adult education. This model consists of a set of assumptions regarding adult learners as compared to childhood schooling (Knowles, 1980; Merriam & Caffarella, 1991).

In the andragogical model, Knowles (1980) presents the belief that adults can learn regardless of age, that learning is an internal process, and that there are principles of teaching that help facilitate the learner. Throughout his early work, Knowles advanced the idea that teaching adults is different from teaching children. He contrasts the learner-centered method which he coined as

andragogical with the teacher-centered method which is assumed to be teacher centered (Seevers, 1991). Knowles further points out that so important are these differing ways that adults learn that they affect learning and thus how an adult educator should approach learning with another adult (Seevers, 1991). The andragogical model is based on the following four assumptions about adult learning.

1. Adults tend to be self-directing
2. Adults have a rich reservoir of experience that can serve as a resource for learning
3. Adults tend to approach learning from a problem-centered approach as opposed to a subject-matter approach.
4. Adult more so than children are motivated to learn due to internal factors which are generated from within themselves (Knowles, 1980).

Research completed by Cross further substantiated Knowles. Cross concluded that adult learning needs conform to the following:

- Adult learners choose to involve themselves in educational endeavors that will result in immediate, practical benefits to their lives
- Adults who have low basic economic and educational attainment levels are motivated by a need to meet basic necessities of life
- Reported motivational barriers may not reveal actual barriers since adults may lack knowledge about actual barriers
- Most adults prefer interactive modes of learning such as discussion and hands-on activities.

These andragogical model assumptions depict how adults learn. However, there is a clear implication from this model about teaching adults. Acceptance of the assumption that adult learning differs from child learning suggest that

adults should be taught differently (Beder & Darkenwald, 1982; Seevers, 1991).

In its original form, Knowles (1980) described his model as assumptions that could be used along with the existing pedagogical model. More recent literature indicates that over time Knowles modified his position about the difference between pedagogy and andragogy. This refinement encompasses the notion that all human beings have innate tendencies that emerge as the mature into adulthood.

Despite this altered position, the andragogical model significantly affected the field of adult education. "This concept continues to be the single most popular idea in the education and training of adults" (Brookfield, 1986). One of the most enduring aspects about this model is that teaching adults should differ from teaching children.

In the United States there is no single "rite of passage" clearly marking the transition from minor status to adulthood. Legal age varies depending on the situation such as 18 for driving but age 21 for social drinking. Biological maturity varies from person to person and between gender (Smolak, 1993, p. 40). According to Knowles, (1990), the psychological definition of adulthood is the point at which a person thinks of oneself as self-directing. Economic independence, readiness to marry and procreate, and level of decision-making ability have also been identified

as three criteriun for defining adulthood (McCandless & Coop, cited in Smolak, 1993, p. 41,).

Decision-making ability is probably the most important of the three criteriun. For the Nutrition Education Assistant working with the typical homemaker enrolled in a Community Nutrition Education Program adult decision making abilities is crucial to a successful outcome. Decision-making is also very critical to enhancement of quality of life for the audience the Nutrition Education Assistant serves. The NEA's ability to assist the homemaker often hinges on her understanding of the characteristics of the adult learner and upon the impact that the adult teacher can have on the learner at the time of the teaching encounters.

The Commission on Higher Education and the Adult Learner was established by the American Council of Education in 1981. Based on numerous studies and reports, it is the conviction of the commission that national attention must be focused on adult learning as a major resource in solving the nation's economic and social dilemmas. The commission believes that the ongoing pursuit of learning by adults is no longer a luxury, but rather it is a necessity. It is essential for the increased productivity, for social equity, and for the enhancement of the quality of life for this nation's citizens (Commission on Higher Education, 1984, p. 3).

Several theoretical approaches to learning theories emerge from the literature. One voice of researchers that

included Freire (1970) and Mezirow (1981) postulates that adult education should result in a transformative experience for the learner. In a culture of poverty similar to that described by Freire, adult learners do not readily perceive alternatives to their situations. Therefore, they would not readily seek avenues to change or transform their situation. If, such circumstances are presented to them, engagement may occur and thereby result in a transforming experience.

Another approach, which was led by Houle (1961), attempted to explain the adult learner in terms of their motivation for learning. Houle describes the "learning-oriented" adult as one who engages in the learning without regard for its immediate life application. Some adults engage in learning without any specific goal in mind (Brookfield, 1986).

In its simplest form, the various theories of learning can be categorized into four orientations to learning (Merriam & Caffarella, 1991). These are behaviorist, cognitivist, humanist, and social learning against which learning can be measured. The cognitivist orientation views the learning process as a means to assist learners in reorganizing their thoughts in order to arrive at better understanding. This in turn prompts the learner to become self-actualized, that is, self-directed to address their own problems and concerns.

The premise of the humanistic approach is demonstrated in Maslow's Theory of Learning. His model of the humanistic

theory of adult education is one in which the development of the whole person occurs. The learner moves toward self-actualization by moving upwards on a hierarchy starting at satisfying base level instinctive needs such as hunger and clothing. The satisfaction of more esoteric desires such as appreciation for art and music occurs at a higher level in the movement toward self-actualization.

There exist more than one definition of adult learning based on different assumptions. Learner needs, learner style, and teaching style must be included in discussions designed to aid the practice of adult education. Brookfield (1986) supports the following principles for effective practice for the educator.

- Mutual respect between the teacher and learner
- Learner-centered approach
- Active learner participation
- Meaningful subject matter content with practical application
- Promotion of a environment for positive emotional building

Adult learning takes place in "real-life" activities (Fellenze & Conti, 1989). There are many differences between learning for everyday problems and learning for academic or test-taking situations. The term "real-life learning" helps distinguish typical adult learning from that of formal academic situations similar to those found in a school or university setting. The hands-on approach used by the Nutrition Education Assistant allows them to coach and guide adult learners as they face "real-life" situations.

Problem solving skills are used to address concerns about everyday topics such as childcare, food acquisition, and resource budgeting for immediate concerns.

Teaching Style

Teaching style definitions varies and are numerous. They have been categorized along a continuum that includes very narrow listings of behaviors at one end to explanations of global personality characteristics at the extreme end (Kleine, 1984, pp. 1-2). Descriptors found in models of teaching style include terms such as task oriented, learner centered, subject centered, and cooperative planner (Fischer & Fisher, 1979, pp. 245-54). Teaching style refers to the distinctive attributes exhibited by a teacher that are persistent from situation to situation regardless of the content (Conti, 1990, pp.79-83).

Teaching style does impact the potential success of the learner. The consistent behavior exhibited by the teacher throughout the teaching encounter influences the learner's self-confidence, interest, and participation in the learning process (Heimlich & Norland, 1994, pp. 26-30). A conceptual summary of the various teaching approaches in use such as information processing, personal, social, and behavioral systems approaches has been suggested (Joyce & Weil, 1986).

Several approaches have been used by adult education researchers to describe teaching style. One approach

distinguishes between the teacher-centered and the learner-centered activities. This approach is a categorical structure that examines the characteristics of the educator that define the instructor's qualities as an individual (Severs, 1991, pp. 19-20). There are two broad styles of instruction: proactive and reactive.

> The proactive style is learner-centered and views learning as an individualized process of discovery and growth. Reactive instruction places the learner in the position of the responder, (Lenz, 1982, p. 40)

The beliefs and attitudes held by an educator are the basis for his/her educational philosophy which serves as the framework that guides and defines an individual teaching style (Boone, 1985). Restated, it can be said that a teacher's educational philosophy is the operationalized behavior of one's teaching style (Conti, 1985).

The study of adult learning entails some understanding of how adults learn. There is a range of theoretical perspectives that have been elaborated with regard to adult learning (Brookfield, 1986, p. 26). According to Brookfield, it is difficult to specify generic principles of learning. However, in the past 25 years, a number of theorists have attempted to identify generalizable principles of adult learning which can form a theoretical foundation of adult learning that would aid practice (pp.25-26). Brookfield presents an eloquent discussion about these various attempts in Understanding and Facilitating Adult Learner. Early work by Gibb (1960), Miller (1964), and Kidd (1973) focused on

functional theory of principles of adult learning and conditions needed for adult learning to take place. Their arguments were based on speculative grounds. Gibb (1960) identified the following principles of adult learning:

- Learning must be problem centered
- Learning must be experience centered
- Experience must be meaningful to the learner
- The leaner must be free to look at the experience
- Goals must be set and pursued by the learner
- The learner must have feedback about progress toward goals

Miller (1964) believed that conditions of higher human development were necessary rather than behaviorist ones (p. 27). Knox (1977) developed a more widely referenced study in which he offered a number of broad observations concerning adult learning. For example, Knox believed that adults learn continually and informally as they adjust to role changes (p.27). Brundage and Mackeracher (1980) identified 36 learning principles. For example, they believe that adults are able to learn throughout their lifetimes. It is through such experience, however, that individuals construct the meanings and value frameworks that in turn determine how they code new stimuli and information (p. 28-29). By 1982, Darkenwald and Merriam presented a list of eight principles of learning derived from learning process research. These principles can serve as guidelines for effective facilitation of the learning interaction.

Brookfield (1986) has summarized the work of these early theorist thus:

> Adults learn throughout their lives, with the negotiations of the transitional stages in the life-span being the immediate causes and motives for much of this learning. Adults exhibit diverse learning styles-strategies for coding information, cognitive procedures, mental sets-and learn in different ways, at different times for different purposes. As rule, they like their learning activities to be problem centered and to be meaningful to their life situation, and they want the learning outcomes to have some immediacy of application.
>
> The desire to build an empirically verifiable theory of adult learning is in part due to the researcher interest in enhanced professional development. The ability to assess adult learning and teaching style can be operationalized. A variety of survey and methodological approaches have been tried. The results were that baseline comparisons were hard to make. (Brookfield, 1986, pp.32-33).

The Principle of Adult Learning Scale (PALS) was designed to test the presence of effective facilitation in practice. It is an instrument that can be used to determine whether or not teachers or programmers are behaving as effective facilitator's (p.34). Since its initial use,

Conti (1983) reports that PALS has been used in many training workshops and to assess staff-development needs with a variety of audiences.

More recently McCoy (1999) reports that PALS has been used in over 60 doctoral dissertations and research studies. PALS was selected to assess and describe the teaching style preferences of a populations in Indiana, Kansas, Missouri, Ohio, Pennsylvania, Texas, Singapore, and Thailand. The instrument was originally used with adult basic education teachers practicing in formal educational settings. PALS has been successfully used in non-formal teaching environments and with professionals, non-professionals, administrators, students, faculty, health care workers, correctional facility staff, and international audiences (Carr, 1998; Clause, 1993; Cook, 1994; Cummings, 1995; Eberle, 1993; Elliot, 19996; Gironda, 1998; Oseguenda, 1997; Papers, 1998; Rees, 1991; Seevers, 1991; Taylor, 1990; Viau, 1991; Waters, 1992). Many of these studies focused on the collaborative teaching-learning mode in the classroom practices of the teacher. Demographic variables were examined in these studies. They included age, gender, race, educational level, and adult education experiences.

Other studies using PALS have compared student achievement related to teaching style. Performance of students has been examined on licensure examinations, success in college level reading courses, development of moral judgement among prison inmates, pre-employment

assessments, academic achievement of non-traditional health profession students and academic gain among migrant students (Gifford, 1992; Hudspeth, 1991; Jones, 1984; Mancuso, 1988; McCann, 1988; McKenzie, 1987; Moore, 1996; Shriver, 1993; Welborn, 1985; Wiley, 1986. Varied results from these studies were obtained.

PALS has been used to compare the self-reporting teaching style of instructors and their students perceptions of their teaching style. Others have compared student learning style with teaching style (Brooks, 1988; Clow, 1986; McCollin, 1998; Miglietti, 1994; Mulholland, 1996; Reese, 1993; Spoon, 1996; Wilson, 1994; Woodstock. Training and education in adult learning principles and its effect on teaching style has been studied using PALS. Results from these studies indicate that in-service training in adult learning principles led to greater use of the collaborative teaching-learning mode.

CHAPTER III

METHODOLOGY

Design

This study utilized a descriptive research design. The descriptive method is a data collection process used in order to answer questions concerning the current status of the subject of the study. This method is uniquely designed to measure and report that which already exists. It is often used to investigate educational problems or questions. Descriptive studies are also used to explain attitudes, beliefs, opinions, preferences, or demographic information (Gay, 1992, pp. 218-219, Touliatos & Compton, 1992, p. 264).

"The aim of a descriptive study is to provide accurate information about people, individuals, organizations or a social group. This method seeks to arrive at comprehensive quantitative descriptions of the characteristics of some defined population or sample of that population" (Touliatos & Compton, 1992, pp. 264-265). In addition to describing phenomena, the descriptive study also tries to show how the findings fit together.

In this study the paraprofessionals in Community Nutrition Education Programs at Oklahoma State University Cooperative Extension Service were examined. This study fulfills the purpose of a descriptive study because it sought to describe the preferred teaching style of the Nutrition Education Assistants employed in these programs. Additionally, it sought to examine the respondents attitudes toward teaching 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 the currently employed Extension Service staff. No attempt was made to influence Nutrition Education Assistant's preferences or to manipulate knowledge scores.

There are a number of types of surveys used in descriptive studies. One way to describe a survey is by the group measured (Gay, 1992). When the entire population of a group is investigated, this is referred to as a population survey. For example, the U.S. census bureau conducts a population survey every 10 years.

A second way to explain a survey is by the design type (Gay, 1992). The two basic types used in the design type are the cross-sectional and the longitudinal. In cross-sectional surveys, information is collected at a single point in time for the purpose of describing characteristics of a sample or the population. The data is collected only once and at a particular time. It tells the researcher what

the conditions are at the time the data was collected. Longitudinal surveys use the same survey instrument to assess the sample more than once. These types are well suited to determine change in conditions, stability, or development over a period of time.

A third way to categorize surveys is by the method of data collection. Telephone interviews, telephone calling, or questionnaires can be used to obtain data in surveys. The respondent is allowed to self-report responses to the researcher. Directly unobservable behaviors can be studied using these techniques (Creswell, 1994, pp. 118-120; Touliatos & Compton, 1992, pp. 267-268).

This study used the questionnaire survey data collection method. Those who participated in the study were assembled in the same place so that distribution and collection of the written self-administered tool was feasible.

Population

All research must identify the population from which it will derive a sample for data collection. These two concepts should be differentiated between early on in the study organization. "The population refers to a group of persons (or objects) about which the investigator wishes to draw conclusions, and that a sample consist of a part of that population" (Minium, 1978, p. 15). Also, "a population

refers to a group of events, objects, or persons that meet certain specifications or have a common measurable characteristic" (Touliatos & Compton, 1992, pp.55-58). The population for this study was 51 Nutrition Education Assistants employed throughout 38 counties in the Oklahoma Cooperative Extension Service that hosted the Expanded Food and Nutrition Education or Oklahoma Nutrition Education Programs.

The Principles of Adult Learning Scale

Teaching style preferences of practitioners can be assessed with the Principles of Adult Education Learning Scale (PALS). PALS is based on the principles that are advanced in the adult education literature (Conti, 1978, 1979, 1982). This tool is a 44-item summative rating scale using a modified-Likert scale. The self-administered questionnaire can be completed in 10-15 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 options are as follows: 0-Always, 1-Almost Always, 2-Often, 3-Seldom, 4-Almost Never, and 5-Never. 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 teaching behaviors that are both teacher-centered and learner-centered (Conti, 1990, p. 83).

The overall PALS scores can be broken down into seven factors. Conti (1978, 1985, 1990) 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. Twelve negative items relate to the evaluation by formal tests and the comparison of the learner to outside standards. 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--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.

Reliability and Validity

Reliability and validity are very important concepts. The reliability of research findings renders repeatability of the process and similar results. If another investigator uses the same procedures using the same type of subjects, and method of analysis, comparable results should be possible (Touliatos & Compton, 1988, p. 76).

Validity is concerned with the test's ability to measure what it claims to measure (Gay, 1992, p. 161). 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. There are three important types of validity in use. The three are construct, content, and criterion related. Construct validity is the degree to which a test measures a non-observable trait (Gay, 1992). 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, 1992). 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, p. 64).

Criterion-related validity compares an instrument's scores with an external criteria known or believed to measure the attributes under study (Kerlinger, 1973, p. 459). Criterion-related validity was established for PALS by comparing the scores on PALS of those who scored two standard deviations above or below the mean in the Phase 2 field-testing to their scores on the Flanders Interaction Analysis Categories. The Flanders Interaction Analysis Categories was selected as the external criterion because it is a validated system for measuring initiating and responsive classroom actions and because the actions described in Flanders' definition of initiating are highly congruent with the characteristics of the collaborative mode (Conti, 1982, p. 1).

Reliability

To be useable an instrument must be reliable and valid. Reliability is the dependability that repeated responses will exhibit little variability (Gay, 1992; Touliatos & Compton, 1992). 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 used in this study, Seevers (1991) adjusted the scale to better suit Extension Service employees. Seevers (1991) examined the teaching style preferences of Extension Service Staff employed in the Ohio State University Extension Service. A modified version of the PALS instrument was used. Teaching style preferences of Nutrition Education Assistants employed in the Oklahoma State Cooperative Extension Service were 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 Extension Service 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 better fit the Extension Service audience. Modifications were obtained with the assistance of the PALS author (Seevers, 1991, p.44).

Other Measures

A knowledge section that pertained to the individual's understanding and knowledge of principles and practices in adult education was incorporated into the research tool. The employee was asked to either agree or disagree for each of 10 items in that section.

Five sections formed the test instrument. The first section collected information from subjects about their perceptions of their roles as adult educators. The second section contained items that pertained to subjects' level of understanding and teaching the adult learner. Sections three and four were designed to collect information from participants about their perceptions of their teaching style. The modified PALS was contained in section three.

A demographics section collected data about selected characteristics of each participant. Scores obtained from each person indicated their teaching style preference in adult education settings. Higher scores, showed more preference for the learner-centered mode, while lower scores indicate a teacher-centered approach. Scores for each respondent were determined by summing the value of the responses to all items. Items that were negatively worded were reversed scored so that the higher numbers indicated a more learner-centered approach. The differences in approaches reflected the amount of authority shared by the learner and the teacher in designing and implementing learning experiences (Conti, 1985, pp. 8-9).

PALS scores range from 0-220 with a mean of 146. The number of standard deviations from the mean was an indication of the participant's strength of commitment to a particular teaching style. Scores that were three standard deviations from the mean were interpreted as extremely strong commitment to a particular teaching style. Two standard deviations from the mean indicated strong support of a particular style.

Procedures

The population for this study consisted of all Nutrition Education Assistants employed in the Oklahoma Cooperative Extension Community Nutrition Education Programs in 1998. Community Nutrition Education Program services are provided in slightly over half of the state's 77 counties. Counties are selected due to a persistently high poverty rate within that county. The paraprofessionals were employed in the following counties; Atoka, Beckham, Blaine, Bryan, Custer, Comanche, Caddo, Canadian, Carter, Creek, Choctaw, Greer, Garfield, Grady, Haskell, Harmon, Jackson, Johnston, Kay, Kiowa, Latimer, LeFlore, Love, Logan, Marshall, Murray, McCurtain, Muskogee, Noble, Oklahoma, Okfuskee, Okmulgee, Pushmataha, Pontotoc, Pittsburg, Tillman, Tulsa, and Washita.

The researcher for this study delivered the data gathering booklet to each paraprofessional staff member who

attended the Annual Paraprofessionals In-Service Training Conference held in June, 1998, in Stillwater, OK. Attendance to the annual conference is required for the paraprofessional. The booklet for this study was organized into four sections. The first section contained a demographics sections with questions related to age, race, gender, educational level attainment, educational experiences and course work, place of residence, years employment, and years 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 modified PALS. The modified version contained 44 statements rated on a Likert scale with a choice of descriptors including Always, Almost Always, Often, Seldom, Almost Never, and Never. The items on this portion were designed to allow the educators to assess their teaching style preferences (Seevers, 1991, p. 45). Completed booklets were returned to well marked drop boxes

strategically located in each meeting room throughout the conference site and at the hotel checkout desk. The completed forms were channeled to the study investigator for sorting and analysis.

CHAPTER IV

FINDINGS

The purpose of this study was to describe the preferred teaching style of Nutrition Education Assistants employed in the Expanded Food and Nutrition Education Program and the Oklahoma Nutrition Education Program of the Oklahoma State University Cooperative Extension Service. In addition, this study sought to examine the respondent's attitudes toward teaching and their knowledge regarding basic adult education principles and practices.

Profile of the Nutrition Education Assistant

For purposes of this study, the population and sample pool consisted of the entire population of Nutrition Education Assistants in 38 counties in the State of Oklahoma. The role of the Nutrition Education Assistant is best suited for mature adults and approximately three-fifths of the group was over 40 years of age; 92% of the group was over 30 years of age. The group ranged in age as follows: 3--20-25, 2--26-30, 15--31-40, 13--41-50, and 18--over 50. The ethnic backgrounds were distributed as follows: 11--

African-Americans, 5--Hispanics; 4--Native-Americans, 30--Caucasians; and 6--Other.

Living locations were distributed between rural farm, rural non-farming, and urban dwelling. The rural farm communities included 16 respondents. Only three lived in rural, non-farming communities. Out of the entire population, a total 25 lived in urban centers with population of 50,000 or more while seven lived in large metropolitan areas of 100,000 or more.

Less than 15 reported one year of employment with the Oklahoma Cooperative Extension Service. Twenty nine percent had been employed one-three years. However, 41% of the group had been employed four or more years as a Nutrition Education Assistant. The Nutrition Education Assistant's varied in education level attainment. For example, all had completed the 12th grade of high school. Four had some post high school background; and 49% reported some college education. Even though a high school diploma fulfills the job qualifications, about 22% indicated they possessed a Bachelors degree in diverse fields of study excluding a degree in education; and four indicated other educational experience.

Nutrition Education Assistants were surveyed for this study. They were employed in the Expanded Food and Nutrition Education and the Oklahoma Nutrition Education Programs offered in 38 of the 77 counties in the State of Oklahoma. All of the study participants were female. There

were a total of 51 participants. Of these 9.8% were between the ages of 20-30 years old. The group ranged in age as follows: 64.7%--31-50 years of age, 35.3%--50 years or more. The ethnic distribution of the group was as follows: white--58.8%, African-Americans--21.6%, Hispanics--9.8%, Native Americans--7.8%, and 2%--no association with any of the options (see Table 1).

TABLE 1

FREQUENCY DISTRIBUTION BY RACE OF NUTRITION EDUCATION ASSISTANTS

Value Label	Value	Frequency	Percent
Asian/Pacific Islander	1	0	0
Black	2	11	21.6
Hispanic	3	5	9.8
Native American	4	4	7.8
White	5	30.	58.8
Other	6	1	2.0

In the State of Oklahoma, completion of high school or its' equivalent is a requirement for a position as a Nutrition Education Assistant. Approximately 14% of the NEA's only had a high school education. There were 7.8% who reported some type of education beyond high school, but not at the college level. Nearly half, 49%, reported having some college level education. Possession of a bachelors degree was reported by 21%, and 7.8% reported having education other than high school or college.

Nutrition Education Assistants from 38 Oklahoma counties participated in the study. This included both rural and urban counties. Rural farm areas are defined as those locations where the majority of residents live on working

farms. Of those reporting, 31.4% lived in rural farm communities. Non-farming rural communities are comprised of residents who live in a rural location and typically commute more than 20 miles away to engage in a non-farm related employment activity. Almost 6% reported living in non-farming rural settings. Approximately 49% lived in population areas of 50-100,000 while 13.7% lived in urban areas with populations over 100,000.

One-third of the Nutrition Education Assistants reported employment of 30 hours per week. A 30-hour workweek entitles an employee to receive health and insurance benefits from the employer. In recent years all new employees into the Community Nutrition Education Programs are hired for 40-hour workweeks. The majority 66.7% were employed 40 hours per week. This group of Nutrition Education Assistants had been employed by the Cooperative Extension Service for varying numbers of years as follows: 1 to 7--80.4%, 8 to 10 year--7.8%, and 11 to 15 years-- 7.8%. Close to 4% indicated more than 15 years of employment with the Cooperative Extension Service. However most had less than 7 years of experience with the Cooperative Extension Service.

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, 60.8%, indicated the term Extension Staff member

as the best job title for their position. Two employees preferred the title Program Assistant. One response supported Extension Associate as a preferred job title, and one third indicated "other" as their choice of job title.

Other Variables

All employees employed in the Oklahoma Cooperative Extension Service 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 interesting because 78% 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. Those reporting college level education course work accounted for more than 25% of the group total. Participants were asked to report the number of adult education courses they had taken. Forced choice response results were as follows: less than 12% indicated they had taken a college level course about educational philosophy. Coursework on teaching methods related to teaching adults was reported by 21.6 % of the study participants. There were 11% who indicated they had never taken any course work about adult characteristic and learning theory. Another 11% indicated no experience in

coursework about organization and administration of adult education programs. Program planning course work related to adult education was reported by almost 14% of this group.

Teaching Style

The Principles of Adult Learning Scale (PALS) was used to measure the teaching style preferences of para-professionals employed in the Community Nutrition Education Programs of the Oklahoma State Cooperative Extension Service. 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 identifies 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 PAL scores may range from 0-220. The standardized mean for PALS is 146 with a standard deviation of 20. High scores on PALS indicate a Learner-Centered approach to the teaching-learning interaction while low scores indicate a preference for a Teacher-Centered approach. The Teacher-Centered

approach is the traditional approach where authority rests with the instructor. Scores near the mean indicate that teaching preference supports elements from both the Teacher-Centered and the Learner-Centered approach (Conti, 1985, pp. 7-9).

Scores between 126 and 166 fall within one standard deviation from the mean in each direction. 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. This would indicate an extremely strong commitment to a particular teaching style.

The average for the total group on PALS for the Nutrition Education Assistants was 80.53. The scores ranged from 52.5 to 122.5 with a standard deviation of 14.4 (see Table 2).

TABLE 2

FREQUENCY DISTRIBUTION OF PRINCIPLES OF ADULT LEARNING SCALE SCORES

Value	Freq.	Value	Freq.	Value	Freq.	Value	Freq.
52.5	1	71.5	2	81.5	1	98.5	2
55.5	1	72.5	3	82.5	1	100.5	1
61.5	3	73.5	1	84.5	3	103.5	2
65.5	1	74.5	1	90.5	2	110.5	1
66.5	1	75.5	4	92.5	1	122.5	1
68.5	3	76.5	2	93.5	1		
69.5	1	77.5	3	94.5	1		
70.5	1	79.5	3	95.5	3		

In comparison with the PALS mean of 146, this group score was three standard deviations below the mean. This

indicates that this group strongly supported the Teacher-Centered approach to the teaching-learning interaction. Even the highest score in the group was over one standard deviation below the mean. No average score this low has been reported in any of the other numerous studies conducted with PALS. Because these scores were so far below all other reported scores, the data for the participants was re-entered and checked for accuracy. In addition, the computer-scoring program was checked for accuracy. These checks confirmed the original scores.

Factor Scores

The Principle of Adult Learning Scale (PALS) consist of seven factors. The individual factors identify those elements that make up the general teaching style of an adult educator. Factor scores are calculated by adding up the points for each item in that factor. High scores in each area represent support for the concept implied in the factor name (Conti, 1985, p. 9). Those who support the collaborative mode of instruction promote students taking responsibility for their own learning. Factor 1 focused on learner-centered activities. The scores ranged between 0-50 (see Table 3). The norm for Factor 1 is 38, and the standard deviation is 8.3. This group had a mean of 29.3. They were approximately one standard deviation below the mean for this factor. This indicates that the group supports a Teacher-

Centered approach to learning. The group's Teacher-Centered orientation is not congruent with those principles in adult education that support the Learner-Centered mode.

TABLE 3

FREQUENCY DISTRIBUTION FOR FACTOR 1:
LEARNER-CENTERED ACTIVITIES

Value	Freq.	Value		Freq.	Value		Freq.	Value	Freq.
0.0	1	24.0		1	31.0		2	38.0	1
9.0	1	25.0		1	32.0		2	40.0	2
17.0	1	26.0		4	33.0		2	42.0	2
19.0	1	27.0		2	34.0		3	50.0	1
21.0	1	28.0		5	35.0		2		
22.0	1	29.0		4	36.0		2		
23.0	4	30.0		3	37.0		2		

Factor 2 focused on Personalization of Instruction. Instructors who score high on this factor include a variety of activities to meet the needs of the learner. The scores for this factor ranged between 4.5-32.5 (see Table 3). The Nutrition Education Assistants had a mean of 12.5. The norm for Factor 2 is 31 and the standard deviation is 6.8. Responses for this group were two standard deviations below the mean. This indicates that this group is extremely Teacher-Centered in their approach to personalizing instruction and that they use limited kinds and variety of instructional methods. A low score on this factor would not support learner input into the learning experience.

TABLE 4

FREQUENCY DISTRIBUTION FOR FACTOR 2:
PERSONALIZING INSTRUCTION

Value	Freq.		Value	Freq.		Value	Freq.
4.5	1		11.5	2		19.5	2
5.5	1		12.5	3		21.5	1
6.5	2		13.5	9		22.5	1
7.5	2		14.5	2		25.5	1
8.5	6		15.5	3		32.5	1
9.5	10		16.5	1			
10.5	2		18.5	1			

Factor 4 addresses Relating to Learner Experiences of the learner. For those instructors who score high on this factor, treating a student as an adult is finding out what each student wants and needs to know (Conti, 1985, p. 10). The scores ranged from 4.5 to 32.5 (see Table 4). The mean for this factor is 21 with a standard deviation of 4.9. The Nutrition Education Assistants had a mean score of 6.9. This group was 14.1 below the established mean for this factor, and was almost three standard deviations from the mean. This indicates a strong lack of support toward making the learning experience relevant to the learner.

TABLE 5

FREQUENCY DISTRIBUTION FOR FACTOR 3:
RELATING TO EXPERIENCE

Value	Freq.		Value	Freq.		Value	Freq.
0.0	3		7.0	6		15.0	1
1.0	5		8.0	5		16.0	1
2.0	1		9.0	2		18.0	1
3.0	2		10.0	4		30.0	1
4.0	5		11.0	2			
5.0	7		12.0	1			
6.0	3		13.0	1			

Factor 4 consists of items related to Assessing Student Needs. A high score on this factor indicates the instructor's commitment to diagnosing the learner's instructional needs through the use of individual counseling and rapport building. This instructor would seek to help the learners identify their learning goals, and each learner would be guided toward establishing individualized objectives to meet learning goals. The scores ranged from 0-20 (see Table 5). The norm for this factor is 14 with a standard deviation of 3.6. The Nutrition Education Assistants had a mean of 5.3 for this factor. This group was 2.42 standard deviations from the mean. The low scores obtained for this factor suggest that the NEA's do not seek to assess the learner needs or goals.

TABLE 6

FREQUENCY DISTRIBUTION FOR FACTOR 4:
ASSESSING STUDENT NEEDS

Value	Freq.		Value	Freq.		Value	Freq.
0.0	1		4.0	10		8.0	7
1.0	5		5.0	8		20.0	2
2.0	1		6.0	11			
3.0	4		7.0	2			

Factor 5 focused on Climate Building. 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 scores ranged from 0-20 (see Table 6). This group had a mean score of 5.2 and were

3 standard deviations below the established mean of 16 for this factor. These scores reveal a Teacher-Centered approach that indicates NEA's support a very structured learning environment.

TABLE 7

FREQUENCY DISTRIBUTION FOR FACTOR 5: CLIMATE BUILDING

Value	Freq.		Value	Freq.		Value	Freq.
0.0	3		6.0	11		20.0	1
2.0	4		7.0	4			
3.0	3		8.0	4			
4.0	9		9.0	1			
5.0	10		11.0	1			

Factor 6 relates to Participation in the Learning Process. This factor measures the degree to which instructors encourage students to identify those problem areas they want or need to address. In adult education, adults should be involved in evaluating their own performance (Conti, 1985, p. 10). Factor 6 specifically looks at the amount of student involvement in determining the amount and nature of the evaluation process. The scores ranged from 0-20 (see Table 7). The scores for the Nutrition Education Assistants for Factor 6 had a mean of 4.6. This is 8.4 below the norm of 13 and is 3.5 standard deviations below the mean. This indicates extremely strong support of and commitment to a Teacher-Centered approach relating to learner participation in the learning process. It also implies a one directional approach to the learning process. For Nutrition Education Assistants information

flows in one direction; this is from the instructor to the student. A reciprocal two-way information flow between the teacher and the learner is not supported by the NEA.

TABLE 8

FREQUENCY DISTRIBUTION FOR FACTOR 6:
PARTICIPATION IN THE LEARNING PROCESS

Value	Freq.		Value	Freq.		Value	Freq.
0.0	4		4.0	4		8.0	4
1.0	5		5.0	13		14.0	1
2.0	4		6.0	5		20.0	1
3.0	6		7.0	4			

Flexibility for Personal Development was addressed in Factor 7. High scores on this factor would indicate support the collaborative mode and support flexibility in the teaching-learning transaction. High scores for this factor support the notion that the educator functions as a facilitator rather than a giver of knowledge while low scores support a more authoritative position. The scores ranged from 0-24 (see Table 8). The norm for this factor is 13 with a standard deviation of 3.9. The Nutrition Education Assistants had a mean of 16.5. While the NEA's scored below the mean on all other factors, they scored nearly one standard deviation above the mean for this factor. Thus while the NEA's are extremely Teacher-Centered on all other factors, they support instruction that encourages flexibility for personal development.

TABLE 9

FREQUENCY DISTRIBUTION TABLE FOR FACTOR 7:
FLEXIBILITY FOR PERSONAL DEVELOPMENT

Value	Freq.		Value	Freq.		Value	Freq.
0.0	1		14.0	7		19.0	7
9.0	1		15.0	1		20.0	3
10.0	1		16.0	4		21.0	2
12.0	3		17.0	6		23.0	1
13.0	4		18.0	7		24.0	3

Attitudes and Knowledge Scores

Nutrition Education Assistants were asked about their attitudes toward understanding adult learners. A 15-item scale was used. Respondents were asked to select a value of 1-5 with choices between Strongly Disagree, Disagree, Undecided, Agree, and Strongly Agree. All scores were added. The scores for the Nutrition Education Assistants ranged from 36-69 (see Table 10). It was possible to range from 5-75. The average score for the Nutrition Education Assistants was 57.1. More than half of the group (56%) scored above 57, and 44% scored 57 or below (see Table 9).

TABLE 10

FREQUENCY DISTRIBUTION FOR PERCEIVED ATTITUDE OF NUTRITION EDUCATION ASSISTANT TO THEIR ROLE AS AN ADULT EDUCATOR

Value	Freq.	Percentages		Value	Freq.	Percentages
36.0	1	2		59.0	6	12
47.0	2	4		60.0	3	6
50.0	2	4		61.0	2	4
51.0	1	2		62.0	1	2
52.0	3	6		63.0	2	4
53.0	5	10		64.0	2	4
55.0	2	4		65.0	3	6
56.0	3	6		66.0	1	2
57.0	4	8		69.0	1	2
58.0	7	14				

The Knowledge Scale contained 10 items. Statements were written so that they were not congruent with the Adult Education literature. Participants received one point if they agreed with the statement and two points if they disagreed. All items were added together, and therefore the possible range of scores was 10-20. Low scores indicate a lack of agreement with basis adult education principles while high scores indicate an agreement with these principles. The low score for the Nutrition Education Assistants was 12, and the high score was 17 (see Table 11). The average score was 13.8. Only 8.8% of the group agreed with the concepts that are supported in the adult education literature. None agreed with more than seven of the concepts. Over 40% agreed with only 2 or 3 of the 10 concepts from the literature. Thus, as a group the Nutrition Education Assistants were not in agreement with the concepts supported in the Adult Education literature.

TABLE 11

FREQUENCY DISTRIBUTION FOR KNOWLEDGE LEVELS OF NUTRITION EDUCATION ASSISTANTS TO ADULT EDUCATION PRINCIPLES

Value	Frequency	Percent
12.0	5	14.7
13.0	9	26.5
14.0	10	29.4
15.0	7	20.6
16.0	1	2.9
17.0	2	5.9

Relationship of Variables to Factors

The relationship between PALS and various demographic variables was investigated. Because of the small number of Nutrition Education Assistants in the population groupings were arranged so that approximately two equal size groups were obtained for each variable except for teaching experience which was divided into three groups. For this analysis, the individual factor scores of PALS were used. The selected demographic variables included age, race, educational level, place of residence, and teaching. 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.

Age

The Nutrition Education Assistants were arranged into two groups: those below age 40 and those 40 years and older. The ANOVA of the relationship of age to each of the seven factors indicated significant differences on Factors 4 and 7 (see Table 11). For Factor 4--Assessing Student Needs, the older group scored higher. They had a mean score of 6.25. Collaborative assessment of student needs involves treating the learner as an adult and counseling them to identify goals and objectives. Those under 40 years of age had a mean score of 4.05. This group was less inclined to support or engage in activities that would advocate assessing student needs. Thus, while both groups were far below the mean of 14 on this factor, those under 40 were even less committed to assessing student needs than the group over 40 years of age.

On Factor 7--Personalizing Instruction, the younger group had a mean score of 18.50 while the older group had a mean score of 15.22. A Learner-Centered approach to personalizing instruction would allow for learner differences that may be found among different kinds of students. Supporters of the collaborative mode are less strict and more sensitive to learner needs. Flexibility in subject matter content to meet the learner needs would be supported by NEA's. Thus, while the NEA's support an extremely strong Teacher-Centered approach, they also

support the conflicting, Learner-Centered concept of having much flexibility in the learning structure in order to foster personal development. On this topic, the younger teachers are more Learner-Centered than the older group.

TABLE 12

ANOVA OF PALS FACTORS BY AGE:

Factor	df	SS	MS	F	p
Flexibility For Personal Development					
Between	1	130.32	130.32	8.55	>.01
Within	49	746.41	15.23		
Assessing Student Needs					
Between	1	59.27	59.27	4.80	.03
Within	49	604.8	12.34		
Participation in the Learning Process					
Between	1	38.19	38.19	3.33	.07
Within	49	561.72	11.46		
Learner-Centered Activities					
Between	1	164.54	164.54	2.52	.11
Within	49	3198.4	65.27		
Climate Building					
Between	1	19.73	19.73	2.15	.14
Within	49	448.41	9.15		
Relating to Experience					
Between	1	47.54	47.54	1.72	.19
Within	49	1348.97	27.53		
Personalizing Instruction					
Between	1	45.01	45.01	1.65	.20
Within	49	1329.97	27.14		

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 all the white participants. Significant differences were found on the total PALS score and Factor 3 (see Table 13). While there was a significant difference between group scores on the overall PALS score, it is

important to remember that both groups were more than three standard deviations below the mean which indicates extremely strong support for the teacher-centered mode. The total scores for both groups revealed an extremely strong Teacher-Centered orientation in which the teacher directs the learning experience. The non-white group had a mean score of 94.99; the white group had a mean score of 79.90. Even though both groups were far below the mean for PALS of 146, the lower mean score obtained by the white group indicates an even stronger commitment to the Teacher-Centered mode than for the non-white group.

A significant difference between groups was also found on Factor 3--Relating to Experience. This factor has a mean of 21 and a standard deviation of 4.9. The non-white group obtained a mean of 9 while the white group had a mean of 5.7.

Such low group scores on the six positive worded items on this factor indicate that these Teacher-Centered groups would not relate learning experiences to the real life situations of the learner. Thus, while the non-white group is less extreme in its reluctance to utilize the experiences of the learner, both groups are so strong in their positions that their differences has no practical significance.

TABLE 13

ANOVA of PALS by Race

Factor	df	SS	MS	F	p
Relating to Experience					
Between	1	118.54	118.54	4.54	.03
Within	49	1277.97	26.08		
Climate Building					
Between	1	31.31	31.31	3.51	.06
Within	49	436.85	8.92		
Personalizing Instruction					
Between	1	82.18	82.18	3.11	.08
Within	49	1292.80	26.38		
Assessing Student Needs					
Between	1	30.19	30.19	2.33	.13
Within	49	633.97	12.94		
Flexibility for Personal Development					
Between	1	23.23	23.23	1.33	.25
Within	49	853.52	17.42		
Participation in the Learning Process					
Between	1	10.78	10.78	.90	.34
Within	49	589.14	12.02		
Learner-Centered Activities					
Between	1	54.44	54.44	.81	.37
Within	49	3308.54	67.52		

Age

The Nutrition Education Assistants were arranged into two groups: those with college level education and those without college level education. The ANOVA of the relationship of education to each of the seven factors indicated a significant relationship was found on Factor 1-Learner-Centered Activities (see Table 14). This factor had

a mean of 38 and a standard deviation of 8.3. Those without college education had a mean score of 83.11. Those with college education had a mean score of 74.36. Such low group scores indicate that these Teacher-Centered groups would not relate learning experiences to the real-life situations of the learner.

Residence

Nutrition Education Assistants were grouped by residential location. Two groups were formed according to the participant's place of residence. One group lived in rural, non-urban environments. The other group lived in urban settings. For Factor 6--Participation in the Learning Process, a statistical difference was found. This factor had a mean of 13 and a standard deviation of 3.5. The mean score for the urban-based group was 83 with a standard deviation of 15. The non-urban group had a lower score of 75 with a standard deviation of 11. This indicates that the living environment of the Nutrition Education Assistants may influence their tendency to support participation in the learning process with the non-urban group having an even stronger commitment than the urban group to extremely strong support of the teacher-centered approach to adult training.

TABLE 14

ANOVA of PALS by Education Level

Factor	df	SS	MS	F	p
Learner-Centered Activities					
Between	1	303.60	303.60	4.86	.03
Within	49	3059.28	62.43		
Climate Building					
Between	1	11.67	11.67	1.25	.26
Within	49	456.48	9.31		
Relating to Experiences					
Between	1	1379.17	1379.17	.61	.43
Within	49	.22	28.14		
Flexibility for Personal Development					
Between	1	7.06	7.06	.39	.53
Within	49	869.68	17.74		
Personalizing Instruction					
Between	1	1.74	1.74	.11	.80
Within	49	1373.23	28.02		
Assessing Student Needs					
Between	1	.12	.12	.01	.92
Within	49	664.04	13.55		
Participation in the Learning Process					
Between	1	.03	.03	.002	.95
Within	49	599.88	21.24		

TABLE 15

ANOVA of PALS by Residence

Factor	df	SS	MS	F	p
Participation in the Learning Process					
Between	1	44.07	44.07	3.88	.05
Within	49	555.85	11.34		
Personalizing Instruction					
Between	1	93.42	93.42	3.57	.06
Within	49	1281.56	26.15		
Relating to Experience					
Between	1	92.11	92.11	3.46	.06
Within	49	1304.40	26.62		
Assessing Student Needs					
Between	1	31.74	31.74	2.45	.12
Within	49	632.42	12.91		
Learning-Centered Activities					
Between	1	44.52	44.52	.65	.42
Within	49	3318.45	67.72		
Climate Building					
Between	1	4.37	4.37	.46	.50
Within	49	463.79	9.51		
Flexibility for Personal Development					
Between	1	.01	.01	.0005	.98
Within	49	876.74	17.89		

Teaching Experience

The Nutrition Education Assistants had varied number of years of teaching experience outside their employment roles. They were divided into three groups by years of experience. These groupings were as follows: less than one year of experience teaching youth, between 1-5 years experience and over 5 years of experience. A significant difference was found on Factor 1--The Learner-Centered Activities. This

factor is the main factor of the PALS instrument. This factor has a mean score of 38 with a standard deviation of 8.3. The Tukey post hoc analysis indicated that the respondents formed two subgroups. One subgroup consisted of those with less than 1 year of experience (30.0) and those with 1-5 years experience (39.9). Those with 5 or more years experience (24.3) form the other group. Thus, those who had the most experience teaching youth were significantly more teacher-centered than those with 5 or less years experience. These scores indicated that those who support a teacher-centered mode would not support informal testing and evaluation of the learner (see Table 16).

TABLE 16

ANOVA of PALS by Teaching Experience – Youth

Factor	df	SS	MS	F	p
Learner-Centered Activities					
Between	2	818.04	409.02	7.71	.001
Within	48	2544.94	53.02		
Assessing Student Needs					
Between	2	62.32	31.16	2.48	.09
Within	48	601.83	12.54		
Flexibility for Personal Development					
Between	2	62.98	31.49	1.85	.16
Within	48	813.76	16.95		
Participation in the Learning Process					
Between	2	40.73	20.36	1.74	.18
Within	48	559.19	11.65		
Climate Building					
Between	2	22.45	11.23	1.20	.30
Within	48	445.70	9.28		
Relating to Experience					

	Between	2	58.13	29.06	1.04	.36
	Within	48	1338.38	27.88		
Personalizing Instruction						
	Between	2	29.32	14.66	.52	.59
	Within	48	1345.66	28.03		

CHAPTER V

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary

Adult Education is big business. For more than 75 years the Cooperative Extension Service has been involved in the business of the education of adults in America. Every state in the union is connected to a cooperating educational institution. Thus, the entire Extension Service is America's only national system in adult education. The Cooperative Extension Service utilizes professional educators, scientist, and field staff who deliver to the people of each state current information, research, and service to address locally determined needs and concerns.

As the Cooperative Extension Service faculty and staff work with the people, they need to understand what motivates the adult learner to learn. Those motivations are different from children. What motivates an adult learner in a formal learning atmosphere may not be the same as what motivates this same learner in informal settings. Informal settings are frequently those that occur in day-to-day life. When the teachers of adults recognize these differences, they can

better design and implement learning experiences that are relevant to the needs, experiences, and wants of the adult learner.

Teaching style is an individual preference toward behavior exhibited during a learning encounter. This exhibited behavior may be teacher-centered or learner-centered in nature (Conti, 1990). The teaching style of the educator impacts the outcome of the learning experience for the learner (Darkenwald & Merriam, 1982, pp.48-49). This style can be measured with an assessment tool such as the Principles of Adult Learning Scale. This tool seeks to associate the teacher behavior with principles contained in adult education literature. Teachers who desire to achieve more successful teaching outcomes should be aware of their own teaching style preferences (Conti, 1985, 1990).

The mission of the Cooperative Extension Service continues to focus on achieving significant improvements in domestic, environmental, and social conditions of the people of this country. Adults teaching adults often accomplish this. A community nutrition education program is one example of the concept of adults teaching adults. Nutrition Education Assistants interact with a variety of people.

Current hiring and training practices in the State of Oklahoma do not ascertain the preferred teaching style of the Nutrition Education Assistants hired. Before this can be done, the present situation had to be assessed.

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 norm average on the Principles of Adult Learning Scale, indicating a predilection toward a teacher-centered rather than a learner-centered approach to teaching style.

She further concluded that PALS could be successfully used to survey Extension Service audiences. Based in findings of that study, Seevers recommended that the study be adapted and conducted with other formal and informal adult education audiences. Additionally, she recommended that replication of the study should be conducted with Cooperative Extension Service in other states to determine similarities and/or differences. The current study focuses on these recommendations using a similar audience in Oklahoma.

The purpose of this research was to describe the preferred teaching style of the paraprofessional Nutrition Education Assistant employed in the State of Oklahoma Cooperative Extension Service. Additionally, this study sought to examine the Nutrition Education Assistant's attitudes toward teaching and their knowledge regarding basic adult education principles and practices.

To accomplish the purpose of this study, data was collected from 51 Nutrition Education Assistants employed in

the State of Oklahoma Cooperative Extension Service. Demographic information gathered included gender, race, age, educational background, and place of residence. 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.

Summary of Findings

Profile

Fifty-one female Nutrition Education Assistants participated in the study. They were in age ranges between the ages of 20-60 years of age. Almost 68% were between the ages of 31-50 years. Just under 59% were Caucasian, about 22% were African-American, almost 10% were Hispanics, and less than 8% were Native American. Two percent of the group did not identify with any of these racial category options. All of the participants had completed high school. Almost 68% lived in urban areas with minimum populations of 50,000. All are considered full-time employees even though one-third maintain full-time equivalent status at a 30-hour workweek. The majority was employed full time and reported a 40-hour workweek. Ninety-six percent had been employed by the

Cooperative Extension Service between 1-15 years. Four percent have been employed more than 15 years.

Teaching Style

The PALS instrument provided evidence of the preferred teaching style of the Nutrition Education Assistants. The 44 positive and negatively worded statements contained in PALS use a Likert scale, forced response format to determine the degree in which a respondent agrees with adult learning principles that support the collaborative teaching-learning mode of adult instruction. Scores that fell one standard deviation from the established PALS mean of 146 indicated a leaning toward the teacher-centered or the learner-centered mode. Those scores at two standard deviations from the mean indicate a strong commitment toward a particular preference. Scores three standard deviations from the mean imply an extremely strong preference for and commitment to a preferred teaching style. This group was overwhelmingly teacher-centered in their approach to the delivery of instruction.

Attitudes

The Nutrition Education Assistants were polled on their attitudes toward teaching. A five-point Likert type scale was used for scoring. Responses were scaled such that

5=Strongly Agree and 1=Strongly Disagree. This 15 item Attitudes Scale measured to what extent the Nutrition Education Assistants thought of themselves as adult educators. Scores ranged from 36-69 with a possible maximum score of 75.

Knowledge

Knowledge related to basic education principles and practices were measured using a 10-item true-false test. The scores ranged from 12 to 17. This group of study participants had a mean score of 13.88 on the Knowledge portion of the knowledge scale. This indicates a low knowledge and understanding of principles and practices of adult education contained in the literature.

Relationship of Demographic Variables and PALS

A one-way analysis of variance (ANOVA) is an inferential statistical procedure that has the general purpose to compare groups in terms of the mean scores (Huck, Cormier & Bounds, 1974, pp. 58-60). Like a *t*-test, both procedures yield the same result in a two-group comparison. One-way analysis of variance (ANOVA) is more versatile because it can be used to more than two groups. In effect, the one-way ANOVA is an extension of the *t-test* (Huck, Cormier, & Bounds, 1974, p. 58). ANOVA is used to determine

whether there is a significant difference between two or more groups at a selected probability level. This type of analysis is suitable to samples of any size (Minimum, 1978, p. 391; Rudestam & Newton, 1992,p.27). The concept underlying ANOVA is that the total variation or variance of scores can be attributed to two sources these are the variance between groups that is variance caused by the treatment and variance within the groups or error variance (Gay, 1992, p. 438, 469). In this study, analysis of variance was used to determine within and between group differences relating to demographic variables and the seven factors of PALS.

Conclusions

The Oklahoma Cooperative Extension Service Nutrition Education Assistants are extremely Teacher-Centered as regards their teaching style preference.

A major portion of the adult education literature supports a collaborative teaching-learning mode as the best method for working with adults in the learning process. In the collaborative mode, the learning process is Learner-Centered. It allows the adult learner to be a full partner in the learning experience. In this mode, more emphasis is placed on the learner rather than on the content. The overall scores in this study showed a very strong leaning toward traditional Teacher-Centered behaviors. The Nutrition Education Assistants work in situations where

personal perceptions and attitudes may be more important than content. Even though various modes of instruction exist, the literature shows that learning levels tend to decline in an atmosphere where the teacher exhibits behaviors that are strongly committed to the Teacher-Center mode (Conti, 1990, pp. 63-67).

> The Principles of Adult Learning Scale (PALS) can serve as a tool to help the Nutrition Education Assistant gain an awareness of teaching style elements.

Nutrition Education Assistants are expected to become role models for a healthier lifestyle among the clients they serve. In any learning process, a major function of the teacher is to guide and demonstrate to the learner those behaviors that will help the learners meet individual goals. The Principles of Adult Learning Scale can serve as a tool to help the Nutrition Education Assistant gain awareness of the elements of the Learner-Centered mode.

The study participants completed PALS, and they scored at different ranges. Thus PALS is a useful instrument for identifying varying teaching style preferences. It proved useful with a variety of people who regularly engage in teaching activities. Historically PALS had been used to describe the teaching style preference of a wide variety of populations, including health professionals, Adult Basic Education teachers, Cooperative Extension professional staff, community college faculty, graduate student instructors, and correctional facility employees. Results

from this study were obtained from a non-professional group of para-professionals.

> The kinds of people being hired into community nutrition education programs do not naturally gravitate toward supporting the principles stated in adult education literature.

The scores from this group of para-professionals may be reflective of their overall lack of exposure to adult education principles. Oklahoma is located in the southwest geographical region. A region that supports beliefs, practices, and attitudes of a more conservative nature compared to other regions of this country. They may further reflect the views of a group of people generally known to be highly conservative which is consistent with the population of this geographical region. This has tremendous employee development implications that can be addressed through management employment policies.

> Nutrition Education Assistants do support the collaborative mode as it relates to flexibility in the learning environment.

The preferred teaching style of Nutrition Education Assistants was related to selected demographic variables. Those variables included age, race, educational level, and teaching experience. Those over 40 years of age were more likely to have more personal life experiences similar to those of the adults they served. They could draw from that experience and thus better assess learner needs.

Although this group showed a strong proclivity toward the Teacher-Centered approach to teaching style, there was

one exception in the scoring found with Factor 7--Flexibility for Personal Development. Even though all other factor scores were far below the mean, there was some indication that some Learner-Centered activities related to flexibility were valued and thus more likely to be exhibited by the Nutrition Education Assistant during a learning experience.

> Although Nutrition Education Assistants work in the field of adult education, they do not implement established adult education principles in the teaching process.
>
> The lack of formal training in adult education course work among Nutrition Education Assistants has limited their ability to relate to the learner-centered approach to teaching activities
>
> Those Nutrition Education Assistants with higher education levels tend to emulate the established system found in formal situations.

Literature indicates that employee training, adult education courses, and highest education level are predictors in determining teaching style (Seevers, 1991). The Nutrition Education Assistants were separated into college educated and non-college-educated groups. The college-educated group tended to score lower on the PALS. Inherent in formalized college training is a focus on securing the subject-matter content. Consequently, those with this type of training would focus on transferring subject- matter content in a learning situation. The non-degreed group was more likely to focus on the needs of the

learner and are, more apt to use their own life experiences to guide them in assisting the adult learner.

Recommendations

The Nutrition Education Assistants provide essential nutrition education services to non-traditional adult learners who are often times disenfranchised. The daily challenges they face to reach and assist a diverse and multi-cultural clientele move toward a healthier lifestyle are many and deep-rooted (Chipman & Kendall, 1989, pp. 265-266). Preferred teaching style is based on teaching behavior. When Nutrition Education Assistants have an understanding of the approach they prefer and the consequences of their actions for the learner, they can become more effective in their teaching behaviors.

The Nutrition Education Assistants use nutrition education assessment forms. These forms are designed to detect behavior change by the learner after the learner has been enrolled in a community nutrition education program. The success the Nutrition Education Assistant may have with an adult learner in behavior change is directly linked to teaching behavior. Recent federal reports showed that Community Nutrition Education participants were of minority/ethnic backgrounds (Chipman & Kendall, 1989, p. 265). The traditional one-on-one intensive education efforts of Community Nutrition Education Programs are costly to

maintain. The importance of teaching behavior is underscored because in recent years, increased emphasis has been placed on teaching in cluster and small groups. The adult educator will require training that will enhance the effectiveness of teaching behaviors.

If management recognizes and understands that there are differences in teaching style, it can pilot the decisions made about training and employee development. It can also contribute to the development of guidelines in the hiring and retention of this cadre of employees. On-going, systematic training in the areas of adult education practices can be provided by the employer to address this need.

The Cooperative Extension Service is based on the notion that adults should pursue lifelong education. This pursuit may take the form of continued formal education recognized with certificates and degrees, or it may be in the form of vocational education connected with employment promotion. There is a trend in lifelong education being pursued in the form of recreational learning (Dale & Conti, 1990). Recreational learning is pursued for the purpose of acquiring a skill or knowledge that is used for enjoyment and to enhance the quality of life. The pursuits might include fly-fishing, ballroom dancing, gourmet cooking, or quilting. Within the Cooperative Extension Service, continuing education is recognized as a critical factor in the effectiveness of the employee (Lyles & Warmbrod, 1994).

Much emphasis is placed on continued learning inorder for employees to remain credible, confident, competent, and productive.

Typical in-service training is considered that phase of organized learning opportunities provided by the employer to employees throughout the employment period. Its focus should be on orienting the employee to such topics as agency philosophy, administrative structure of the organization, performance expectations, performance evaluation procedures, and technical or subject matter expertise. Published material relating to studies of Cooperative Extension In-Service training indicated that the primary technical subject matter needs of the employee are being met (Lindquist, 1985). However, training in how to transfer subject matter content to the adult learner in a way supported by adult education principles is not adequately addressed.

Based on the findings and conclusions of this study the following recommendations are made.

- Recruitment and hiring practices should be fashioned to attract and retain employees who have indicated interest in adult education principles

- Teaching style preference assessment should be completed with each newly hired employee during the probation period of employment. Results of this individual assessment could form the basis for future training recommendations

- Enhanced and additional training opportunities should be provided for

employees who are most receptive to improving their teaching effectiveness.

- In-service training should provide Nutrition Education Assistants with opportunities to identify and learn about their own teaching style.

- In-service educational workshops should include learning sessions that introduce employees to the principles of adult education and that teach methods for implementing these principles.

Concluding Comment

This study looked at the teaching style preferences of a group of paraprofessionals employed in the Oklahoma State Cooperative Extension Service. This study revealed some interesting information about this group of employee. However, a deeper understanding of the impact these employees have on adult learners enrolled in Community Nutrition Education Programs can be ascertained through continued and similar research studies. The findings and conclusions of this study warrant further research and the following research activities are suggested.

- A study similar to this one has been completed with a Cooperative Extension Service in the North Central Region of this country. Due to differences in population orientation and philosophy, a similar study should be conducted in the Cooperative Extension Services located in any of the Southern Region states.

- Further research should be considered on the relationship between age and teaching effectiveness of non-degreed community nutrition education personnel.

- Studies that explore the relationship between educational philosophy and teaching style of all non-degreed Cooperative Extension Service program staff who function in a teaching role should be conducted.

- A study of degreed community nutrition education staff who function in a teaching capacity should be completed to determine if they exhibit traditional Teacher-Centered mode of teaching behavior on a regional basis.

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FIGURE 1

COOPERATIVE EXTENSION SYSTEM REGIONS

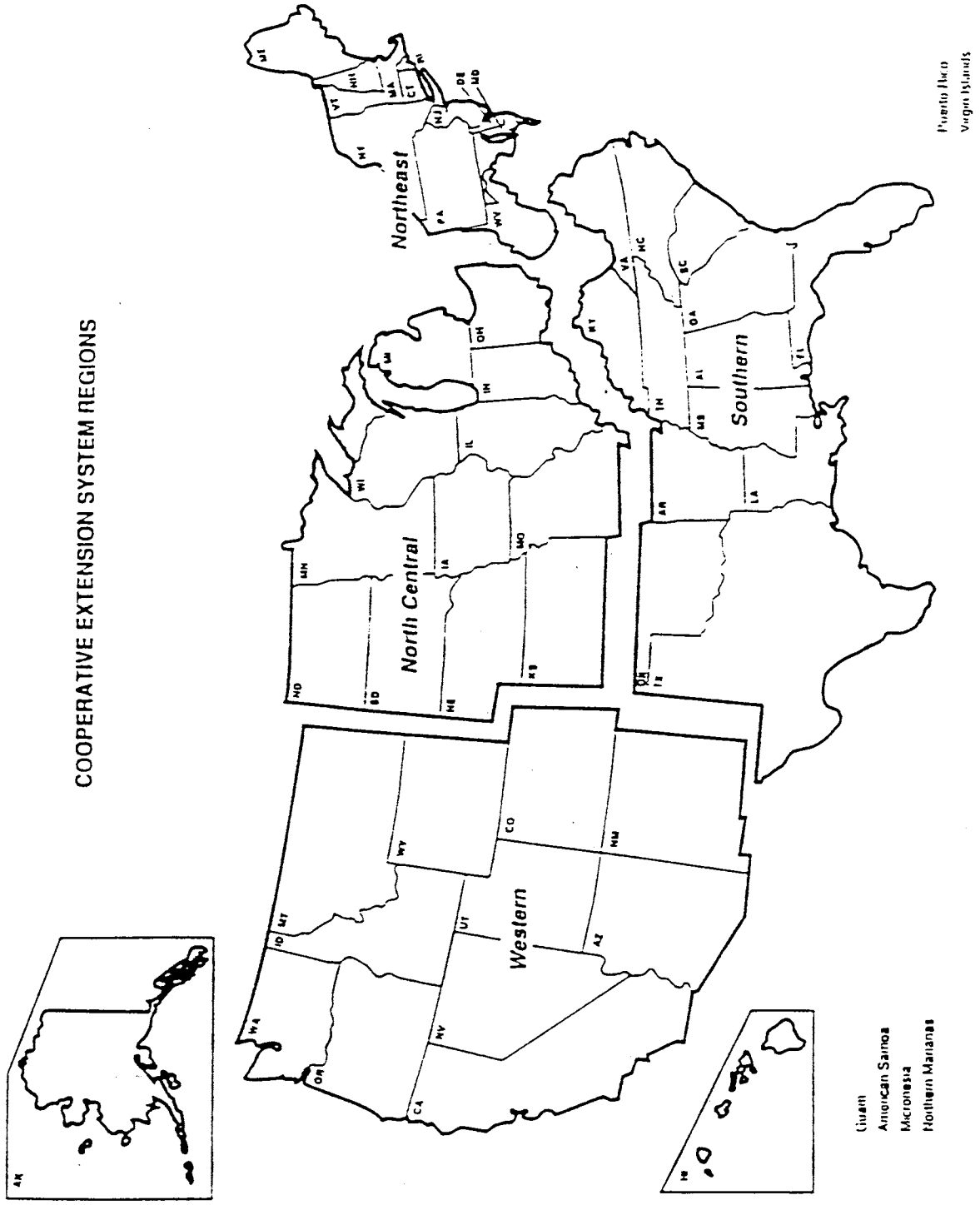
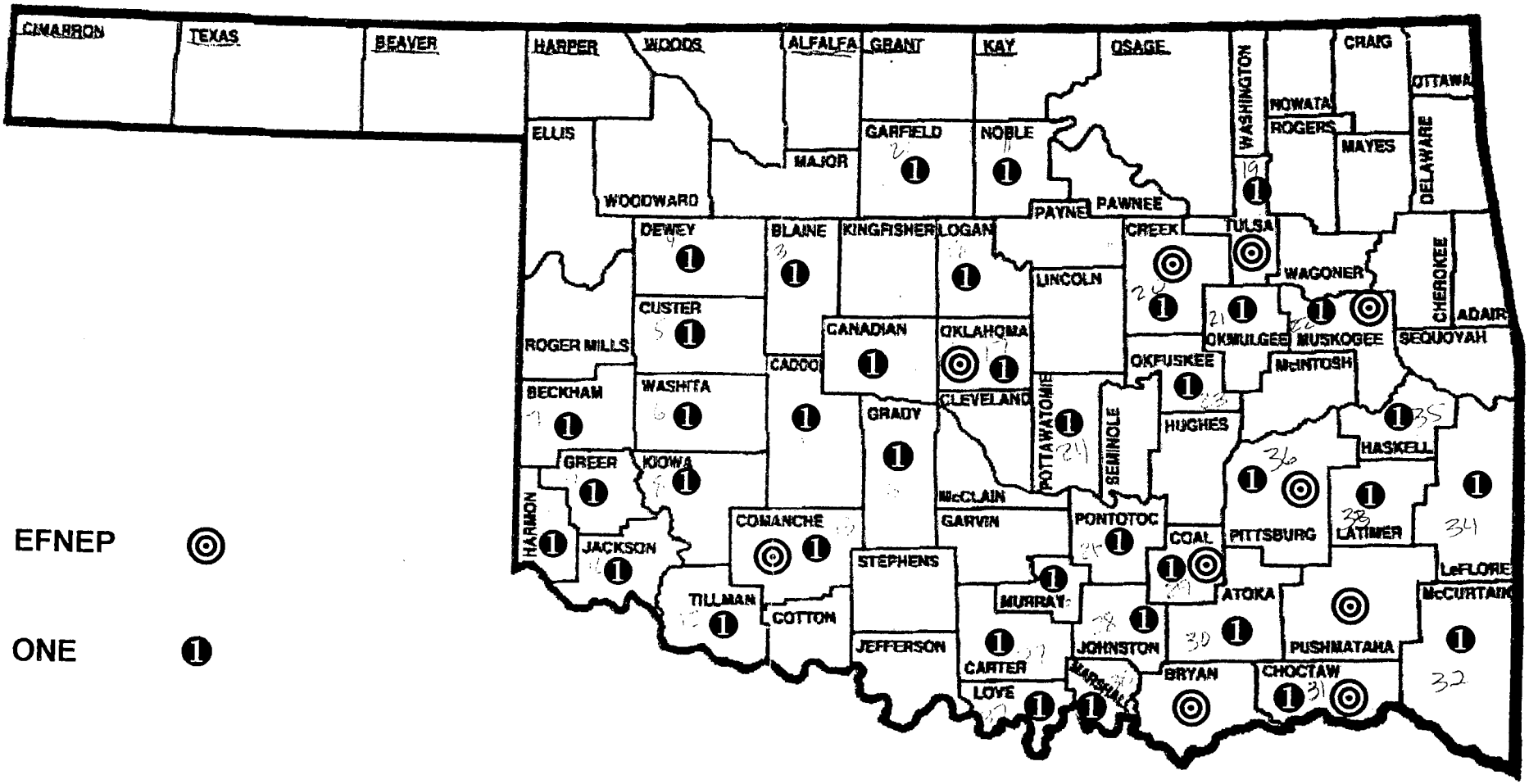

COOPERATIVE EXTENSION SYSTEM REGIONS
Northeast
North Central
Southern
Western
Puerto Rico
Virgin Islands
Guam
American Samoa
Micronesia
Northern Marianas

Figure 1

FIGURE 2

OKLAHOMA COOPERATIVE EXTENSION SERVICE MAP

FOR COUNTIES RECEIVING NUTRITION EDUCATION SERVICES


CIMARRON
TEXAS
BEAVER
HARPER
WOODS
ALFALFA
GRANT
KAY
OSAGE
WASHINGTON
CRAIG
NOWATA
OTTAWA
ROGERS
MAYES
DELAWARE
ELLIS
MAJOR
GARFIELD
NOBLE
WOODWARD
PAYNE
PAWNEE
DEWEY
BLAINE
KINGFISHER
LOGAN
CREEK
TULSA
WAGONER
CHEROKEE
ADAIR
LINCOLN
CUSTER
ROGER MILLS
CANADIAN
OKLAHOMA
OKMULGEE
MUSKOGEE
SEQUOYAH
CADDO
OKFUSKEE
McINTOSH
BECKHAM
WASHITA
CLEVELAND
POTTAWATOMIE
SEMINOLE
HUGHES
HASKELL
GRADY
GREER
KIOWA
McCLAIN
HARMON
COMANCHE
GARVIN
PONTOTOC
COAL
PITTSBURG
LATIMER
LeFLORE
JACKSON
STEPHENS
MURRAY
ATOKA
McCURTAIN
TILLMAN
COTTON
JEFFERSON
CARTER
JOHNSTON
PUSHMATAHA
LOVE
MARSHALL
BRYAN
CHOCTAW
EFNEP
ONE

APPENDIX A

COVER LETTER TO

OKLAHOMA COOPERATIVE

NUTRITION EDUCATION ASSISTANTS

OKLAHOMA COOPERATIVE EXTENSION SERVICE

Oklahoma Cooperative Extension Service
Division of Agricultural Sciences and Natural Resources
Oklahoma State University

Comanche County OSU Extension Center • 315 SW 5th Street, Room 207
Lawton, Oklahoma 73501-4332 • (405) 355-1176

June, 1998

Dear Extension Staff Employee:

The following survey is a major part of a research study that I am conducting as part of my doctoral dissertation at Oklahoma State University. The study is concerned with Understanding and Teaching the Adult Learner. I am particularly interested in researching the "***Teaching Styles***" of employees who work with low income - limited resource families within the Cooperative Extension Service. In order to complete this study, your input is ***urgently*** needed.

The survey has four parts which includes a section on general information, an Attitude and Knowledge Scale section, and a modified Principles of Adult Learning section. All responses will remain confidential, therefore do not write your name anywhere on the survey. Individual responses will not be included in the final report. A coding number has been assigned and will be used for group statistical reporting purposes only.

Please take a few minutes to complete and return this survey to me before departing the annual training conference on June 18 or 19, 1998 held in Stillwater, OK. Your response to this request is **very** important to the success of this study.

Thank you very much for your participation and cooperation in completing the survey. If you have any questions please feel free to contact me at your earliest convenience.

Sincerely,

Carolynn Brown-Ukpaka

Carolynn Brown-Ukpaka
Doctoral Graduate Student
Extension Educator
Program Coordinator - Special Programs
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APPENDIX B

SURVEY INSTRUMENT

UNDERSTANDING AND TEACHING THE ADULT LEARNER - ***General Information***

Please check the one answer for each statement that is MOST correct for you.

1. Please indicate gender: _____Female _____Male

2. Please indicate age range:
   ___A. 20-25 yrs
   ___B. 26-30 yrs
   ___C. 31-40 yrs
   ___D. 41-50 yrs
   ___E. 51 and over

3. What is your ethnic group.
   ___A. Asian/Pacific Islander
   ___B. Black
   ___C. Hispanic
   ___D. Indian
   ___E. White
   ___F. Other: (specify)_____
4. How much education do you have.
   ___A. High School/GED
   ___B. Post High School Vo-Tech
   ___C. Some College
   ___D. University or College Bachelors Degree
   ___E. Other (please explain)_____

5. Indicate the number of formal courses in adult education you have completed in each of these areas.
   A. Philosophy of Adult Education #_____courses
   B. Teaching Methods Related to Adults #_____courses
   C. Adult Characteristics & Learning Theory #_____courses
   D. Organization & Adm. of Adult Ed. Programs #_____courses
   E. Program Planning in Adult Ed. #_____courses
   F. Other classes related to teaching adults #_____courses

6. Where do you live.
   ___A. Rural farm area
   ___B. Rural - non farm area
   ___C. Town - pop. less than 50,000
   ___D. City - pop. more than 50,000, but less than 100.000
   ___E. Large City - pop. more than 100,000

7. Status of employment.

   ___up to 30 hours per week ___ 40 hours per week

8. Indicate the total number of years you have been employed by the Extension Service.
   ___A. Less than one year
   ___B. 1-3 yrs
   ___C. 4-7 yrs
   ___D. 8-10 yrs
   ___E. 11-15 yrs
   ___F. More than 15 yrs.

9. Which best describes your job title within the Extension System.
   ___A. EFNEP/ONE staff
   ___B. Program Assistant
   ___C. Extension Associate
   ___D. Program Coordinator
   ___E. Other (please explain)_____

UNDERSTANDING AND TEACHING THE ADULT LEARNER - ***General Information***

10. In what Extension Program area do you spend the GREATEST portion of your time.

___A. Agriculture
___B. Family & Consumer Sciences
___C. 4 - H
___D. Community/Natural Resource Development
___E. Community Nutrition

11. Indicate number of years you have taught youth or adults in any capacity outside of your position with the Extension Service, i.e Sunday School, Boy Scouts, Adult church groups, etc.

Number years teaching Youth_____ Number years teaching Adults_____

12. At this time, how many individual households do you have enrolled.

___A. 10 or less
___B. 11-20
___C. 21-30
___D. over 30 individual households

UNDERSTANDING AND TEACHING ADULT LEARNERS: ***ATTITUDE SCALE*** - *(dev. by Seevers)*

1. The term that best describes my job is adult educator	Strongly SD	D	U	A	Strongly SA
2. Awareness of the diversity of my clientele helps improve my teaching quality.	SD	D	U	A	SA
3. All CES employees should be required to have some training in adult education.	SD	D	U	A	SA
4. Adult education concepts apply in parent education training	SD	D	U	A	SA
5. An effective adult educator encourages maximum learner participation in the learning process	SD	D	U	A	SA
6. Full involvement of learners in self directed learning probably will not work very well with Extension audiences.	SD	D	U	A	SA
7. The Extension adult educator should be in control of the learning activity at all times.	SD	D	U	A	SA
8. The role of the Extension Adult Educator is to be a helper of learning rather than an information provider.	SD	D	U	A	SA
9. A good teacher takes into account the previous experiences of the learner when planning educational goals.	SD	D	U	A	SA
10. Children and adults should be taught in the same way.	SD	D	U	A	SA
11. The amount of learning is influenced by the amount of inter-action between an individual and his/ her environment	SD	D	U	A	SA
12. I would be willing to receive additional training to become a better adult educator	SD	D	U	A	SA
13. The business of the Cooperative Extension Service is adult education.	SD	D	U	A	SA
14. Quality adult education calls for teachers who are person-center, rather than subject matter-centered.	SD	D	U	A	SA
15. I use the "teachable moment" by accepting errors as a natural part of the learning process.	SD	D	U	A	SA

UNDERSTANDING AND TEACHING ADULT LEARNERS: **Knowledge Scale, Adult Ed. Principles**
(dev by Seevers)

Part II: Below are statements related to the practice of adult education. Circle to indicate which statement you AGREE or DISAGREE.

16. Adults have a subject -centered orientation to learning.	AGREE	DISAGREE
17. Success of the program should be determined by the educator establishing learner objectives.	AGREE	DISAGREE
18. The primary function of the adult educator is to provide knowledge to the learner.	AGREE	DISAGREE
19. Most adults share a basic style of learning.	AGREE	DISAGREE
20. Each adult student prefers one type of teaching style.	AGREE	DISAGREE
21. Learning climates that reduce conflict among the learners should be maintained.	AGREE	DISAGREE
22. Teaching style has minimal effect on student achievement.	AGREE	DISAGREE
23. Adults and children should be taught differently.	AGREE	DISAGREE
24. Pedagogy is the art and science of helping adults learn.	AGREE	DISAGREE
25. Similar to children, adults also have separate stages in the life cycle which include acquiring certain skills and social roles.	AGREE	DISAGREE

UNDERSTANDING AND TEACHING ADULTS LEARNERS: **Modified PALS**

Part III: The following statements contain several examples of things that a teacher of adults might do while working with the adult learner. Some you may personally find desirable and others undesirable. Consider the type of teaching you engage adults over the past two years. For each item, indicate the frequency that you practice each action using the following scale.

Never	*Almost Never*	*Seldom*	*Often*	*Almost Always*	*Always*
0	*1*	*2*	*3*	*4*	*5*

Read each statement carefully. Then respond by circling according to the scale above. If the statement does not apply to you then circle the 0 for Never.

FOR EXAMPLE:

A. WHEN I TEACH ADULTS, I

allow the learner to determine if they will complete the entire curriculum.

If you indicate #3; that means that you often allow your clients to determine if they will complete the curriculum.

B. WHEN I TEACH ADULTS, I:
Try to determine what each learner thinks they lack knowledge in before planning a series of lessons.

If you indicated #5; that meant that you always do what the statement says.

WHEN I TEACH ADULTS, I:	**N**	**AN**	**S**	**O**	**AA**	**A**
26. allow the learner to participate in developing the standards for measuring their success.	0	1	2	3	4	5
27. use whatever practices are necessary to maintain control of the learning situation.	0	1	2	3	4	5
28. allow the learners who have special needs more time to complete activities if necessary.	0	1	2	3	4	5
29. encourage learners to unquestionably accept knowledge offered.	0	1	2	3	4	5
30. help learners figure out the gaps between their state goals and their present level of performance.	0	1	2	3	4	5
31. provide knowledge rather than serve as a helper.	0	1	2	3	4	5
32. stick to the objectives that I planned for that lesson.	0	1	2	3	4	5
33. meet informally with clients to talk about their interests, needs and experiences.	0	1	2	3	4	5

WHEN I TEACH ADULTS, I:	N	AN	S	O	AA	A
34. use lecturing as the primary method for presenting the lesson to adult learners.	0	1	2	3	4	5
35. arrange the meeting space (or sit) to get the best possible interaction during the lesson.	0	1	2	3	4	5
36. spend time to determine the educational objective for each learner I enroll.	0	1	2	3	4	5
37. plan lessons that may not be familiar due to the learners socio-economic background.	0	1	2	3	4	5
38. try to motivate the learner by confronting him/her in front of fellow learners.	0	1	2	3	4	5
39. plan learning activities taking into account the participants prior experiences.	0	1	2	3	4	5
40. solicit input from the client regarding the content of the curriculum lessons.	0	1	2	3	4	5
41. use one basic teaching method because I have found that most adults have a similar style of learning.	0	1	2	3	4	5
42. use different teaching techniques depending on the individuals being taught.	0	1	2	3	4	5
43. encourage lots discussion about the topic when teaching groups of adults.	0	1	2	3	4	5
44. use written evaluations at the end of a series of lessons or course completion to determine the learners behavior change.	0	1	2	3	4	5
45. rely heavily on the skills that most adults already possess to reach educational objectives.	0	1	2	3	4	5
46. use what the literature, i.e. fact sheets, ERIB, etc. suggests that adults need to learn as my main source for planning learning activities.	0	1	2	3	4	5
47. accept errors as a natural part of the learning process.	0	1	2	3	4	5
48. meet individually with clients to help identify their educational needs.	0	1	2	3	4	5
49. let each person work at his/her own rate regardless of the amount of time it takes to get them through the program.	0	1	2	3	4	5
50. help clients develop short-range as well as long-range objectives.	0	1	2	3	4	5

WHEN I TEACH ADULTS, I:	N	AN	S	O	AA	A
51. maintain a well-controlled learning environment to reduce learner distractions.	0	1	2	3	4	5
52. avoid discussions of controversial subjects that clients may disagree with.	0	1	2	3	4	5
53. plan periodic breaks in the lesson when doing a group lesson with adults.	0	1	2	3	4	5
54. use teaching methods that encourage quiet productive study by the adult learner.	0	1	2	3	4	5
55. use a preplanned evaluation activity at the end of the program as a primary means to tell how much progress the client has made.	0	1	2	3	4	5
56. plan activities that will encourage each learner's behavior change so the learner becomes more dependent upon him/herself.	0	1	2	3	4	5
57. try to match my teaching objectives to the individual needs of the clients.	0	1	2	3	4	5
58. avoid issues that may make the client feel embarrassed or annoyed.	0	1	2	3	4	5
59. encourage clients to ask questions when they do not understand any part of the lesson.	0	1	2	3	4	5
60. try to find out what the client hopes to gain from enrolling in a Cooperative Extension Program before planning any learning activities.	0	1	2	3	4	5
61. encourage program enrollees to identify concerns that the program can help them address.	0	1	2	3	4	5
62. give program participants the same learning activity on any given topic.	0	1	2	3	4	5
63. use materials that were originally designed for a youth audience without making any adjustments.	0	1	2	3	4	5
64. organize adult learning activities by the kind of problems that participants face in everyday life.	0	1	2	3	4	5
65. use the same criteria with all clients to know what they have learned.	0	1	2	3	4	5
66. use everyday problems as examples.	0	1	2	3	4	5
67. use different educational materials with different learners enrolled in the same program.	0	1	2	3	4	5
68. help individuals relate new learning to their previous lesson.	0	1	2	3	4	5

VITA

Carolynn Brown-Ukpaka

Candidate for the Degree of

Doctor of Education

Dissertation: TEACHING STYLE PREFERENCES OF NUTRITION EDUCATION ASSISTANTS EMPLOYED IN THE OKLAHOMA STATE COOPERATIVE EXTENSION SERVICE

Major Field: Occupational and Adult Education

Biographical:

Education: Bachelors of Science degree in Home Economics Education from the University of Nebraska-Lincoln, Lincoln, Nebraska in May 1972. Received a Master of Education degree from the State University of New York-Buffalo, Buffalo, New York, 1984. Completed the requirements for the Doctorate of Education degree with a major in Occupational and Adult Education at Oklahoma State University in December, 1999.

Experience: Taught junior high and high school home economics courses in Nebraska 1972-74. Taught home management classes to educable MR clients, Lincoln, NE, 1974. Employed as a college lecturer in nutrition in Eastern Nigeria, 1975-84. Served in graduate research associate positions between 1987-90; and 1995-96 at the University of Nebraska-Lincoln, and Oklahoma State University, Stillwater. Employed as a Extension Educator, Oklahoma Cooperative Extension Service, 1996 to present.

Professional Memberships: American Association of Family & Consumer Sciences, American Diabetes Association, Oklahoma Family & Consumer Sciences Association, Oklahoma Dietetics Association, American Education Association.