EDUCATIONAL PHILOSOPHIES, TEACHING STYLES, LEARNING STRATEGY PREFERENCES, AND ATTITUDE TOWARD CONTINUING EDUCATION OF NATIONALLY CERTIFIED SIGN LANGUAGE INTERPRETERS

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CHAPTER 1

INTRODUCTION

Introduction

In today's world of "high tech" communication exchange a new world is evolving. This new day is creating rapid, real-time communication access that transcends historical communication barriers. It is changing the way people communicate among themselves personally and the way they conduct everyday business activities.

New technologies provide an effective, on-demand communication access which empowers individuals who are deaf with a new found independence equal to their hearing counterparts. While this is a tremendous advent for the deaf and hard of hearing communities, it has added a new dimension to the field of interpreting. This fast-paced, rapidly advancing profession has increased the demand for qualified professional interpreters, increased the demand for interpreter educators, and escalated the need for continued professional development for sign language interpreters.

Language Interpreting

It is often said that the "mother of invention" is necessity (Cerney, 2004, p. 130). The need for interpreters exists when individuals or groups of individuals of

differing languages come together with a mutual desire for communication exchange. The field of interpretation began with spoken language interpreters. Although the exact beginning of spoken language interpreting is not known, the development of the field and its evolution into a profession occurred because of pressures and the need to communicate among political representatives of various nations. In contrast, the field of sign language interpreting emerged primarily out of the need of private deaf individuals to communicate with their hearing counterparts (Frishberg, 1990, p. 7). The basic need for communication and interpretation has remained consistent while the modality of spoken language interpretation has expanded to include visual language interpretation. This expansion has given rise to the contemporary field of sign language interpreting, in which the main function is to diminish language barriers between native deaf users of American Sign Language and English speaking individuals.

Deaf Community

Native users of American sign language make up what is known as the Deaf community. The term community refers to a general social system in which a group of people live together, share common goals, and carry out certain responsibilities to each other (Padden, 1980, p. 92).

Communities can further be described as a group of people with a common characteristic (Merriam-Webster, 1965, p. 168). Hearing loss is a common characteristic which separates an entire group of individuals from the mainstream of a hearing society. When groups of deaf individuals seek each other out for social interaction and emotional support, Deaf communities are formed (Padden & Humphries, 2001, p. 36). Just as the hearing population is comprised of a heterogeneous group of people, the same amount of diversity can be observed within the Deaf community (Scheetz, 2001, p. 25; Schirmer, 2001, p. 86). Although hearing loss is a common thread shared by a Deaf community, the degree of hearing loss further segregates its members. The degree of hearing loss may range from moderate to profound with individuals using various sign systems for communication. Although diverse, one's hearing loss and need for social interaction can create a community and ultimately "when a group of people come together to form a community, a culture will result" (Padden & Humphries, 2005, p. 36).

Deaf Culture

Culture is a "set of learned behaviors of a group of people who have their own language, values, rules of behavior, and traditions" (Padden & Humphries, 2005, p. 16). Within the American culture, a subculture exist whic

h consists of deaf individuals. As with other cultures, this group of individuals has a shared language and a specific set of shared characteristics such as attitudes, values, meanings, perceptions, and beliefs (Santrock, 1995; Zastrow & Kirst-Ashman, 1997). The shared language of the Deaf community is American Sign Language (Scheetz, 2001, p. 23).

It is important to differentiate between the pathological and cultural view of deafness: “deaf” refers to the audiological condition of a hearing loss, and the “Deaf” refers to a particular group of deaf people who share a language, which is American Sign Language, and a cultural identity (Padden & Humphries, 2005, p. 67). Deaf individuals consider themselves to be a cultural and linguistic minority (Schirmer, 2001, p. 81). The term does not denote the hearing loss as a disability or as a deficit (p. 81). It is not a problem that the afflicted person works to overcome but is a condition one accepts (Furth, 1973, p. 49). In contrast, the term deaf is often considered a disability and a condition to be “fixed” without reference to culture or identity by the greater hearing majority (Padden & Humphries, 2005, p. 3). In reality, a person can be deaf but not Deaf or Deaf but not deaf (Massey, 2003, p. 3). Deaf individuals primarily use American Sign Language while deaf individuals may utilize various modes of communication. It

is this global culture, community, and language that has given rise to the profession of sign language interpreting. As professional interpreters, we must embrace its tenants and strive for excellence.

Interpreting as a Profession

Spoken-to-spoken language interpreting has long been recognized as a profession. However, “there was a time, not long ago, when spoken to sign language interpreters were not thought of as ‘professionals’--even by the people who were doing the interpreting” (Cerney, 2004, p. 140).

Historically, individuals who functioned in the interpreter role were family members, teachers, or members of the clergy. These individuals usually volunteered their services and were rarely reimbursed for their efforts (Fant, 1990, p. 129). In addition, these individuals were not professionally educated and rarely considered their own obligations to maintain attitudes of confidentiality or impartiality or to consider the right of the deaf person to know and understand the full extent of the communication process (Frishberg, 1990, p. 10).

Contemporary sign language interpreters are viewed in stark contrast to the individuals who functioned in the sign language interpreter role in years past. Today’s sign language interpreters are highly educated, skilled, and

qualified professionals whose primary aim is to facilitate communication between hearing individuals and the deaf or hard of hearing (RID, n.d.).

The field of sign language interpreting has only recently been recognized and considered a profession (Frishberg, 1990, p. 147). Interpreting between signed and spoken language as a profession had its origin when a group of educators, interpreters, and rehabilitation counselors gathered for a workshop at Ball State University in Muncie, Indiana, during June of 1964 (p. 12). This historic workshop led to the acknowledgment among participants that professional interpreting would have an increasingly important role in the lives of deaf and hard of hearing individuals (p. 12). After much discussion concerning the increased demand for interpreters and the need for a registry of qualified interpreters nationwide, it was recommended that a national organization be established for sign language interpreters (Humphrey & Alcorn, 2004, p. 11.3).

In 1964 the National Registry of Interpreters for the Deaf (RID) was established. Sign language interpreters throughout the U.S., Canada, Europe, Australia, and New Zealand joined the newly formed RID (Humphrey & Alcorn, 2004, p. 11.4). The original purpose of the organization was

to recruit, educate, and maintain an updated listing of sign language interpreters (Cerney, 2004, p. 141). Since its establishment, RID as an organization has grown in membership and in scope, and it continues to be the parent organization of the professional field of sign language interpreters.

Professional Sign Language Interpreter

A profession can be distinguished by three essential features: (a) it has defined scope of practice and a related body of knowledge, (b) it has a clearly articulated set of code of ethics, and (c) it has a special monopoly over the right to provide a particular service through licensure or certification (Stromberg, 1990, p. 25). In the field of interpreting as in other professions, appropriate credentials are an important indicator of an individual's professional status and qualifications (RID, 2008). Certification or licensure is a significant element of the sign language profession (Cerney, 2004, p. 145). In order for a profession to establish standards of performance, evaluation procedures should be in place (Sleezer, Conti, & Nolan, 2004, p. 22).

One of the most formidable goals established by the founders of RID was the establishment of a national testing and certification system to verify skills, ethics, and

professional behaviors of interpreters (Humphrey & Alcorn, 2001, p. 11.14). RID provides certification testing in a variety of general and specialized content areas (pp. 11.8-11.24). It too has instituted a stringent professional continuing education requirement in order for an interpreter to retain certification. Although national certification holds priority over any state level certification and is the ultimate professional achievement, professional sign language interpreters are not required to hold a National Certification in order to provide interpreting services within their state of residence. They can achieve a level of state certification and may provide limited interpreting services to deaf individuals who reside within their state. Like nationally certified interpreters, holders of state certification are required to successfully complete the continuing professional education requirements of their respective states.

Dual Roles of Interpreters

The field of sign language interpreting has changed dramatically over the past three decades. These changes have reshaped the scope and function of professional interpreters.

While the primary role of a certified professional interpreter has historically been one of being a

communication facilitator, the scope of the interpreting profession has become much more varied. Interpreters are functioning in the role of educator, trainer, and mentor to a growing population of individuals wanting to become professional interpreters or to those interpreters needing to improve their sign language skills (RID, n.d.). When functioning in the role of an interpreter educator, not only must one be a qualified, certified interpreter, but one also must be keenly aware of one's personal teaching philosophy and teaching style.

An important element related to professional interpreters as educators is knowing what they believe about the educational process and how individuals learn. What educators believe and practice in the teaching-learning transaction is related to their educational philosophy and teaching style (Conti, 2004; Heimlich & Norland, 1994).

Whether functioning in the role of interpreter or educator in the interpreting world today, sign language interpreters need to become "lifelong" learners. Continuing professional education is one avenue through which this may be realized.

Professional Development

A professional possesses a specialized body of knowledge and skills that are acquired during a prolonged

period of education and training (Houle, Cyphert, & Boggs, 2001, p. 87). Just as professions are evolving and maturing, professionals must strive to remain abreast of current knowledge and skills through professional development. “The whole of life is learning, therefore education can have no end” (Lindeman, 1926, p. 6).

In the current evolution of the profession, sign language interpreting is conducted in an environment that is often non-mundane, sometimes surreal, and occasionally life-changing. Whether the interpreting situation happens on site or virtually, interpreters are entrusted with one of the most basic human needs of individuals: communication.

Professionals need to continually strive for skill advancement and greater knowledge. Continuing professional education is a vital avenue through which professionals can maintain skills, advance their skill level, stay current within the field, and ultimately give back to the profession (RID, n.d.).

The basic goal of continuing professional education should be to enhance professional competence and provide new knowledge to participants (Wallace, 2000, p. 25). Thus, professional development activities for interpreters have to consider interpreters in their roles as adult learners and as educators. As learners, continuing professional education

activities should be based on sound adult learning theories. As educators, the continuing professional education activities should help the interpreters better understand what they do in educational settings and why they do it (Conti, 2007, p. 19). This involves activities that can help interpreters become aware of their educational philosophies because “true professionals know not only what they are to do, but also are aware of the principles and reasons for acting” (Elias & Merriam, 1980, p. 9). In the field of Adult Education, the distinct qualities displayed by an educator that are persistent from one situation to another are referred to as teaching style (Conti, 2004, pp. 76-77). These overt actions are directly linked to the educator’s more comprehensive but more abstract educational philosophy (p. 77), and teaching style is simply putting an individual’s educational philosophy into operation (Conti, 2007, p. 21). Therefore, it is critical for those planning continuing professional education activities for interpreters to be aware of adult learning principles and the concepts of teaching style and educational philosophies as they relate to a professional’s role as participant and educator.

While adult learning principles, teaching style, and educational philosophies are critical concepts when planning

continuing professional education activities, these are moot concepts if adult learners fail to participate. Irrespective of the profession, professionals have their own unique attitudes toward continuing professional education. Professional sign language interpreters are no different. Current research on continuing professional education can be applied to the field of sign language interpreting since the purpose of continuing adult learning is to enhance the knowledge and skills of the individual professional.

Adult Learning

The professional development activities of interpreters is a specific type of adult learning. Learning is “the process by which people gain knowledge, sensitiveness, or mastery of skills through experience or study” (Houle, 1980, p. ix). The central question of how adults learn has occupied the attention of scholars and practitioners since the founding of adult education as a professional field of practice in the 1920’s (Merriam, 2001, p. 3).

The field of adult education contains a myriad of theories, models, and concepts that compose the knowledge base of adult learning. However, there are two pillar concepts that form the foundation of adult learning theory: andragogy and self-directed learning (Merriam, 2001, p. 3).

Andragogy

Andragogy is “the art and science of helping adults learn” (Knowles, 1970, p. 38). The major aspect of andragogy is that it established a learner-centered approach to learning in a variety of real-life settings (McClellan & Conti, 2008, p. 13). In addition, andragogy emphasizes the adult learners’ experiences and need for being self-directed. Knowles’ (1990) andragogical model described six basic assumptions about adult learners. As adult learners develop, their (a) self-concept moves from dependency to self-direction, (b) life experiences are a rich resource from which to draw during a learning task, (c) readiness to learn adapts in accordance with a person’s developmental social roles, (d) knowledge adaptation becomes immediate and problem-centered, (e) orientation shifts from subject-centered to performance-centered, and (f) motivation for learning becomes an internal drive (pp. 57-63).

While some have argued against the value of Knowles’ andragogical model, his thinking is a foundational theory in the field of adult learning (Merriam, 2001, p. 6). His work has been proven to be instrumental in understanding the principles of adult learning. The concept of andragogy reflects a learner-centered philosophy based upon the adults’ ability to be self-directed in their learning.

Self-Directed Learning

While unidentified with a specific term for centuries, self-directed learning has only become formally recognized and studied during the last several decades (Knowles, 1990, p. 17). The field of Adult Education and adult educators became increasingly interested in self-directed learning during the 1970s (Long, 1992, p. 15). The most widely accepted definition of self-directed learning is that of Knowles (1975):

> In its broadest meaning, “self-directed” describes a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (p. 18)

The concept of self-directed learning applies to many learning events in an ever-changing global society and is an integral part of the learning process. Early research regarding self-directed learning reported that 90% of adults conduct at least one self-directed learning project annually and that 70% of adult learning is self-planned (Tough, 1978, p. 1). This type of self-directed learning allows the learner to achieve a predetermined level of competency and mastery.

While many learning events may be imposed by external credentialing entities, the learner remains the decision-

maker and remains in control of the chosen learning event and process. Self-directed learning is personal autonomy or "taking control of the goals and purposes of learning and assuming ownership of learning" (Knowles, 1998, p. 135). Along with andragogy, these twin pillars of adult learning place a focus on the individual learner (McClellan & Conti, 2008, p. 13) and "describe adult learning as a learner-centered activity. This focus mandates that individual differences be identified" (p. 14). One approach to identifying individual differences is by examining learning strategy preferences.

Learning Strategies

Learners approach learning events in very individualized and personal ways. Those individualized approaches to the learning event have been referred to as one's learning style and learning strategies.

Learning styles are the stable traits with which learners are born and on which they rely when involved in a learning situation (Fellenz & Conti, 1989, p. 8). Learning styles are influenced by intrinsic ways of information processing (Conti & Kolody, 1995). Volumes of research have been conducted on examining the various learning styles of adults. Smith's (1982) learning how to learn concept encapsulated much of the thinking on the topic. He advocated

that adults need to understand their particular learning style.

While learning styles are cognitive traits, learning strategies are the techniques or skills that an individual employs in order to accomplish a specific learning task (Fellenz & Conti, 1989, p. 7). These learning strategies are learned behaviors that develop as individuals experience learning in various settings (Massey, 2003, p. 21). Although there are a variety of learning strategies that a learner may want to use for a specific learning task, research with adult learners has discovered three distinct patterns related to the preferences that adults have for initiating a learning activity (Conti, 2009). These three distinct groups of learners have been identified as Navigators, Problem Solvers, and Engagers.

Educational Philosophy

While an interpreter's learning strategy preference will influence how one approaches a continuing professional education activity, the interpreter's role as an educator will be influenced by one's educational philosophy and teaching style. Educational philosophy refers to a comprehensive and consistent belief system about the teaching-learning transaction (Conti, 2007, p. 20). This philosophical belief system drives the educator's thoughts

and actions in a teaching-learning environment (Ozmon & Craver, 1981, p. x). A philosophical foundation is an essential component of successful adult education practice (Elias & Merriam, 1995; Galbraith, 1998). More specifically,

> The professional educator should be constantly in the process of examining, evaluating, and perhaps rejecting or modifying what has been received from the past. A study of philosophies of adult education should produce a professional who questions the theories, practices, institutions, and assumptions of others. . . .Whatever philosophical stance one adopts, it is important that the continuing philosophical quest not be abandoned. . . .The continuing reflection on philosophical issues in adult education should serve to develop methods of critical thinking, aid individuals to ask better questions, and expand the visions of educators beyond their present limits. (Elias & Merriam, 1995, p. 206)

The dyadic relationship between theory and practice is critical. “The body of knowledge associated with adult education is a complex and continually changing phenomenon, often overlapping and subdividing” (O’Brien, 2001, p. 18). Theoretical development has historically had a significant impact on adult education even though there is not a consensus on how much theory affects educational practice. Initially, it was asserted that common sense and experience guided adult education. However, the more widely held belief is that theory (a) is the foundation of practice, (b) should have application to practice, and (c) should be scientifically developed (Jarvis, 1991, p. 10).

In practice, routine decisions related to educational practices are influenced by philosophical beliefs. There are five major philosophies that are rooted in Western culture and that frame the development of educational thought: Idealism, Realism, Pragmatism, Existentialism, and Reconstructionism (Ozmon & Craver, 1981). These philosophies serve as justification for practice or analysis of practice (Lawson, 1991, p. 282).

“Developing a philosophical perspective on education is not a simple or easy task. However, it is a necessary one if a person wants to become an effective professional educator” (Ozman & Craver, 1891, p. 268). One’s teaching philosophy, in turn, is directly linked to one’s teaching style because teaching style is simply an overt implementation of the teacher’s beliefs about teaching (Conti, 2004, pp. 76-77). A holistic understanding of one’s beliefs and actions can enhance consistency in the teaching-learning environment.

Teaching Style

Those involved in educational roles must know the impact of their beliefs, values, and attitudes on the learning environment as well as understand themselves and the learner (Heimlich & Norland, 1994, p. 87). In fact, examination of one’s personal beliefs, values, attitudes, and personal teaching philosophy and its impact on the

teaching-learning exchange is critical for one's professional development (p. xi).

Teaching styles refers to "the distinct qualities displayed by a teacher that are persistent from situation to situation regardless of the content" (Conti, 2004, pp. 76-77). Teaching style includes five important knowledge areas: knowledge about principles and practices, knowledge of self, knowledge of learners, knowledge of the content, and knowledge of methods; all contribute to teaching style (Galbraith, 2004, p. 4). "Teaching style is illustrated in all aspects of teaching: in thought, feeling, approach, and action" (p. xii). Consistency in these patterns is important for improvement as a teacher and for enhancing learner achievement (Conti, 1986, p. 23).

If adult educators want to be successful, it is imperative that they understand their current teaching style and how that style can be strengthened or improved (Heimlich & Norland, 1994, pp. 7-8). With congruence of beliefs, attitudes, and actions, educator's performance can be enhanced (p. 21). Likewise, an applied knowledge of one's teaching style can make a difference in how teachers organize the instructional environment, how they deal with learners, and how well their students do in learning the content of the class (Conti, 1989, p. 3). In the dual roles

as interpreters and educators, knowledge of one's personal teaching style can help ensure effective instruction in the continuing education teaching-learning exchange.

Problem Statement

The Problem

Sign language interpreters are adult learners functioning in dual roles and have a need for ongoing professional development. However, interpreters have only focused on the technical side of the interpreting role, and they have not examined their educational role. Therefore, research is needed to learn exactly what this "educational" side of the dual role looks like. A critical part of this role is the interpreters' beliefs about the teaching-learning process and how they go about fulfilling this role. Specifically, knowledge about the educational philosophies, teaching styles, learning strategies preferences, and attitudes toward continuing education of professional sign language interpreters is needed to plan and conduct meaningful professional development activities.

Background of the Problem

The last several decades have brought new but exciting challenges to the interpreting profession. A marked increase in demand for qualified professional interpreters, an ever-changing consumer population, and mandated continuing

professional education has created a need for interpreters to be creative and innovative lifelong learners. They need to be prepared for a profession in which they assume the roles of both communication facilitator and educator. Exploring the interpreters' education philosophies, teaching styles, learning strategies preferences, and attitudes toward continuing education can provide information to promote more effective professional development.

Lifelong learners are a unique and varied group of learners comprised of limitless experiences and interest. Adult learners are responsible for their own learning--what they learn, how they learn, when they learn, and where they learn (Courtney, 1992, p. 17). They embark upon each learning task with their own set of strengths and weakness. Adult learners desire autonomy and tend to be self-directed. They bring to each new learning event an expectation based upon prior learning experiences. As a result, adult educators should consider the learner-centered approach when instructing adult learners.

Knowles' noted that andragogy has alerted adult educators to the fact that learners should be directly involved in their educational process as much as possible. He noted that learners are problem oriented, activity centered, and intrinsically motivated. Many learners enter

into learning events because of an immediate and problem-centered need. Thus, the learning events are relevant and practical to the adult learner. As a result, learners perceive a personal value in the learning in which they engage. While many learning events may be externally imposed, the learner remains the decision-maker and self-directed as to what learning events will be experienced.

Moreover, real-life learning is different from learning in the academic setting (Sternberg, 1990, p. 35). Learning for professional development is for real-life purposes and is used to solve dilemmas in the field of practice (Schön, 1987, p. 7). Because each learner has varied life experiences, each learner will approach the learning process very differently. Therefore, it is a challenge for adult educator's to work with adult learners from a real-life, problem-centered perspective.

Purpose

The purpose of this study was to describe the educational philosophies, teaching styles, learning strategies preferences, and attitudes toward continuing education of certified sign language interpreters and transliterators. The concept of educational philosophies was identified with the Philosophies Held by Instructors of Lifelong-learners (PHIL) instrument. The concept of teaching

styles was measured with the Principles of Adult Learning Scale (PALS) instrument. The concept of learning strategies was identified with the Assessing The Learning Strategies of AdultS (ATLAS). The concept of attitudes toward continuing education was measured with the Adult Attitudes Toward Continuing Education Scale (AACES). In addition, data were collected on the following demographic variables: age, gender, education, ethnic background, certification level, and hearing status. While most of the demographic variables are standard, significant variables collected in several similar research studies, the additional variables were unique to sign language interpreting.

Research Questions

This study was an extension of a line of inquiry in the Adult Education program at Oklahoma State University related to educational philosophy, teaching styles, and learning strategies (Foster, 2006; O'Brien, 2001; Martin, 1999). In order for the results of this study to be easily compared to those in this existing line of inquiry, the research questions have been patterned after those used by Foster (2006).

1. What is the educational philosophy profile of the participants using the Philosophies Held by Instructors of Lifelong-learners Instrument (PHIL)?
2. What is the teaching styles profile of the participants using the Principles of Adult Learning

Scale instrument (PALS)?

3. What is the learning strategy preference profile of the participants using Assessing The Learning Strategies of AdultS (ATLAS)?

4. What is the attitude toward continuing education profile of the participants using the Adult Attitudes Toward Continuing Education Scale (AACES)?

5. What is the relationship of the participants' adult education philosophy as identified by PHIL and the personal and professional variables of age, gender, education, certification level, hearing status, and ethnic background?

6. What is the relationship of the participants' teaching styles as measured by PALS and the personal and professional variables of age, gender, education, certification level, hearing status, and ethnic background?

7. What is the relationship of the participants' learning strategies as identified by ATLAS and the personal and professional variables of age, gender, education, certification level, hearing status, and ethnic background?

8. What is the relationship of the participants' attitude toward continuing education as measured by AACES and the personal and professional variables of age, gender, education, certification level, hearing status, and ethnic background?

9. What is the interaction between educational philosophies, teaching styles, learning strategies preferences, and attitudes toward continuing education of the interpreters?

Data was collected to answer these questions from the use of an Internet website on which the instruments were posted. The data was analyzed using the following procedures:

Question	Data Source	Procedure
1. Educational philosophy profile	PHIL	Frequency distributions
2. Teaching style profile	PALS	Frequency distributions and Cronbach's alpha
3. Learning strategy preference profile	ATLAS	Frequency distributions and chi square
4. Attitudes toward continuing education profile	ACCES	Frequecny distributions, Cronbach'a Alpha, and factor analysis
5. Education philosophies and demographic variables	PHIL and demographic survey	Chi square
6. Teaching style and demographic variables	PALS and demographic survey	Analysis of variance
7. Learning strategies, preferences and demographic variables	ATLAS and demographic survey	Chi square
8. Attitudes toward continuing education and demographic variables	AACES and demographic survey	Analysis of variance
9. Interaction of educational philosophy, teaching style, learning strategy preferences, and attitudes toward continuing education	PHIL, PALS, ATLAS, and AACES	Discriminant analysis

Conceptual Framework

Sign language interpreters work in a world that is influenced by two different professional fields (see Figure 1). The major field and the field that is most visible is that of interpreting. Here the focus is on linking the deaf and hearing world through visible sign communication. The other less visible field is that of adult education where the focus is on facilitating both the interpreters' own

learning and that of others.

In both of these professional fields, the focus is on the individual. In the interpreting field, this involves the individual functioning as a language processor to assist the Deaf community in interacting in their world at large. In adult education, the focus is on a learner-centered approach in which the learners take charge of their own learning in order to make sense of and reflect upon their experiences. Merriam (2001) pointed out that the foundational theories of adult learning are andragogy and self-directed learning (p. 3). These theories are rooted in a firm belief in a learner-centered approach and the cornerstone of the learner-centered approach is a focus on individual differences (McClellan & Conti 2008, p. 13).

Interpreters are involved in lifelong learning. This on-going learning is both for required certification and for personal professional development. Interpreters often function in “dual roles” as interpreters and educators. The historical “interpreter” role has long been focused on the process of communication facilitation; however, interpreters also function in an “educator” role. A critical element of the “educator” role is the interpreter’s personal beliefs about the teaching-learning transaction. In order to plan professional development activities for the “dual role”

interpreter, information is needed about how they personally go about the learning task, what they believe about the educational process, and specifically how important they think continuing education is for personal development. One means of gathering this critical information is through the use of instruments developed to examine these concepts.

Instrumented learning is the use of instruments to identify areas of potential learning for an individual based on the theory being measured in the instruments (Blake & Mouton, 1972, p. 113). The instruments utilized in this study were (a) ATLAS which examined individual learning strategies, (b) PALS which looks at individual's beliefs about the basic ideas in the adult education literature (Conti, 1985, p. 8), (c) PHIL which addresses the individualized belief system about the teaching-learning transaction, and (d) AACES which was used to explore one's value and attitudes of the continuing educational process.

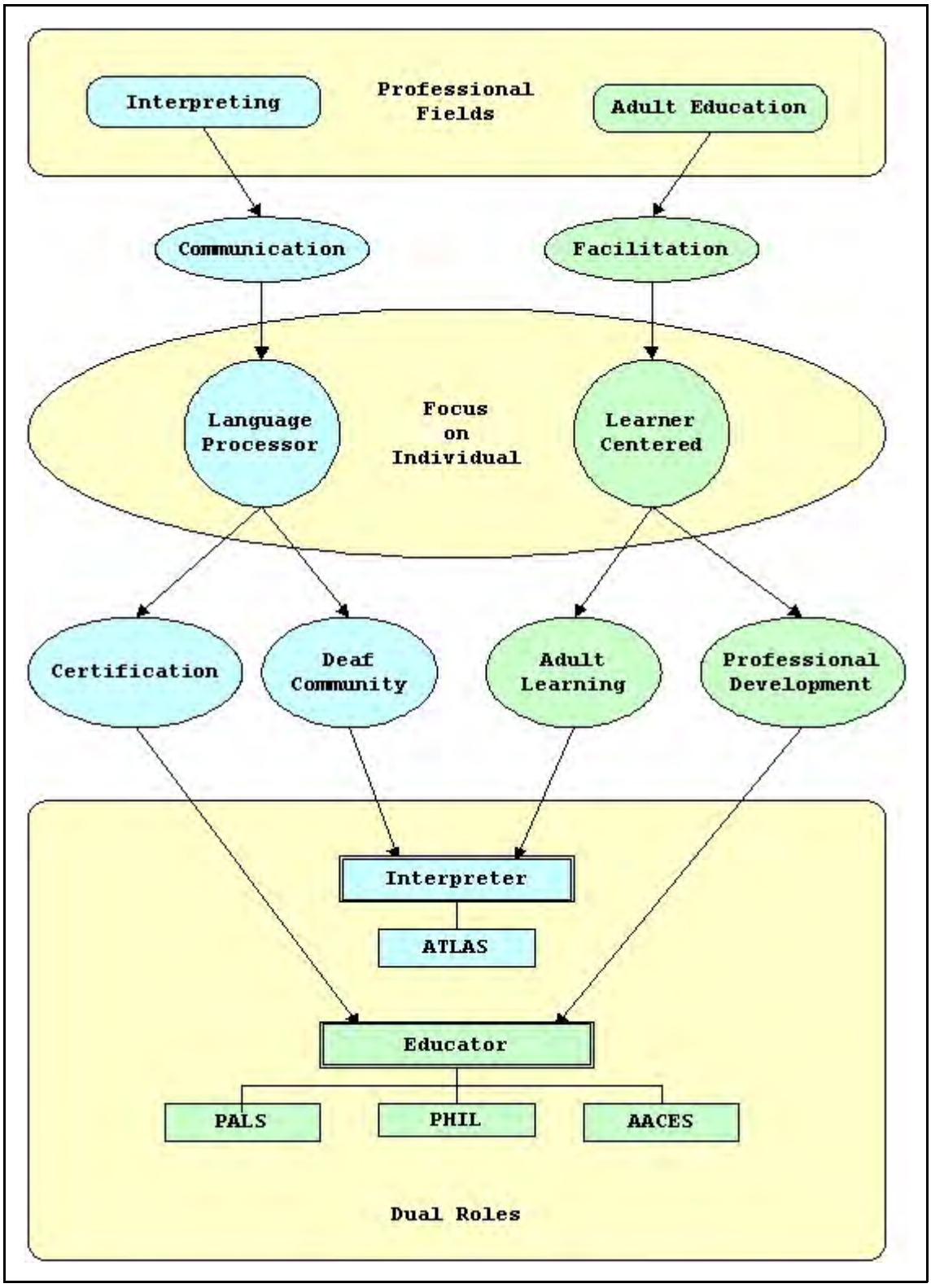
The participants in this study did not receive direct feedback on their responses. However, this study gathered data that can be used to examine the "dual role" of the interpreter, to gain knowledge about these specific concepts, and to continue the line of inquiry related to these concepts. The conceptual framework for this study as an exploration of the dual roles of interpreters and the

variables that are part of the conceptualization are shown in Figure 1.

Limitation

A limitation of this study is that it assumed that the concept of the “dual” roles of interpreters was an accepted concept in the field. Although this phrase is not widely used, the concept of interpreters functioning in roles as educators, trainers, and mentor is well established. In addition, the researcher’s role as an instructor in a university program supported this concept. However, the strong and negative reaction of many of the respondents suggests that this concept is very much in question. Therefore, while the conceptual framework of this study is based upon this concept, the findings from this study should be used to further question, develop, and reflect upon the concept of the “dual” roles of interpreters.

Figure 1: Conceptual Framework for the Study



CHAPTER 2

REVIEW OF LITERATURE

History of Interpreting

Spoken Language Interpreting

People are social beings with an innate need to communicate. Language is the avenue through which individuals communicate and socialize. “Ever since there have been people who wished to communicate, but did not share the same language, there has been the need for interpreters” (Cerney, 2004, p. 130). Spoken language interpreting was the first form of interpreting used to bridge the communication gap between representatives of various nations (Frishberg, 1990, p. 2).

Prior to the 1940s, spoken language interpreting was consecutive interpreting. It involved one person producing a part of a message in one language, and then the speaker would pause for a moment while the interpreter produced the same message in a different language (Cerney, 2004, p. 130). This was a laborious and time consuming process. During this era, simultaneous interpreting was very limited because it required the speaker and the interpreter to speak at the same time. This process was extremely distracting to both the audience and speakers (p. 130). It was during the infamous Nuremberg Trials that new technology made a way for

bridging the communication gap by utilizing simultaneous interpreting (p. 130).

During the Nuremberg Trials, four major governments began investigating the activities of German leaders, making it necessary to interpret the proceedings in four different languages: English, French, German, and Russian (Cerney, 2004, p. 130). This daunting task accentuated the need for simultaneous interpreting and resulted in the development of an electronic sound system which enabled the team of 12 interpreters to speak simultaneously without interrupting the speakers (p. 130). “The use of electronics to provide for efficient simultaneous interpretation in the Nuremberg trials has changed the face of interpreting” (p. 131). Just as technology advanced the international world of spoken language interpreting in 1946, the contemporary technological advances have also dramatically transformed the field of sign language interpreting in today’s world.

While spoken language interpreting was used to bridge the communication gap between diplomats and nations, sign language interpreting was utilized to meet the communication needs of deaf and hard of hearing individuals. It bridged the communication gap between individuals using a form of spoken language and those using a visual language.

Sign Language Interpreting

During the nineteenth and twentieth centuries, sign language interpreting was primarily conducted by hearing teachers who could sign using a form of manual communication, by deaf people's family members, and by hearing church members for deaf parishioners (Frishberg, 1990, p. 10). Since these individuals were rarely compensated for their services, were not professionally educated and did not feel an obligation to maintain attitudes of confidentiality, they were considered "bilingual individuals pressed into service for a neighbor or family member" (p. 10). They were not considered to be professional sign language interpreters.

In the United States, the history of interpreting began with the introduction of sign language into the educational system. The most notable roots of interpreting can be traced back to Thomas Hopkins Gallaudet and Laurent Clerc (Scheetz, 2001, p. 109). Gallaudet, a Yale University graduate, became acquainted with Dr. Mason Cogswell who had a young deaf daughter (Baker & Cokely, 1980, p. 49). Gallaudet began to try to teach her to read and write. Having some success, Dr. Cogswell and other concerned individuals made it financially possible for Gallaudet to travel to Europe to learn methods of teaching deaf children (p. 49).

Through his travels in Europe, Gallaudet became acquainted with Laurent Clerc, a French deaf man and instructor of deaf children (Schein, 1990, p. 136). Gallaudet began to learn French sign language and methods utilized to instruct deaf children (Baker & Cokely, 1980, p. 49). Gallaudet convinced Clerc to return to America and establish a school for deaf children. They founded the American Asylum for the Deaf in Hartford, Connecticut, in 1817 (Frishberg, 1990, p. 10). Throughout his tenure, Gallaudet served as Clerc's interpreter during administrative and policy-making events between hearing and deaf groups (Lane, 1984). From the works of Lane (1984), this was the first account of an individual serving in the dual role of an interpreter and an educator. Gallaudet bridged the communication gap between individuals with differing languages.

Interpreting Process

The terms "interpret," "interpreter," and "interpretation" have several different meaning in English. They are most often related to a particular profession or vocation. According to Frishberg (1990),

> We speak of an actor's interpretation of a role, and mean the actor's choices about how to portray a character. We interpret the speaker's remarks, by which we mean we make our own understanding, we construe the speaker's meaning in a particular way. The interpreters hired by the National Park

> Service....offer explanations of the site; they act as guides, elucidating the meaning of the place we visit. However, none of these senses involve the use of two languages or codes of communication. (p. 15)

Within the field of sign language interpreting, the term “interpreting” refers to the process of transmitting a source language into a target language for the purpose of facilitating communication between hearing and deaf individuals. A source language is the language from which one interprets while the language into which interpretation is made is called the target language (Frishberg, 1990, p. 16).

Language skills are identified to as either an “A,””B,” or “C” language depending on one’s language proficiency (p. 16). The “A” language is the interpreters’ first language or native language in which they possess fluency (Humphrey & Alcorn, 2001, p. 7.1). As an interpreter, one has fluency in deciphering subtle nuances and degrees of meaning in one’s native language (p. 7.2). A “B” language refers to one’s second language of fluency or the language into which one can interpret accurately (Frishberg, 1990, p. 16). A “C” language is considered a passive language. The interpreter may possess minimal skills in several passive languages and may understand most of what is being expressed verbally but may have difficulty interpreting into a “C” language

(Humphrey & Alcorn, 2001, p. 7.2). Therefore, an interpreter may function within the source languages of “A”, “B”, and “C”, but only the “A”-native or “B”-second languages are considered to be target languages (Frishberg, 1990, p. 16).

The interpreting process may appear to be very simplistic; however, the process is quite complex. The process not only involves competencies in two languages, but it also requires an understanding of the dynamics of human interactions between two different modalities. Modality is the channel through which a message is expressed (Humphrey & Alcorn, 2001, p. G.10). Two primary modalities used in sign language interpreting are visual and auditory. The process includes identifying meaning and speaker intent by analyzing the linguistic and paralinguistic elements of the source message and cultural nuances while simultaneously reformulating and rendering an equivalent message into the target language to ensure communication occurs between the two communities (p. 7.23). The communication link between the two communities of deaf and hearing are primarily English and American Sign Language in the United States.

American Sign Language (ASL) is the native language of between 250,000 and 500,000 American deaf of all ages (Baker & Cokely, 1980, p. 47). It is a visual-spatial language which is linguistically complete and separate from English

(Nakamura, 2008). ASL has its own grammatical rules, sentence structure and cultural nuances. ASL is comprised of specific movements and shapes of the hands, arms, eyes, face, head, and body posture. These movements and shapes function as “intonation” and “words” of the language (p. 48). Because ASL is a visual language and not a spoken language, sound is replaced by the body movements; hence, “listeners” of ASL use their “eyes” to process information rather than their “ears” (p. 48). The interpreting process requires proficiency in both the source and target languages of ASL and English.

Transliterating Process

Professionally certified sign language interpreters are also called upon to transliterate between deaf and hearing individuals. Ninety percent of deaf people are born to hearing parents and raised in a hearing family (Schein, 1989, p. 106). Therefore, these deaf children tend to be reared with English as their source language (p. 109). It is mainly this group of deaf consumers who will request transliterating services.

Transliteration describes the process of going from a spoken modality to a signed modality while staying within the same language (Ingram, 1974). Thus, the source language and the target language are the same--most commonly English.

According to Kelly (2001),

> Transliterating is defined as delivering the signed message based on English grammatical order; basing sign choices on ASL usage, not English gloss; maintaining the meaning and intent of the original English; and understanding that the meaning of the message is more important than the form. (p. 2)

The interpreting profession uses the term “translate” when referring to English-like signing produced by an interpreter (Quigley & Young, 1965). While the task of transliterating is most often requested by deaf consumers with English as their source language, transliterating may be the preferred communication link of deaf individuals with ASL fluency. These individuals often request transliterating because of their desire to “see” the English language in a visual form rather than in their native language of ASL.

In 1974, the term transliteration was used to refer to the process of changing English text into Manually Coded English (MCE) (Frishberg, 1990, p. 19). Manually Coded English systems were developed by a group of hearing individuals concerned with the lack of English language development of deaf children, and they purposed to create a visual way to present English to these children (Cerney, 2004, p. 97). While these systems were developed to change English into a manual/visual mode, these modes are not languages (Neuman, 1981). These systems are only an attempt

to display English grammatical structure and vocabulary (Baker-Shenk, 1987).

Manually Coded English is an inclusive term referring to a variety of English-based sign systems (Kelly, 2001, p. 4). All of these systems adhere to the rules and grammatical structure of English. These systems include the Rochester method, Seeing Essential English (SEE I), Signing Exact English (SEE II), Signed English (SE), and Conceptually Accurate Signed English (CASE) (Humphrey & Alcorn, 1985).

In 1972, the task of transliterating was established as a viable form of interpreter communication exchange and the Registry of Interpreters for the Deaf (RID) revised the Code of Ethics to reflect the function of both an interpreter and a transliterator (Kelly, 2001, p. 9). Subsequently, in 1989, the Registry of Interpreters for the Deaf (RID) recognized that interpreting and transliterating were completely separate skills and developed a separate certification process in order to evaluate both (Kelly, 2001, p. 3).

Legal Decisions

In the United States, the field of sign language interpreting has been influenced significantly by federal legislation. A variety of legislative acts have mandated states, federal agencies, and local entities receiving federal monies to provide direct services to deaf and hard

of hearing individuals (Humphrey & Alcorn, 1994, p. 11.35).

The 1965 Vocational Rehabilitation Act identified the provision of sign language interpreters as a mandated service for deaf vocational rehabilitation clients. It authorized the hiring of interpreters at the expense of the agency and marked the beginning of paid interpreting opportunities for sign language interpreters within the U.S. (Humphrey & Alcorn, 1994, p. 11.35). The federal government's willingness to hire and pay for interpreter services began to expand and formalize the role and function of sign language interpreters (Frishberg, 1990, p. 11). Subsequent to this legislation, there were two significant laws passed by the U.S. Congress that have profoundly impacted deaf individuals and professional interpreters (Lane, Hoffmeister, & Bahan, 1996, p. 236).

On September 26, 1973, The Rehabilitation Act of 1973 was signed into law. It further defined the categories of "handicapped individuals" and defined their rights. It mandated fully accessible vocational rehabilitation services to members of all disability groups. The expanded scope included accessibility to employment, health, welfare, or social service programs and to education. All entities receiving any federal monies had to be accessible and provide appropriate accommodation. Accessibility commonly

means the removal of an architectural barrier; however, for deaf individuals, accessibility means removing communication barriers.

In November of 1975, the Education for All Handicapped Children Act (EAHCA) (P.L. 94-142) was signed into law. This landmark legislation changed the face of the interpreting profession. This act mandated that all school-aged children with disabilities be provided a free and appropriate education (Lane, Hoffmeister, & Bahan, 1996, p. 231). It also stipulated procedural safeguards for the provision of services in the least restrictive environment (Moores, 1987, p. 16). Since it became law, Congress has reauthorized and amended P.L. 94-142 five times; the most recent one was in 2004. The 1990 amendments renamed the law an "Individuals with Disabilities Education Act" or IDEA (Gargiulo, 2003, Heward, 2003). With the implementation of the EAHCA, schools became more accessible and less restrictive for an increased number of students with disabilities. In 1983 and 1986, Congress amended the law to not only include school-age children (ranging from the ages of 3 to 5 years) but also ensured that students 16 years and older would receive appropriate education and transition services (Turnbull et al., 1999, p. 20).

When the EAHCA was first implemented, the term that

described the education of students with disabilities alongside those who did not have disabilities was “mainstreaming”. Mainstreaming was defined as “the educational arrangement of placing handicapped students in regular classes with their non-handicapped peers to the maximum extent appropriate” (Turnbull et al., 1999, p. 52). This legislation lead to an increase of children with disabilities being placed in mainstreamed public school classroom rather than in residential schools for the deaf. Deaf and hard of hearing children could now be placed in mainstream public school systems with support services; one of these services was sign language interpreters (Humphrey & Alcorn, 1994, p. 11.35). This mandate resulted in a proliferation of interpreter positions within the public school systems (p. 11.36).

The 1978 amendments to the Rehabilitation Act of 1973 clarified what the term accessibility meant for each disability group. Accessibility for deaf and hard of hearing individuals means the removal of communication barriers (Frishberg, 1990, p. 12). “One means of accomplishing this is by bringing in an interpreter to bridge the communication gap” (p. 12). Further 1978 amendments, PL 95-539 and PL 95-602, mandated the use of certified interpreters in federal courts, required personnel trained in the use of the

client’s native language or mode of communication, and provided federal financial support for instituting interpreter education centers (Humphrey & Alcorn, 1994, p. 11.36). This legislative funding source lead to the development of the Conference of Interpreter Trainers in 1979. It was established in order to provide professional development opportunities for educators and instructors of interpreters for the deaf (Frishberg, 1990, p. 14).

In July, 1990, the Americans with Disabilities Act (P. L. 101-336) was passed by the U.S. Department of Justice. This major legislation provided civil rights protection. This act now applied the concept of “equal access” beyond those entities receiving federal funding. The private sectors were now required to provide equal access to individuals with disabilities. It further prohibited discrimination in communication access by requiring the provision of interpreters and telecommunication relay services (Humphrey & Alcorn, 1990, p. 11.36).

The Telecommunication Relay Service within Title IV of the American with Disabilities Act legislation enables individuals with hearing disabilities to access the nation’s telephone system through a trained communication assistant. The communication assistant serves in a “third party role”’ between the deaf and hearing individual. The

telecommunication relay service occurs in two forms. One form of relay communication access is the Internet Phone Relay service. It is a text based form of relay service that allows the user to communicate using a computer or similar device via the Internet. The second telecommunication relay service is the Internet based Video Relay Services. Video relay communication allows persons who are deaf to use sign language interpreters to communicate with a hearing user through video equipment (Federal Communications Commission [FCC], 2009). In January of 2007, the federal communication commission adopted a ruling requiring all video relay providers to offer uninterrupted communication service to deaf and hard of hearing consumers (FCC, 2009). These most recent technological advances and the implementation of the Americans with Disabilities Act has caused the demand for qualified interpreting services to soar to unprecedented heights (Hall, 2006, p. 3). These critical legislative actions have defined, clarified, and amplified the demand for professionally qualified and credentialed interpreters.

Continuing Professional Education

The “truly educated never graduate,” an old adage, exemplifies the concept of professional continuing education (Cantor, 2006, p. 1). The term “continuing professional education” has been in general use since the late 1960s

(Houle, 1980). The continuing professional education concept has evolved to reflect “all efforts to provide learning for active professionals” (p. 7). Continuing professional education as a distinct field of practice and study can be traced back to the early 1980s with the publication of Cyril Houle’s (1980) landmark book, Continuing Learning in the Professions, and with the first publication of the International Journal of Lifelong Education in 1981 (Cervero, 2001).

Professions are essential to the functioning of our society (Schön, 1989, p. 3). It is estimated that approximately 27% of the American workforce claims membership in a profession (Cervero, 1988, p. 17). Professions are service-oriented or community-oriented occupations that apply a systematic body of knowledge to problems that are highly relevant to the central values of society (Cervero, 1989). Professions actually define the social problems with which they deal and, by extension, actually define societal needs. The profession of sign language interpreting was born as a result of a societal need for communication exchange between individuals of differing languages.

Development of Continuing Professional Education

In the early days of professions, continuing

professional education did not exist as an organized activity where professionals could obtain increased knowledge about their respective chosen fields (Houle, 1980). Most often this type of learning was pursued by only the most conscientious members of their fields (p. 8); however, the trend is changing.

Continuing professional education as a distinct field of study began during the late 1960s in response (a) to the public's demand for accountability from professionals, (b) to the recognition by professional organizations of the need to keep current within the field, (c) to increase skills, and (d) to better serve the public (Houle, 1980, p. 286). Protection from incompetent and unscrupulous professionals became paramount (Tucker & Huerta, 1984). Professionals have been aware of the need for members of a profession to maintain high standards, stay abreast of new technology in the fields, uphold the public's trust, and continue to learn in order to meet the needs of their consumer group (Cervero, 1989; Queeney, 1986). With professional development and the emergence of "mandatory continuing professional education in the 1970s" (Houle, 1980, p. 288), there has been an increased urgency for understanding the basis of continuing education and understanding its goals in developing professionals in their field of practice.

While many organizations adhere to continuing professional education as a basic avenue and educational tool for all its members, continuing professional education lacks a consensus regarding its definition. Knox (1993) provides a basic and comprehensible definition when he describes continuing education as “the process of systematic learning to prepare for the field of practice and to maintain proficiency in a context of changing knowledge bases and practice” (p. 275). Utilizing this definition, continuing professional education serves a role that ranges from pre-service training to established seasoned practice while “enabling the practitioners to progress from novice to expert” as it relates to their field of practice (p. 275). Likewise, according to Knox, continuing professional education must consider the profession itself and its role within society. Today’s society is becoming increasingly knowledgeable about professional practices; therefore, professionals must now participate in continuing education to comply with society’s “performance standards and accountability” (p. 276).

For continuing professional education application, continuing education theory must be put into practice through a process of establishing and providing credible education for professionals. Initially, when providing

continuing education for participants, several factors need to be considered. These factors include “career transitions, organized knowledge, indigenous knowledge, economic conditions, supply and demand for professionals circumstances affecting the clients of the professionals, interprofessional relationships, and societal expectations” (Knox, 1993, p. 277). Therefore, there are three critical themes that help address the strategic planning of professional development activities. First, professionals are highly educated and are impacted by the continuum of preparatory education as well as the continuing professional education. They too are impacted by technology and other societal trends which take place during their careers (p. 278). Next, outcomes play a vital role in the implementation of continuing professional education (p. 278). Lastly, collaborative agreements between stakeholders become very important. Collaborative activities, interprofessional education, international awareness, and acquisition of supportive resources can enhance the assimilation of theory into practice when combined with effective strategic planning (p. 279).

Cyril Houle, a prominent researcher, examined continuing professional education in the context of lifelong learning of the professional. Houle (1980) portrayed the

professional as a visionary contributor to society; therefore, the goal of continuing professional education should be one that will “convey a complex attitude made up of the readiness to use the best ideas and techniques of the moment but also to expect that they will be modified or replaced” (p. 75). According to this description of continuing professional education, the intent must be purposeful and “imply some form of learning that advances from a previously established level of accomplishment to extend and amplify knowledge, sensitiveness, or skill” (p. 77).

Houle also investigated the relationship between continuing professional education and the professional within the ever-expanding job market. Cognizant of the nature of the job market and realizing many individuals did not fit the normal patterns of pre-service training or development, professional competence needed to be re-examined in regard to these trends. Houle (1980) identified three methods that aid in reshaping learning patterns in the professions. The first trend included individuals entering the profession much later than the traditional time line which leads to acquisition of knowledge in non-traditional ways (p. 77). The second trend was job repositioning. Many individuals choose to leave established positions for new

positions which may require atypical pre-service and in-service training patterns (p. 77). Third, as individuals mature, their willingness and desire to learn may occur much later in adulthood and will impact their ability to learn new information. Cyril Houle, purports that continuing education can play a vital role in the development of the professional and its influences on society as a whole (Houle, 1980, p. 14).

Ronald Cervero, a leading authority in the field of continuing education, takes a different view when describing continuing professional education. Because it is identified as a field of study and practice, (Cervero, 1989, p. 14), continuing professional education has helped to shape how professions formulate their educational goals. Believing that different professions learned in similar fashion and utilized many similar paraprofessional educational processes, Cervero concluded that a “comparative approach” had taken place between professions (p. 14).

Cevero contends that the conceptual basis of continuing professional education is the result of various areas of study (Cervero, 1989, p. 15). “Concepts, theories, and research from different frames of reference are applied in the practice of continuing professional education” (p. 15). Cervero contends that “continuing professional education

practice is influenced by the fact that practitioners are adults who work in professional settings" (p. 16). Paramount to his findings, many of the same educational methods used in continuing and professional development were those utilized in adult education and in human resources development and training (p. 16). While the integration of these various disciplines helps to identify useful concepts and practices for professionals, the role of the profession within the society is in conflict. The social context of continuing professional education is vital for educators to acknowledge (p. 16). From Cervero's viewpoint, continuing professional education is classified as either a functionalist, conflict, or critical methodology of learning.

The functionalist viewpoint of CPE has been the dominant model for many years and is derived from the perception that any professional practice is primarily technical (Cervero, 1989, p. 23). The focus of learning is teacher-centered expertise of problem identification, content determination, and content delivery with no expectation of critical thinking on the part of the learner (p. 23). This model assumes that the educational needs of improving competence and knowledge are based on the belief that professions are good for society and deserve the

benefits they receive from their role in society. Education is instrumental in this viewpoint, but a drawback to this viewpoint is that its approach to continuing professional education is rarely questioned (p. 23).

The conflict viewpoint of continuing professional education takes a negative position toward professions. The perception is that professions maintain social inequity; compete for money, skill and power; and monopolize their special knowledge by manipulating the credentialing process and are not deserving of any special rights or privileges (Cervero, 1989, pp. 26-27). This model is focused on changing the existing system rather than the individuals. The issue with this model is that the avenues used may not be effective in creating improved professional practice (p. 27).

The critical viewpoint approaches the issue of continuing professional education from a dialectical avenue (Cervero, 1989, p. 30). This viewpoint is formed from the belief that the problems of society are poorly defined from ambiguous sources and that professions will differ markedly regarding values and the ends they seek (p. 32). The critical viewpoint model is based on the premise that professions are needed for their special knowledge, but quality of service is assessed on conceptual and contextual

knowledge that may vary depending on the desired ends of professional practice (pp. 33-34). This approach purports constructivist education that is aimed at understanding society and allows professionals to critically reflect on their activities to improve performance (Queeney, 1996).

Direction and Purpose of CPE

From these four differing orientations, it is clear that continuing professional education has many obstacles that diminish its potential to assist in maintaining practitioners participation. This raises two critical issues. These issues are related to (a) the direction of continuing professional education and (b) the purpose of CPE (Scanlan, 1985, p. 16).

Prior to continuing professional education reaching its potential, professions and continuing professional education providers must agree on the direction and purpose of continuing professional education (Scanlan, 1985, p. 17). It can either be knowledge focused or performance focused. This focus can significantly impact how learning events are presented to learners (pp. 18-19). Much of continuing professional education has moved from the knowledge-based orientation to performance-based learning (Houle, 1980, p. 25). Knowledge-based learning is aimed toward the development and synthesis of new knowledge as compared to

performance-based learning which is aimed toward bettering shortcomings of professionals as each attempts to stay current with new technologies (p. 25).

Performance-based learning was first introduced by Houle (1980) when he discussed the lifelong learning goals of professionals. He linked continuing professional education to the “dynamic concept of professionalization [which] requires the broadening of the present goals of continuing education” (p. 34). Houle explained that the static concept of professionalism, introduced by Flexner (1915), limits the possibilities of continued learning (Houle, 1980, p. 24) and allows any professional group to become complacent with the status they possess. The group believes that the only need for additional learning is that which is necessary to maintain an individual career. Therefore, continuing professional education must address the concerns of performance competency and the facilitation of change within the field and within the professional (Scanlan, 1985, p. 18).

Personal values and concerns must shift to allow professional practice to conform to contemporary demands of society (Houle, 1980, p. 32). The dynamic view of professionalization also allows its characteristics to represent “widely accepted potential goals for improving

performance and hence as objectives for the lifelong education of professionals" (p. 33). Professional growth must be facilitated by continuing professional education, as well as personal growth and development. This need is very evident in situations that demand advancements in specialization and the learning of new skills or concepts (p. 34).

A restrictive viewpoint of the purpose of continuing professional education is simply to ensure competence and enhance performance of professionals (Scanlan, 1985, p. 6). This myopic view of continuing professional education is held my professionals who believe knowledge acquisition is adequate enough to ensure competence. However, competence is about action and not solely about knowing (p. 6). For professionals who engage in continuing professional education, there is no guarantee they will engage in activities that are directly related to professional practice or even if new learning will result in an increase of competent professional performance in their chosen field of practice (p. 7). Indeed, competency cannot be assessed simply because participation in continuing professional education has occurred. This is due to the lack of a means to validate the outcome of such participation (p. 7).

Competency is a multifaceted construct deriving its

complexity from the professional work environment and one's individual proficiency level (Scanlan, 1985, p. 8). Technological advances and organizational restructuring posses a contemporary obstacle for professional competence. For the future of continuing professional education specifically and for generic professional competence, continuing professional education must be able to aid professionals in developing links for themselves between what they think and do based upon what they know and how they behave (p. 9). Surely, if the construct of professional competency were to be globally defined as the goal of continuing professional education, it would provide the "single set of basic assumptions and principles for which all involved can view the field [of continuing professional education]" (Scanlan, 1985, p. 5).

Participation in Continuing Professional Education

Professionals learn in both formal continuing professional education settings and during informal activities throughout their careers. An absence of a theoretical framework for professional learning prompted Cyril Houle (1985) to create an overlapping typology. This typology includes inquiry learning, instruction learning, and performance learning. He termed it "modes of learning." This first mode of learning, the inquiry method, is the

“process of creating some new synthesis, idea, technique, policy, or strategy of action” (p. 31). In the second mode of learning, which is the instruction method, the dissemination of established skills, knowledge, or sensitivity is conveyed by the instructor (p. 32), and the professional is simply the passive participant in the learning process. The final overlapping typology is the process of performance. The performance mode is “the process of internalizing an idea or using a practice habitually, so that it becomes fundamentally a part of the way in which a learner thinks about and undertakes his or her work” (p. 32).

Researchers have studied various populations of adult learners to understand their participation in continuing education. Cross (1981) stated that early researchers utilized surveys and questionnaires to ask respondents about their reasons for learning and what motivated them to learn. The reasons why adults choose to participate in continuing professional education are vast and varied in nature. Adults may be motivated to participate in continuing professional education due to family concerns, personal change, professional development, or personal satisfaction (Cross, 1981; Houle, 1961; Merriam & Cafarella, 1999).

In an effort to increase participation in continuing

professional education, practitioners and researchers continue to explore different populations of adults to identify the (a) the variables that influence and motivate continuing education participation and (b) the types of programs and conditions under which they are willing to participate. Many of these variables can be applied to professionals although the continuing professional education participant is characteristically and motivationally different from the larger population of adult continuing education participants (Grotelueschen, 1985, p. 40). One key motivational difference is the mandatory nature of many CPE programs. This is in stark contrast to the voluntary nature of continuing education programs in the larger general population of adult learners (p. 42).

Houle (1961), too, conducted research on adult participants in continuing professional education. He was attempting to determine what motivates these adult learners to learn and acquire new knowledge. From his research, he discovered that adults participate in continuing professional education activities based on three distinct rationales. These groups of learners were identified as goal-oriented learners, activity-oriented learners, and learning-oriented learners.

The first group, goal-oriented learners, can be

described as individuals who “have clear cut aims they wish to achieve” (Houle, 1961, p. 17). From the beginning of their learning event, they seek to accomplish some type of goal. The second group, activity-oriented learners, usually engage in a learning event simply for the sake of the activity itself. They do not engage in an activity because of the content being presented; instead, in this orientation the learners tend to be motivated to participate for the social interactions or personal interest. The third group, learning-oriented, learn for the sake of learning. These learners engage in learning events primarily to gain an extra piece of knowledge that they may not have had prior to the learning experience. This group of individuals tend to be “avid readers” or will “join groups and classes and organizations for educational reasons” for the purpose of learning new information (Houle, 1965, p. 24).

Building upon the early works of Houle, other adult education researchers have investigated the concept of motivating factors in adult education. Ronald Cervero was one such researcher. Ronald Cervero (1988) articulated many possible reasons why professionals are motivated to participate in learning events. In his work, Cervero highlighted five such potential reasons why professionals choose to participate in continuing education specific to

their professional careers (p. 65). The reasons include maintaining or enhancing current abilities, increasing the probability that the their clients will be better served, benefitting from collegial interactions and learning, maintaining identity in the profession, and enhancing one's individual security in their current profession (Cervero, 1989, p. 65). Coupled with these reasons, the research indicated that these reasons can differ between professions, differ with the type of profession, and differ with the length of service in the profession (Grotelueschen, 1985). While this is good for professionals in service-connected professions, this may not be accurate for those who are not in like professions or are in professions in which educational expectations may be different. Professionals differ in the degree to which importance is ascribed to professional education as they experience "developmental evolution" (Grotelueschen, 1985, p. 42) as their perspectives change through time.

Recent studies support the view that attitude toward continuing professional education is one of the most influential variables related to participation (Cervero, 1990, p. 163). The intent to participate may be influenced by a variety of factors both cognitive and affective. These factors may be associated with the level of commitment to

lifelong learning and a sense of responsibility to maintain competence (p. 170).

Professional participation in continuing education activities can be fostered or inhibited by one's personality and attitude (Cervero, 1989, p. 67). Houle (1980) did the first major study of continuing professional education among professionals. He believed that professionals possess characteristics that can be directly related to participation. He clustered these traits and based them on one's "zest for learning" (Houle, 1980, p. 124). "The extent of the desire of an individual to learn ultimately controls the amount and kind of education he or she undertakes" (p. 124). Based upon the attitudes of active participants, he identifies learners as innovators, pacesetters, middle majority, laggards, or facilitators.

The five groups in a profession differ in attitude and size (Houle, 1980, p. 124). The first group, innovators, has the highest positive attitude toward continuing professional education. However, innovators are the smallest group of professionals making up only 4.79% (p. 124). They avidly seek to improve their performance by participating in sophisticated projects and learning events. These participants "are attracted to ideas and practices that are still untested" (p. 156). The second group, pacesetters,

deeply value their profession. These participants value new ideas while holding fast to tried and true practices. They, too, support group learning events. Pacesetters represent 40% of the professionals with the highest participation levels of any group (p. 156). The third group, middle majority, comprises the largest group of active professional participants. They comprise 50% of those in active practice. Participants' attitudes range from engaging in new practices to those who might engage in new practices only after they have been tried and tested. The fourth group, laggards, comprise 5.4% of those in active practice. This group participate only in the minimum amount of required learning events in order to stay current in their practice (p. 68). "Their ideas have hardened; their old skills deteriorate and they adopt few new ones" (Houle, 1980, p. 159), and they have a high resistance to continuing education activity. The final group, facilitators, seek to positively impact the profession; however, they do not actively participate in continuing professional education (Cervero, 1989, p. 68).

Models for Participation

A critical concept in understanding adult participation in continuing professional development is the element of motivation. Although some are not empirically based, several different models of participation exist that explore the

psychological reasons that might motivate one to participate in adult educational activities. Each offers a unique perspective on the multitude of variables that influence an adult learner's decision to participate in continuing professional education.

The Hierarchy of Needs Theory, introduced by Abraham Maslow (1954), is a model of basic needs that can be placed in a hierarchy according to their importance of physiological and psychological health (Santrock, 1997, p. 361). It is based upon the belief that lower-level needs must be satisfied before higher-level needs can be met. The foundational lower-level needs are concerned with physiological needs like hunger and thirst. Ascending to the next higher-level is the need for safety and security, followed by the need for belonging, the need for esteem, and finally the need for self-actualization (p. 361). Maslow's premise is that individuals may not attain or aspire for higher levels until the lower-level needs are met. Therefore, a person's basic need of food and safety must be satisfied before a higher order need such as additional education might be attempted.

Miller's (1967) Force Field Analysis Model expands upon Maslow's hierarch model. Miller sought to explain the forces applied to adults and how these forces affected educational

participation (Merriam & Caffarella, 1999, p. 60). His analysis depicted the relationship between socio-economic status and participation in adult education. Miller hypothesized that adults from the lower socio-economic status would participate in additional educational activities for very different reasons than those adults from higher economic classes. He believed adult learners from lower economic groups might participate in adult education and job training activities in order to meet or improve their ability to secure basic needs (p. 61). He further hypothesized that adults from higher economic classes usually pursue education primarily to fulfill needs of achievement, recognition, and self-actualization (p. 61).

Miller's model interjects the usage of negative and positive forces on participation. Miller was able to properly identify motivational factors that influence participation in adult learning (Merriam & Caffarella, 1999, p. 61). Participation is more likely to be engaged in when positive internal needs to participate are reinforced by positive social factors. However, if internal needs (personal factors) and external social factors (environmental) are in conflict, participation in learning activities are unlikely to occur (p. 61).

The Boshier Congruency Model (1973) is another model

which attempts to explain the phenomenon of adult participation. This model builds upon both Maslow's hierarchy model and Miller's force-field model of participation. Boshier describes participation in terms of the relationship between personal (internal) factors and social factors (external)(Merriam & Caffarella, 1999, p. 62). The model asserts that individuals are either predominantly growth-motivated or deficiency-motivated. Boshier views growth-oriented persons as internally motivated. These persons are "inner-directed, autonomous, open to new experiences, willing to be spontaneous, creative" (Boshier, 1973, p. 256). Deficiency-motivated persons are influenced by external or social and environmental factors(p. 256). These relate to Maslow's hierarchy due to the assumption that deficiency-motivated adult learners engage in learning activities to satisfy lower-order needs. This is in opposition of growth-oriented learners who engage in learning activities in order to satisfy higher-order needs (Merriam & Caffarella, 1999, p. 63). This model is similar to Miller's model in that the rate at which an individual is motivated to participate is based upon the function of the relationship between one's self-concept and one's environment (p. 63).

Rubenson's Expectancy Valence Model (1977) addresses

both socialization and structural orientation in conjunction with individual orientation and it explored the motivation on an individual in continuing education. Rubenson's model is based upon the premise that the learner's expectancy that participation in the learning event will produce successful, positive outcomes (Merriam & Caffarella, 1999, p. 62). For expectancy to be positive, learners must perceive that the result of learning will be of benefit. However, if the learner does not perceive some benefit from participation, there is no motivation or expectancy (p. 62). In contrast, Rubenson addresses the term valence which relates to the values a person places on being successful whether that is positive, negative, or indifferent (p. 63). One's perception of the value and worth of continuing education is developed through the socialization of family, school, and work (p. 62). This socialization process directly affects how an individual perceives the structural factors in the environment. Structural factors may include the values of a significant other in an individual's life that has lead to self-definition and educational program accessibility (p. 64).

Cross's (1981) Chain-of-Response Model is a synthesis of the common components of Miller's (1967), Boshier's (1973), and Rubenson's (1977) models (Merriam & Caffarella,

1999, p. 67). This synthesis views participation in adult learning activities resulting from a chain of responses based on both the individual's attitudes and beliefs about the educational activity and the benefits attached to elements in the environment (p. 67). This model demonstrates that an individual learner's beliefs about success in an educational activity, combined with one's attitude toward education, leads to one's goal assessment and an expectation that one's participation in the learning event will meet one's expectations (p. 67).

Cross's model was the first to introduce the "life transitions" as one of the most important variables that influence participation (Merriam & Caffarella, 1999, p. 67). Cross purports that events in life such as marriage, divorce, loss of job, birth of a child, or retirement impact the decision to participate in learning events. She also indicated that these life transitions present both opportunities and barriers to participation (p. 67). According to one study, the reason 83% of individual's decide to participate in adult education is due to life transitions (Aslanian & Brickell, 1980). This model, which focuses primarily upon an individuals's internal beliefs, demonstrated that the reasons adults participate or chose not to participate in continuing professional learning

events relates closely to their attitudes, beliefs, and value of the education (Merriam & Caffarella, 1999, p. 68).

One's knowledge and understanding of the various models of participation helps provide a deeper appreciation of the many influences upon adult learners. These conceptual frameworks allow planners of continuing professional education programs a greater understanding of the motivational factors which impact adult learners decisions to participate.

Adult Learning

"Knowledge and skills acquired by an individual by the time he or she is 21 are largely obsolete by the time this person is 40" (Bryant, 1976, p. 265). Contemporary life is marked by the "death of permanence" (Toffler, 1970); it is a time of new discoveries, expanded knowledge, innovative theories and methods, new problems, and new solutions. During childhood, it is virtually impossible to gain the knowledge that adulthood will require (Smith, 1982, p. 15). Lifelong learning is not a privilege, or a right;

> It is simply a necessity for anyone, young or old, who must live with the escalating pace of change–- in the family, on the job, in the community, and in the world-wide society. (Cross. 1981, p. ix)

The time is now in which people must find ways to improve their ability to "choose quickly and accurately what we really want and need" (Ingalls, 1973). Educators must

understand more fully how adults teach and learn.

"When adults teach and learn in one another's company, they find themselves engaging in a challenging, passionate and creative activity" (Brookfield, 1986, p. 1). This teaching-learning transaction is complex, multifaceted, and difficult to categorize. However, these transactions occur in limitless settings and have various levels of importance for the learner (p. 2).

Brookfield (1986) purports that there are five commonalities shared in adult teaching-learning transactions:

> The participants involved are adults...Second, they are engaged in a purposeful exploration of a field of knowledge or set of skills or in a collective reflection upon common experiences. Third, these explorations of knowledge, skills and experiences take place in a group setting. Fourth, the participants in these explorations bring to the encounter a collection of experiences, skills, and knowledge that are going to influence how new ideas are received, how new skills are acquired, and how the experiences of others are interpreted....Fifth, such prior learning and experience also comprises valuable curricular resources. (p. 2)

The field of adult education contains a myriad of theories, models, and concepts that compose the knowledge base of adult learning. Merriam (2001) examined adult learning and identified the "Pillars of Adult Learning Theory" (p. 11) as andragogy and self-directed learning. The understanding of these two foundational concepts are

essential to the construct of adult learning (p. 3).

Malcolm Knowles (1968) proposed a “new label and a new technology” of adult learning to distinguish it from pre-adulthood education (p. 351). His new label is know as “andragogy”. Andragogy is defined as “the art and science of helping adults learn” (Knowles, 1980, p. 43). The concept of andragogy became paramount for professionals trying to define the field of adult education as separate from other traditional areas of education. Knowles also contributed to the concept of self-directed learning as the second pillar concept in adult learning.

Andragogy

The concept of andragogy is critical to the field of adult learning and education. While Alexander Kapp, a German grammar school teacher, first used the term andragogy (Knowles, 1998, p. 59), it is Malcolm Knowles who is known as the father of modern andragogy.

Knowles first presented his andragogical model in 1950 (Houle, 1996, p. 27). Andragogy became the main theme of his life work. He based his work upon four core assumption about adult learners as distinguished from child learners (Knowles, 1970). Subsequent to these four assumptions, Knowles added two more assumptions, and thus six assumptions are recognized in his final work (Knowles, et al., 1998).

His six assumptions about adult learners are:

1. The need to know. Adults need to know why the need to learn something before undertaking to learn it.
2. The learners' self-concept. Adults make their own decision, for their own lives.
3. The role of the learners' experiences. Adults come into an educational activity with both a greater volume and a different quality of experience from youths.
4. Readiness to learn. Adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations.
5. Orientation to learning. In contrast to children's and youths' subject-centered orientation to leaning (at least in school), adults are life-centered (or task-centered or problem-centered) in their orientation to learning.
6. Motivation. While adults are responsive to some external motivators (better jobs, promotions, higher salaries, and the like), the most potent motivators are internal pressures (the desire for increased job satisfaction, self-esteem, quality of life, and the like). (pp. 64-68)

Before his andragogical model was developed, educators traditionally utilized teacher-directed instruction, or pedagogy, with both child and adult learners (Knowles, 1980, p. 40). In the pedagogical model, the learners are passive recipients of expert information of which they are expected to regurgitate back in an approved format. Employing the pedagogical model places the control of learning primarily on the instructors who direct the teaching-learning transaction from their perspectives. This form of instruction is being replaced with andragogy which is a model more appropriate and respectful of adult learners and

their experiences.

The andragogical assumes that adults are active learners involved in all phases of the learning process from the selection to evaluation of the learning event. In andragogy, the learners are the directors of their own learning process and needs. Within this model, the instructors serve as facilitators and resource persons. Even though Knowles developed this model to explain the teaching-learning process for adults, he expressed that this model has proven to be effective for learners at all stages of life. However, it is most effective for adults because children have fewer established beliefs and experiences than their older counterparts (Knowles, 1980).

Knowles' andragogical assumptions offer clear distinctions from the pedagogical model. The andragogical model distinguishes adult learners as gaining increased responsibility for their own learning while, in contrast, the pedagogical model distinguishes the learners as remaining dependent on the instructor. With andragogy, adult learners' experiences are a key element. As adult learners take control of their learning events, they make critical choices that lead them to the liberation of human possibilities (Knowles, 1980, pp. 67-68). Examined through the pedagogical model, two assumptions affecting learners

become significant: (a) what the teacher needs for the student to know and (b) the instructor's concept of learner dependence. Hence, the pedagogical model should be viewed as an ideology while the andragogical model should be viewed as a program of elective assumptions (Knowles, et al., 1998, p. 69).

When studying the implications of the teaching-learning transaction, it is critical to consider the principles that made this transaction significant. In addition to his fundamental assumptions of andragogy, Knowles delineated seven components of adult learning practices (Knowles, 1980, p. 59). These components are pivotal to the success of programs and are for instructors to employ when facilitating adult learning events. Knowles proposed that instructors of adults should use the seven-step program-planning model which is "concerned with providing procedures and resources for helping learners acquire information and skills" (Knowles, 1990, p. 120).

Within Knowles' program-planning model, the initial step establishes a climate conducive to both physical and psychological learning. An environment conducive to learning is "perhaps the single most critical thing I do as a facilitator of learning" (Knowles, 1980, p. 224). One must consider the physical surroundings which includes furniture

appropriate for adult learners, comfortable room temperature and lighting, and distraction-free surroundings. Likewise, essential to the adult learning environment is a learner-centered environment. This is an environment where trust, democracy, mutual respect, active listening, friendliness, and cooperation are practiced (p. 224).

The second step involves adult learners in the reciprocal design of instructional methods and curricula structure. Adult learners have a greater stake in their goal-setting and show greater interest in implementing necessary activities in reaching their goals if they are intimately involved in the planning and the execution of their learning events. Knowles purports that an effective tool in establishing a positive planning environment is the utilization of small-group activity planning, subcommittees, and large group discussions (p. 226).

The third and fourth steps in Knowles program-planning model address needs identification and formulating objectives. The third step includes participants in the identification of their own learning needs. Knowles (1980) stressed that self-motivation increases when adult learners assess and measure their current and desired competencies (p. 227). The fourth step inspires the learners as they create their individual learning objectives. Adults are much

more willing to participate if their objectives are relevant to their needs.

The fifth step expounds upon the previous two processes. This step incorporates the learners' needs and objectives into the development and design of sequential learning activities (Knowles, 1980, p. 234).

The sixth and seventh steps in Knowles' program-planning model address implementation and evaluation of learning objectives. Step six establishes the importance of instructors as a facilitator, guide, and resource to the learners as they begin the selection of appropriate materials, resources, and techniques necessary to meet their learning objectives (Knowles, 1980, p. 239).

The final step involves learners evaluating, re-identifying, and reviewing their learning processes. The ultimate litmus test for learners is "whether they have learned what is useful to them" (p. 203). Learners benefit from an ongoing evaluation process to determine if they are accomplishing their learning goals within the content of the curriculum (Kidd, 1973, p. 286).

With its assumption of adult learning and with Knowles' program planning model, andragogy is readily applicable to continuing education for interpreters. Planners of sign language interpreter continuing professional education need

to understand the tenants of andragogy. Professional interpreters need real-life learning CPE topics that best address their real-life problems. Within these events, they need to be able to utilize their life and work experiences to construct meaningful learning objectives and be able to apply that knowledge in an immediate and relevant manner.

Self-Directed Learning

Self-directed learning is another concept of adult learning that helps define adult learners as different from children. A characteristic of an adult learner is the ability to be self-directed. Self-directed learning evolves as learners deliberately assume responsibility for the planning and directing of their learning events (Tough, 1967). When the adult learner engages in self-directed learning, “it is the individual’s responsibility to select appropriate learning resources and to decide how the resources will be used” (Spencer, 2000, p. 10).

Self-directed learning is a natural part of adult life (Merriam & Caffarella, 1999, p. 293), and by definition it may appear that the learning occurs in isolation; however, it is the opposite. In fact, learning rarely takes place in isolation. “Self-directed learning usually takes place in association with various kinds of helpers, such as teachers, tutors, mentors, resource people and peers” (Knowles, 1975,

p. 18). Self-directed learning occurs within the social contexts of the learners' lives with such societal factors as political climate, economics, and technological developments shaping and guiding its reality (Spencer, 2000, p. 41).

Although self-directed learning has been the subject of much consideration and debate, it is now an accepted concept in adult learning research (Knowles, 1998, p. 135). Three significant contributors to the process and understanding of self-directed learning are Malcolm Knowles, Allen Tough, and Stephen Brookfield.

Malcolm Knowles (1975) distinguished two ideas related to self-directed learning in the adult education literature (Knowles, 1998). The first idea is that self-directed learning is self-teaching (p. 135). This happens when learners take control of the techniques and tools necessary to teach themselves. The second idea proposed by Knowles is that self-directed learning is personal autonomy in which learners begin "taking control of the goals and purposes of learning" (Knowles, et. al., 1998, p. 135). Personal autonomy is the most significant for professional adult learners (p. 136).

The idea of autonomy became a focal point of adult education during the 1970's and 1980's. The emphasis on

adult self-directed learning can be traced back to the works of Allen Tough (Merriam & Brockett, 1996, p. 138). Tough (1979) work on adult learning projects profoundly influenced research in self-directed learning. Through his research, he found that only 10% of adult learners choose not to participate in learning events annually. Of those adult who engaged in learning events, 70% of the projects were self-initiated by the learner. He further concluded that it is common for adults to spend 700 hours annually in learning projects. While the learning projects served to solve real-life problems, it too was discovered that learners were seeking both short-term application and long-term goals (pp. 36-40). Although not identified as learning projects, Tough determined that these adults recognized the learning that occurred outside of formal work or educational settings (p. 15).

Stephen Brookfield (1986) conducted extensive research on the topic of self-direction with an emphasis on successful self-directed learning. As one of the most prominent researchers in the area of self-directed learning, he has repeatedly emphasized the learner’s needs in the teaching-learning transaction. Helping adult learners to become more self-directed and autonomous should be a major focus of the facilitation of adult learning (Brookfield,

1984, p. 59).

Brookfield believed adults have a preferred tendency to pursue learning using independent and self-directed methods as opposed to formal learning programs. He purports that an effective educational program would be a collaborative effort between teachers and learners in which “attention to increasing an adult’s sense of self-worth underlies all educational efforts” (Brookfield, 1986, p. 48). This is part of the concept of praxis that he describes as an ongoing cyclical process of “activity, reflection on activity, collaborative analysis of activity, new activity, further reflection, and collaborative analysis” (p. 48).

Within the interpreting field, self-directed learning is a crucial element in the planning and implementation of continuing professional education. Interpreters cover the spectrum of adult learners. Interpreters who take control of educational opportunities to develop professionally will benefit greatly from the experience. They have determined what and when to learn and will internalize and determine the value of the experience. Because self-directed learning involves action and immediate application of new knowledge, this group of individuals will be able to apply the new knowledge and skills directly into their professional lives as they have ownership in the learning event.

Learning How to Learn

Learning how to learn is another concept of adult learning. This concept involves “possessing, or acquiring, the knowledge and skill to learn effectively in whatever learning situation one encounters” (Smith, 1982, p. 19) and “holds great promise for helping adults expand their learning effectiveness” (Knowles et al., 1998, p. 166). The model of learning how to learn has three subconcepts which are necessary to understanding the concept of learning how to learn. They are the learners’ needs, the learners’ learning styles, and the training (Smith, 1982, p. 17).

The first sub-concept is the learners’ needs. The learners’ needs include such elements as possessing a general understanding of learning along with the basic skills of reading and writing, self-awareness, self-direction, and familiarity with other institutional learning methods. In addition, listening or viewing are basic skills deemed necessary in the learning how to learn process (Smith, 1982, pp. 20-21).

Learning style is the way in which an individual approaches a learning task (p. 23). These learning styles “have long been accepted as stable and deeply ingrained internal cognitive processes for taking in and processing information” (Ausburn & Ausburn, 1978; Kolb, 1984; Kramer,

2002).

Training “pertains to deliberate efforts to help people become better at learning and more successful in the educational area” (Smith, 1982, p. 25). While training can occur unconsciously, for training to be effective it needs to be purposeful (p. 38). Training, in actuality, is the process of enabling individuals to acquire skill in learning (p. 25).

Adult learning relies upon successfully using the concept of learning how to learn because “the only man who is educated is the man who has learned how to learn; the man who has learned how to adapt and change” (Rogers, 1969, p. 104). Hence, understanding the process of learning how to learn is significant when exploring adult education and learning.

Teaching Adults

Philosophy

Philosophy is a means of changing behavior in schools and society (Elias, 1995). Philosophy is an essential element in guiding educational practice. Philosophy inspires one’s activities and gives direction to practice (Elias & Merriam, 1995, p. 5).

Philosophy is not a luxury for educators. It is a way to make educational leaders and teachers more rational and

critical in their thinking and acting about education. Philosophical emphasis on clarity, purpose, criticism, and justification are important values for educators. They are tools which educators need in order to accomplish their work effectively. Philosophy of education, as applied by its best practitioners, remains a discipline that presents visions of what education and schools should be and details criticism of current efforts to realize these visions (Elias, 1995, p. 2).

Stephen Fishman (1998), in his book identifying the philosophies of John Dewey, purported that these philosophies were “a set of lenses through which to view our class” (p. 2). He believed that educators had to apply educational theories in their own way. This necessitated a guiding set of principles rather than a set of specific technical instructions for practice. If one is to improve instructional effectiveness, the educator must examine instructional problems, be puzzled by them, and be willing to assume the risk for problem resolution within the context of the learning environment (Fishman & McCartey, 1998, p. 2). It is the educators philosophy that guides how one practices teaching and the decisions that one makes in the teaching-learning environment.

A working philosophy can be defined as the educator’s

system of beliefs (Apps, 1973). While one may perceive beliefs developing from factual information, it is not necessarily true. Beliefs may fall into three categories: private beliefs, declared beliefs, and public beliefs (Goodenough, 1971, p. 22). Private beliefs are not impacted by peer perceptions and are often not shared with others. Declared beliefs are shared with others and often affected by others opinion's or a societal norm. Public beliefs are personally held beliefs because one is a member of a particular group that espouses those beliefs (Heimlich & Norland, 1994, p. 33). Whether these beliefs are developed through experience or from an authority or whether these beliefs are based in factual information, value is attached to the belief and is assumed to be true. The concepts of beliefs and values are essential to understanding an individual's actions and choices (Heimlich & Norland, 1994, p. 34).

Block (1996) proposed that personal and organizational change occurs when a choice is made. There is a recognition that the activity being done is not working. A conscious choice to change is made based on what is seen and on new information. He argues that changing the belief system will change the behavior. Therefore, from a philosophical point of view, a change in philosophy can lead to a change in

behavior.

"While philosophical thought aims at general and abstract wisdom, it is applicable to practical affairs" (Heslep, 1997, p. viii). A philosophical orientation to education allows for comparison with what an individual believes versus what an individual practices.

Adult Educational Philosophies

"Philosophy of Education is the philosophical study of education and its problems. Unlike other branches of philosophy, it is rarely taught in the philosophy department" (Noddings, 1995, p. 1). "In one basic sense, we can say that philosophy of education is the application of philosophical ideas to educational problems. We can also say that with equal force, the practice of education leads to a refinement of philosophy" (Ozman & Carver, 1986, p. x).

"While the roots of philosophical inquiry can be traced back to ancient Greek philosophy, it has only been in the past two centuries that education has received rigorous treatment by philosophers" (Elias & Merriam, 1995, p. 1). The study of educational philosophy has traditionally been expressed in terms of the various schools of thought. Five major philosophies have dominated thinking in Western educational thought (Ozman & Craver, 1981). These philosophical schools of thought include: Idealism, Realism,

Pragmatism, Existentialism, and Reconstructionism.

Idealism is considered one of the oldest philosophies in Western culture. Its most notable proponents included the Greek philosophers of Socrates, Plato, and Aristotle (Elias & Merriam, 1980, p. 9). Educators who assert this philosophy believe that “ideas are the only true reality” (Ozmon & Craver, 1981, p. 2) and that the emphasis should be “upon liberal learning, organized knowledge, and the development of the intellectual power of the mind” (Elias & Merriam, 1980, p. 9). According to this philosophy, teachers guide immature learners, judge what material is important, and serve as a model to their students. The instructional process relies heavily on seminars with a goal of teaching students to be critical thinkers (Ozman & Craver, 1986, p. 2).

Realism holds “that reality, knowledge, and value exist independent of the human mind” (Ozman & Craver, 1986, p. 40). Contemporary proponents of this philosophy emphasize “such concepts as control, behavioral modification, and learning through reinforcement, and management by objectives” (Elias & Merriam, 1980, p. 10). The learning environment is very structured. Lecture is the primary mode of instruction with emphasizes upon fundamentals and the scientific method (Ozman & Craver, 1986, p. 50).

Pragmatism is a philosophy that challenges one to seek out the processes and do the things that work best to achieve desirable results (Ozman & Craver, 1981, p. 80). It “emphasizes such concepts as the relationship between education and society, experience-centered education, vocational education and democratic education” (Elias & Merriam, 1980, p. 10). John Dewey, founder of this philosophical framework, pointed to the importance of the mind as an active agent in the formulation of ideas (Ozman & Craver, 1981, p. 100). Also, the mind is an instrument to affect change in the environment which in turn will affect the person (p. 101). Experience is a central focus. Educators functioning within this philosophical framework should develop instructional strategies that are flexible, that seek to understand individual differences, and that are thematic. Problem solving and discovery are essential components as is a concern for social impact. In this framework, the teacher helps identify the student’s needs and serves as a resource person (p. 116).

Existentialism contends that individuals are always in transition. This philosophy is concerned with the individual and how individuals can create ideas relevant to their own needs and interest (Ozman & Carver, 1981, p. 120). Each person is unique and special, always seeking to achieve

self-awareness and understanding. The traditional teaching strategies, which hold teachers as the sole source of knowledge, are replaced with instructional strategies that allow the student varied options and provide a view of humankind in its totality (Elias & Merriam 1985; Ozman & Craver, 1981). The educator should be a learner, be a facilitator, and be a guide for learner exploration (pp. 212-214).

Reconstructionism asserts that education can be used to reconstruct an ever changing society (Ozman & Craver, 1981, p. 120). This school of thought supports the concept of radical social change rather than complacent adjustment. In this approach, the educator's role is one of activist or change agent to serve as a catalyst for greater social action. The radical adult educator must understand the political, social, and economic culture of the students served (Elias & Merriam, 1995, p. 11). Radical educators emphasize social change and the removal of oppression through education (p. 171). From the first works of Aristotle, Plato, and Socrates to Dewey, Skinner, and Rogers, these philosophies are foundational to contemporary educational schools of thought. Elias and Merriam (1995) added clarity to the field of adult education by identifying philosophical schools of thought that are more in line with

the concepts and principles of adult education rather than the more traditional ideas of education. Adult education practices can be explained by understanding these six schools of thought: Liberal Adult Education, Progressive Adult Education, Behaviorist Adult Education, Humanistic Adult Education, Radical Adult Education, and Analytic Adult Education (pp. 9-11).

Liberal Adult Education is attributed to the early Greek philosophers and supported by contemporary educators such as Adler, Van Doren, and Hutchins. In Liberal adult Education the emphasis rest in learning, organized knowledge and developing the “intellectual powers of the mind” (Elias & Merriam, 1995, p. 9). The methods of teaching used in many liberal education programs is that of lecture with the educator being the expert and passing knowledge to the student.

Progressive Adult Education is best understood as a model that considers educationss impact on both the individual and society (Darkenwald & Merriam, 1982, p. 51). The progressive adult education philosophy “may have had a greater impact on the adult education movement that any other single school of thought” (p. 45). Progressive adult educators include Lindeman, Dewey, Kilpatrick, and Bergevin (p. 10). Both Lindeman and Dewey expressed a clear

relationship between adult education and social responsibility (p. 10). This philosophy focuses on experience-centered education (p. 52). Progressive educators emphasize experiential learning and stress the experience of the learner as valuable.

Behaviorist Adult Education is defined in terms of “changes in behavior brought about in the educational process” (Darkenwald & Merriam, 1982, p. 39). This educational philosophy is attributed to Watson, Skinner, and Thorndike (Elias & Merriam, 1995, pp. 79-81). In this school of thought, the emphasis is on learning through behavioral techniques such as behavior modification, control, outcomes-based education, and management by objectives (p. 10). Educators who adhere to the Behaviorist philosophy believe that the environment shapes the learner and utilize systematic approaches to instruction. The instructor is a “contingency manager, an environmental controller or behavioral engineer” (p. 51) while the learner is an active participant whose behavior “is emitted” (p. 51). Accountability for learning is fundamentally important and clearly placed upon the learners shoulders.

Humanistic Adult Education is defined in terms of inner growth and development (Darkenwald & Merriam, 1982, p. 39). It has a basis in both psychology and education (Elias &

Merriam, 1995, p. 10). Maslow and Rogers were the primary contributors from the field of psychology (pp. 111-112). Rousseau, Knowles, and Tough are the key contributors from the educational side. Humanism stresses autonomy, freedom, and self-directed learning (p. 118). The educator who adheres to this school of thought believes that human nature is inherently positive (p. 117). In this approach, the learner is central, and “the act of learning is a highly personal endeavor” (p. 126). Therefore, the student “learns what he or she perceives to be necessary, important, or meaningful” (p. 126). The educator simply stresses personal growth and self-direction.

Radical Adult Education is viewed as a tool for extreme social change (Elias & Merriam 1995, pp. 10-11). This school of thought requires political, economic, and social understanding of the learners. Social change and the eradication of oppression through education are the quest of radical educators. Radical Adult Education demands both criticism of current social models and a vision for alternatives (p. 171). The key contributors of the Radical approach include Kozol, Holt, and Freire (p. 168). Elias and Merriam use the term “radical” to describe this approach which is comparable to the concept of “reconstructionism.” It purports two majors premises: (a) society is in need of

constant reconstruction or change, and (b) such social change involves both a reconstruction of education and the use of education in reconstructing society" (Ozmon & Craver, 1981, p. 120).

Analytical Adult Education is the sixth educational school of thought presented by Elias and Merriam (1995). It is the school of thought that seeks to clarify concepts, arguments, and policy statements in education (p. 11). The primary contributors to this school of philosophical thought include Scheffler, Peters, and Green (p. 11). Even though analytical philosophers have been concerned with this concept for over 20 years, it is only in the most recent years that this philosophy has appeared in the area of adult education (p. 175). Analytic philosophers have attempted to build a "solid philosophical foundation through careful analysis and argumentation" (p. 175). This philosophy calls into account some of the reckless language used in the writings of adult educators (p. 199). This school of thought argues that a neutral stance to social issues should be taken, but it does not offer a clear methodology for the educator (p. 200).

Teaching Style

Heimlich and Norland (1994) purport that teaching style is illustrated in every aspect of instruction. The

instructor's thoughts, feelings, approach, and actions are indicative of the teachers' teaching style (p. xii). Teaching style is very different from teaching methods. It has been described as "the range of behaviors in which a teacher can operate comfortable according to a certain value system" (Conti, 1989, p. 4). Consistency in these patterns is the key to teacher improvement and enhancing learner achievement (Conti, 1986, p. 23).

Research related to teaching styles in the field of Adult Education has focused around the Principles of Adult Learning Scale (PALS). PALS was developed in 1979 to measure adult teaching styles. Brookfield (1986) predicated that PALS would be widely used (pp. 34-36). His prediction has come to fruition. PALS has been used in a wide variety of settings and situations. While some of these studies have focused on impact of teaching style on learner achievement, others have focused on describing the teaching activities within the continuing educational setting (Conti, 1989, p. 11). PALS has been used in approximately 100 dissertations and for numerous published research studies. Collectively, PALS has been used both domestically and internationally. Of the domestic studies, two major groupings of studies were reoccurring; descriptive and relational. Of the domestic studies, 60.2% have been descriptive in nature while 39.8%

were relational studies.

The descriptive studies have been conducted in a variety of situations and settings. Of the total descriptive studies, approximately 56% of those pertained to an academic-related setting. PALS has been used from the community college level through higher education. It has been used to describe distance education, extension education, and various educational training settings.

Within the community college setting, the following were described: (a) a correlation of faculty adherence to the collaborative teaching-learning transaction (Shedd, 1989), (b) adherence to the teacher-centered approach of 397 adult basic education instructors in the city colleges, a seven community college district, in Chicago (Roberson, 2002), and (c) the teaching styles of online instructors in an effort to determine if they embraced the learner-centered teaching approach (Barrett, Bower, & Donovan, 2007).

Within distance education programs, the following were described: (a) gender and learning strategy differences in nontraditional adult learner’s design preferences in hybrid distances courses (Ausburn, 2004), (b) a sampling of the University of North Carolina faculty with experience in distance education concerning the perception of and the degree to which adult learners apply the principles of adult

education within the distance education environment and what barriers exist to future participation in and improvement of distance instruction (Barden, 2000), (c) the most preferred teaching style of instructors in a live interactive televison system (Liaros, 2000), (d) instructional preferences of adult educators and perceptions of their adult students in distance learning settings (Wang, 2005), and (e) the personal characteristics of reviewers of pre-school through twelfth grade teachers' web-based instructional units (Weigandt, 2005).

PALS has also been used in various extension education programs. One of these related to the teaching style of the instructors at the 1994 Buckeye Leadership Workshop as measured by scores on a modified Principles of Adult Learning Scale (PALS) (Elliot, 1996). It examined the impact of the instructors' teaching styles when two or more instructors worked together in a team-teaching situation in terms of their planning efforts, their perceptions of the teaching experience, and the learners' perceptions of the learning experience. It was concluded that the preferred teaching styles of the classes were not strongly related to the teaching styles of the instructors who planned and conducted them because the specialized setting appeared to be strongly supportive of the learner-centered style.

Therefore, the instructors planned and presented learner-centered classes regardless of their personal preference in teaching style. Second, it was concluded that the learners evaluated the teaching style of the classes as even more learner-centered in style than the instructors' evaluations (Elliott, 1996). In two other studies in extension education the teaching styles of Oklahoma Cooperative Extension Field Staff was described (Morales & Guadalupe, 1997), and the philosophies of adult education and teaching styles were self-assessed by 217 Florida Cooperative Extension county-based agents within 6 program areas (Elliott, 1996).

PALS has also been utilized in the Higher Education settings. These studies (a) investigated effective college teaching strategies, the relevance of adult learning research, and the connection between that research and practice (Reese, 1993); (b) the teaching-learning beliefs held by traditional-aged students, adult students, administrators, faculty, and staff in a small private traditional college (Reiseck, 1996); and (c) financial aid administrators regarding their adult learning principles and their learning strategies (Cochran, 2005).

The descriptive grouping has also been utilized in various training settings. These studies involved (a) integrating multiple intelligence and andragogical

principles into a pre-service teacher education program (Smith, 2008); (b) evaluating the effectiveness of two approaches (teacher-centered or learning-centered) of a faculty development course designed to help university faculty begin to migrate from teacher-centered to more learning-centered principle (Stover, 2006); and (c) teaching style, adult learning theory, and the implications of that theory on the preferred teaching style with adult learners in professional development workshop (Fitzgibbon, 2002).

The second major descriptive grouping of PALS was relational in nature. This group was further categorized into relational studies addressing beliefs, distance, and style. A few studies related to beliefs were: (a) teaching styles and philosophies of vocational rehabilitation counselors (O'Brien, 2001), (b) the educational philosophy orientations and teaching styles of Ricks College faculty in relation to demographics and formal training in educational methodology (Hughes, 1997), and (c) the relationship between andragogical principles and Human Resource Development professionals (Farney, 1987).

Two relational studies have been conducted in a distance education setting. One investigated the relationship between key factors of the Trek-21 professional development model and resulting changes in teacher practices

with respect to the integration of instructional technologies into participants' classrooms (Lemani, 2004). The other identified teaching styles of university interactive television instructors and variables that account for distance education teaching style (Dupin-Bryant, 2000).

Several studies have been conducted investigating the relationship between students and PALS. Those are as follows: (a) this study examined the relationship of how faculty members rated their perceived behaviors when teaching courses designed for adult students and when teaching courses designed for traditional age students (Rees, 1991), (b) the relationship of teaching style and classroom orientation to academic achievement among non-traditional university students (McCann, 1988), and (c) the difference in teachers collaborative teaching style and the adult learners perceived collaborative teaching style (Clow, 1986).

PALS has been utilized to examine various style applications. A sampling of those are as follows: (a) the relationship of learning style and teaching style to student academic achievement among nontraditional health professions in credit continuing professional education classes (Buckhannon-Welborn, 1985), (b) the relationship of

educational philosophies and teaching styles of workforce education and entrepreneurship instructors within the State of Alabama (Powell, 2006), and (c) the relationship between teaching style and moral development of inmates (Conti, 2004, p.84).

PALS has been utilized in a total of five international studies with three being conducted in Canada. These include (a) a case study of Moroccan students' preference for teaching style (Brosseau, 2000); (b) English instructors conception of teaching style (Magro, 1999); and (c) a case study examining the relationship of teaching style, psychological distress, and the effects on participants during orientation events (Mainville, 2000). The remaining two international studies were conducted in Asia: (a) assessing the teaching style of faculty at Ramkhamhaeng University (Sornkaew, 1990) and (b) pre-service teacher training of adult educators in Singapore (Needham, 1990).

Teaching Styles and Outcomes

In addition to the dissertation studies, the relationship between teaching styles and learning strategies has been explored in numerous studies. The author of PALS has been involved in three studies that investigated the relationship between student achievement and teaching style. These utilized the PALS in an adult basic education program

in South Texas (Conti, 1985), with allied health professionals (Conti & Welborn, 1986), and with tribal college students (Conti, 1989).

The first study, regarding teaching style and learner outcomes, was conducted in an adult basic education program. The program provided classes in basic literacy, high school equivalency, and English-as-a-second-language. The teaching style of 29 part-time teachers in the program was measured and compared to the achievement levels of their 837 students. Study results indicated that the teacher's teaching style had a significant influence on the student's academic advancement (Conti, 2004, pp. 82-83). Students in preparatory classes for high school equivalency test were more successful with the teacher-centered approach. However, students in basic level and English-as-a-second-language classes were more successful with the learner-centered approach (p. 83).

The second study involved allied health professionals taking college credit continuing education classes in order to satisfy continuing education requirements (Conti & Welborn, 1986). This study examined the relationship of teaching style and student achievement of 18 instructors and 256 health care professionals. The study "found teaching style to be significantly related to student achievement and

the students of the teachers practicing the learner-centered approach achieved at a level that was higher than the average for the total group" (Conti, 1989, p. 13).

The third study involved this same line of inquiry; however, this study was designed to address the limitation of small sample size of teachers as compared to those of the previous studies (Conti & Fellenz, 1988). This study involved 80 teachers from the 7 tribally controlled community colleges located on Indian reservations in Montana totaling 1,447 students (Conti, 2004, p. 84). Using this large sample size allowed the students access to a wide range of teaching styles. While the range of teaching styles provided clarity to earlier studies, the results indicated that teaching style scores were not significant but six PALS factors were significant. Although the learner-centered approach was generally more effective it was the consistency in the teaching style that seemed to provide the most positive impact on student achievement (Conti, 2004, pp. 84-85).

Learning Strategies

As adults engage in life events and encounter difficulties, they must have a way to resolve or address these difficulties. Whether it occurs in an academic setting or in real-life learning, adults use various strategies to

accomplish their individualized learning needs (Fellenz & Conti, 1989).

Learning strategy research is providing a critical avenue of exploration related to individual differences in learning (Conti & Kolody, 1999a, p. 2). “Learning strategies are the techniques or skills that an individual elects to use in order to accomplish a learning task” (Fellenz & Conti, 1993, p. 3). Learning strategies are commonly used without thought or consideration of what particular learning strategy would best accomplish a given task (p. 3). Yet, the chosen learning strategy of the adult learner will greatly influence the learner’s success.

Learning strategies differ from learning styles. Unlike learning styles, learning strategies are not fixed traits that remain the same across each learning event. Learning strategies are more contextual and “are more a matter of preference; they are developed throughout life and vary by task” (Fellenz & Conti, 1993, p. 4).

Being cognizant of one’s learning strategies can improve the ability to survey the learning environment and allow one to make adjustments if needed. When learners are sensitive to and in control of the learning process then they develop a better understanding of themselves and how they learn (Smith 1982, p. 57). As individuals “better

understand their own learning strategies, the more empowered they are to enhance their personal learning" (Conti & Kolody, 1999a, p. 2).

Much of the foundational research on learning strategy with adults in formal and informal learning situations has been conducted utilizing the Self-Knowledge Inventory of Lifelong Learning (SKILLS) instrument (p. 86). SKILLS was developed to address and quantify individual learning strategies of adults involved in real-life learning. SKILLS conceptualizes learning strategies as composed of the areas of metacognition, memory, metamotivation, resource management, and critical thinking were identified as vital aspects of the adult learning process (Fellenz & Conti, 1989, p. 8).

Metacognition

Metacognition is the ability of learners to think about the learning process (Conti & Fellenz, 1991b, p. 2). More exactly, "it is a conscious, reflective endeavor; it is one that requires the learner to analyze, assess, and manage learning activities" (Conti & Kolody, 1999a, p. 3). The conceptualization of metacognition resulted from researchers' observations of active learners who possessed the ability to reflect on and control their learning processes (Fellenz & Conti, 1989, p. 9). When adult learners

are conscious of their learning process, more effective learners can develop (p. 9).

Metacognitive strategies of adult learners include planning, monitoring, and adjusting (Fellenz, & Conti, 1993). Planning entails learners accepting responsibility and control over their learning experiences (Conti & Kolody, 1999a, p. 4). Monitoring involves the learner being constantly aware of any barriers to the learning process (p. 4). Adjusting provides the learner an opportunity to modify or revise the learning plans (Conti & Kolody, 1999a, p. 4) which may include changing learning strategies for that particular learning event (Fellenz & Conti, 1989).

As a reflective process, metacognition is a strategy that aids individuals in drawing from personal experiences to minimize a problematic situation. By reflecting on prior experiences, the uniqueness, uncertainty, complexity, and value conflict of the present situation can better be handled (Schön, 1983, p. 39). Learners employ this reflective process practice when new real-life events are presented to increase or create a repertoire of responses and theories that can be drawn upon when subsequent dilemmas occur (Smith, 2001, p. 12).

Metamotivation

Metamotivation is a strategy that deals with the

learners' knowing and understanding of how they are motivated or why they are motivated to participate or remain in a learning activity (Conti & Kolody, 1999, p. 4). It is identified as "an awareness of and influence over factors that energize and direct one's learning" (Fellenz & Conti, 1993, p. 12).

This concept involves the learning strategies of attention, reward/enjoyment, and confidence. A crucial learning strategy is attention. It is the "focusing of learning abilities on the material to be learned" (Conti & Fellenz, 1991b, p. 4). This concept can be greatly influenced by creating a suitable learning environment with limited distractions (Conti & Kolody, 1999a, p. 5). Reward and Enjoyment is another concept of metamotivation for learners. Learners seek the "relevance, enjoyment, or satisfaction produced by a learning activity" (Conti & Fellenz, 1991b, p. 4). Confidence is the third element of what motivates learners to participate in learning activities. The "belief that one can complete the learning task successfully is an important factor in the motivation to learn" (Fellenz & Conti, 1993, p. 16).

Memory

"Memory is the ability to remember past events, images, ideas or previously learned information or skills" (Lefton,

1994, p. 204). Memory is a set of mental activities that are used to store, retain, and retrieve knowledge (Conti & Kolody, 1999a, p. 6).

Organization, external aids, and memory application are the learning strategies used in the memory process (Fellenz & Conti, 1993, p. 23). The learning strategy of organization helps to process information so that it can be “better stored, retained, and retrieved” (Conti, & Kolody, 1999a, p. 7). A technique often used to achieve organization is “chunking”. It is the organization of information into sets so there is less categories to remember (Fellenz & Conti, 1993, p. 23). A second learning strategy in the memory process is the utilization of external aids. These allow learners to control their environment in a way which will help with memory (Conti & Kolody, 1999a, p. 7). External aids include items such as calendars and appointment books. The third strategy is memory application. These are the internal organizational strategies “for the purpose of planning, completing, and evaluating learning” (p. 7).

Critical Thinking

Critical thinking refers to the “reflective thinking process utilizing higher order thinking skills in order to improve learning” (Conti & Kolody, 1999a, p. 7). Critical thinking is foundational to much of adult learning. The

learning strategies used in SKILLS are associated with the work of Brookfield (1986). Brookfield's approach to real-life situations described how adults become critical thinkers. The steps include (a) identifying and challenging assumptions, (b) questioning the importance of context,(c) envisioning and exploring alternatives, and (d) maintaining a healthy skepticism concerning conclusions.

For the area of critical thinking in SKILLS, Brookfield's four areas were slightly modified by combining identifying and challenging assumptions with questioning the assumptions of content. This resulted in the three learning strategies of testing assumptions, generating alternatives, and conditional acceptance. Testing assumptions is the "process of challenging assumptions [which] presumes the ability to identify these assumptions and the willingness to examine them" (Conti & Kolody, 1999a, pp. 7-8). Generating alternatives entails formulating alternative solutions in learning situations enabling learners to effectively solve real-life problems (Fellenz & Conti, 1993, p. 32). Conditional acceptance refers to "advocating reflective skepticism to avoid absolutes or over simplifications" (p. 8).

Resource Management

Adult learners are faced with a multitude of sources

and resources from which to collect and analyze data for each learning event. Individual preferences relating to resource identification, selection, and use vary depending upon “the individual’s learning style and the particular learning task” (Fellenz & Conti, 1993, p. 35). Thus, the effective use of these resources can have a positive effect on the learning outcomes (p. 37).

Resource management is comprised of the learning strategies of identification of resources, critical use of resources, and the utilization of human resources (Conti & Kolody, 1999a, pp. 8-9). Resource identification refers to both an “awareness of appropriate sources and confidence in one’s ability to use such sources” (Conti & Kolody, 1991b, p. 4). Critical use involves “critical reflection about the material and selection of the appropriate resource rather than simply those that are readily available” (p. 8). Use of human resources involves tapping into people as resources for the learning process and gaining experiential human input. People can have a powerful impact on the learning process of adult learners (p. 4).

Learning Strategy Research

SKILLS has been used in numerous studies related to the learning strategies of adult learners and has provided “depth and insights not previously available regarding

learning strategies of adults” (James, 2000, p. 66). The majority of these studies utilized similar research design and “collectively, these studies found that gender, age, and race are not useful in discriminating among different groups in their learning strategy usage” (Conti, 2009, p.889). This empirical inquiry stimulated further studies. The complete data set of 3,070 cases of SKILLS studies was analyzed using cluster and discriminant analysis. Studies indicated that there were clear patterns of learning strategies as defined by SKILLS (Conti, 2009, p.889). This research led to the development of an instrument called Assessing The Learning Strategies of AdultS (ATLAS) (p. 889).

The SKILLS instrument was hard to administer and score; thus, ATLAS was formulated from a desire to “produce an instrument which was easy to administer, which could be completed rapidly, and which could be used immediately by both facilitators and learners” (p. 889). The development of this instrument led to the identification of three distinct groups of learners. The groups are referred to as Navigators, Problem Solvers, and Engagers (Conti & Kolody, 1999).

Navigators are often considered to be high achievers who seek organization and concrete deadlines. Navigators

“are focused learners who chart a course for learning and follow it” (Conti & Kolody, 2004, p. 185). These learners utilize such learning strategies as planning, attention, identification and the use of resources, and testing assumptions. Navigators prefer organized learning events, delineate goals, and definite clearly-communicated expectations (p. 185).

Problem Solvers are frequently viewed as critical thinkers. Problem Solvers “rely on a reflective thinking process which utilize higher order thinking skills” (Conti & Kolody, 2004, p. 186). When beginning a learning event, they look externally for resources that will best serve them in addressing the learning task. In addition, Problem Solvers tend to test standard assumptions and develop alternatives to the problem at hand. Problem Solvers are “handy at adjusting their learning process and resources to fit their learning needs” (p. 186). These learners are best evaluated with open-ended questions and activities that use problem-solving techniques rather than with multiple-choice problems. This group of learners learn best in environments that “promote experimentation through practical experience and hands-on activities” (Conti & Kolody, 1999, p. 13). Problem Solvers think in a divergent and innovative manner and do not respond well to rigidity or conformity in the

classroom (p. 13).

Engagers are “passionate learners who love to learn, learn with feeling, and learn best when they are actively engaged in a meaningful manner with the learning task” (Conti & Kolody, 1999, pp. 13-14). Engagers are internally motivated rather than externally motivated by expected standards (pp. 13-15). Engagers thrive on the learning process and the enjoyment gained while interacting with other people. They consider their efforts “as an extension of themselves and are motivated by feelings of satisfaction and pride” (p. 15). Often times, Engagers’ self-worth is affirmed by the work they do (p. 15). They offer instructors an opportunity to be sensitive to their need for validation. They tend to focus on the learning process as opposed to the content of the material being learned. The initiation of group work is particularly effective in involving Engagers in class work because it allows greater interaction with other students (p. 15).

Learning Preference Research

The development of ATLAS signifies the transition to a new generation of learning strategy research. ATLAS has been utilized in excess of 50 studies which has added valuable new knowledge to the field of Adult Education relating to learning strategies and individual differences of adults in

diverse real-life learning situations. The number of studies and subjects provides depth and insights not previously available. ATLAS' debut as a research tool was with Conti and Kolody's (1999b) investigation of the relationship between personality types and learning strategy of adult learners in Canada and in the United States. It was found that no significant relationship existed between overall personality type as measured by The Myers-Briggs and learning strategy of adult learners. However, a relationship existed between learning strategy preferences and three of the four personality sets composing one's overall personality type. Moreover, learning strategies were found to be unrelated to demographic variables.

James (2000) used ATLAS to investigate the learning strategies of students participating in Adult Basic Education programs which augmented the descriptions of the ATLAS categories. This research revealed an over-representation of Engagers in the Adult Basic Education program.

Ghost Bear (2001) explored the learning strategies of users of the eBay auction process via the Internet. The study described an over-representation of Problem Solvers on the Internet. In addition, this study provided additional descriptors for the ATLAS categories and resulted in a

strong criterion-related validity, for ATLAS by confirming that 90% of the respondents concurred that the descriptor categories correctly identified them.

Massey (2003) conducted a study with ATLAS that included a purposive sample of 20 deaf adults divided into categories of employed and unemployed. This study listened and gave voice to deaf adults as they described personal perceptions of their learning patterns. The findings revealed that deaf adults apply the same learning strategies as their hearing counterparts.

Gridner (2003) investigated the learning strategies of seniors on the Internet. The sample of 348 SeniorNet users described the learning patterns and strategies of seniors while learning computers. As with Ghost Bear’s study, this study revealed an over-representation of Problem Solvers and called into question the myth about senior learning and computer usage.

Hagans (2004) explored the learning strategy preferences of musicians in formal educational programs and naturally-trained musicians. This study found that formal music training had a significantly larger number of Engagers while the learning strategy preferences of the naturally-trained musicians, who were older, were evenly distributed.

Sanders (2008) explored the learning strategy

preferences of individuals needing to learn new employment skills through the One-Stop Career Center. This study found a disproportionally large number of the participants were Problem Solvers. This study found that there was no significant differences in learning preference and demographic variables which further supports previous studies with ATLAS (Conti, 2009, p. 889).

These studies demonstrated that ATLAS has been used in various ways within research and is a useful instrument for identifying individual differences related to learning strategies. It is useful for both researchers and respondents because each can readily identify with it and use the terms associated with each learning strategy group. Studies utilizing ATLAS continue the line of inquiry and expand the knowledge introduced into the field of Adult Education concerning learning strategy preferences.

CHAPTER 3

METHODOLOGY

Design

This study utilized a descriptive research design. A descriptive design is a study that describes a specific group. “Descriptive research involves collecting data to answer questions about the current status of issues or topics” (Gay & Airasian, 2003, p. 10). A descriptive research design is used to obtain information concerning the current status of the phenomena and to describe the “what exist” with respect to variables or conditions in a situation.

Descriptive research is also called survey research (p. 10). “A survey is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables” (Gay, 1996, p. 251). There are five available approaches to data collection: (a) mail, (b) e-mail, (c) telephone, (d) personal administration, and (e) interview (Gay & Airasian, 2003, p. 283). While traditionally many educational surveys relied on mailed questionnaires, e-mailing questionnaires has recently become a popular alternative (p. 283). “Electronic mail (e-mail) has been used to distribute surveys and collect data from online users for almost

fifteen years" (Scheehan, 2001, p. 1). In 2001, approximately 50% of Americans had access to the Internet which lends itself to generating a critical mass for e-mail sampling (NUA, 2000b). E-mail surveys also provides a more immediate opportunity for participant response (Flaherty et al., 1998).

This study utilized electronic surveys to describe the educational philosophies, teaching styles, learning strategies, and attitudes toward continuing professional education of certified sign language interpreters. The following instruments were used to describe these concepts: the Philosophy Held by Instructors of Lifelong-learners Instrument (PHIL), Principles of Adult Learning Scale (PALS), Assessing The Learning Strategies of AdultS (ATLAS), and Adult Attitudes Toward Continuing Education Scale (AACES). These self-report data were used to provide insight into nationally certified interpreters attitudes toward continuing professional education and beliefs about the nature of teaching-learning transactions.

Sample

A population is a group that has a similar set of characteristics, and it is the group to which the researcher would like the results of the study to be generalized (Gay, 1996, p. 112). A population may be virtually any size and

may cover almost any geographical area (p. 13). The target population in this study was certified members of the National Registry of Interpreters for the Deaf (RID). Currently, there are 7,427 certified members according to the association's website (RID. n.d.)

A sample is a subset of the population. It is a group drawn from the participating groups who make up a representative sample of the general population (Gay & Airasian, 2003, p. 103). Even though there are several ways of selecting a sample using random, stratified, clustering, and systematic techniques, "certain techniques are more appropriate for certain situations: the techniques provide different levels of assurance of sample representation" (p. 103). A good sample "is one that is representative of the population from which it is selected" (p. 103). However, "a recurring problem in behavioral science research is that of determining the appropriate sample size before conducting a research investigation" (Hinkle & Oliver, 1983, p. 1051). Sample size is determined by applying generally accepted formulas and sample size criteria (Miaoulis & Michener, 1976). However, a more critical question is "effective size". Effective size is the degree of confidence in the sample (Hinkle & Oliver, 1983, p. 1053).

A random sampling technique was initially used for this

research. Random sampling is “the process of selecting a sample in such a way that all individuals in the selected population have an equal and independent chance to be selected for the sample” (Gay, 1996, p. 114); furthermore, “random sampling is the best single way to obtain a representative sample” (Gay & Airasian, 2000, p. 123). The random sample was drawn from the certified membership list of the National Registry of Interpreters for the Deaf.

Participation in the study was voluntary. Randomly selected member’s of RID were contacted via e-mail and asked to complete the survey information. A population of 7,500 requires a sample of 366 (Gay, & Airasian, 2004, p. 113). Initial mailings to 800 and 560 randomly selected members failed to produce an adequate sample. Based on the low response rate, the sampling process was changed from a random selection to a census sample. A census sample is one in which all members of the population are included. Therefore, all remaining members of the RID membership list were contacted and asked to participate in the study. All members were contacted only once. This process resulted in a final sample size of 292.

Data were gathered with four valid and reliable instruments. Instruments used in research should be selected that will provide pertinent data about the topic under

investigation and meet the purpose of the researcher (Gay & Airasian, 1996, p. 133). Therefore, separate instruments were used to identify the educational philosophies, teaching style, learning strategy preferences, and attitudes toward continuing professional education of nationally certified sign language interpreters.

Philosophies Held by Instructors of Lifelong-learners

The educational philosophies of these interpreters were identified with the Philosophies Held by Instructors of Lifelong-learners (PHIL). PHIL was developed in order to provide a quick method for identifying one's preference for one of the major philosophical schools of thought (Conti, 2007, p. 22). It is a self-administered instrument that can be completed easily in 2 to 3 minutes.

> PHIL consists of four items that are organized in a flow-chart design. Each item begins with a sentence stem that leads to two options. Each option leads the respondent to another box which either instructs the respondent to proceed to another page with a additional item on it or which provides information about the respondent's correct group placement. (p. 32)

When a respondent's philosophical school of thought has been identified on the paper form of PHIL, the individual is then directed to the page which describes the various educational philosophies. PHIL identifies five major schools of philosophical thought. These five schools of thought are Idealism, Realism, Pragmatism, Existentialism, and

Reconstructionism as described by Elias and Merriam (1995).

For this study, the online format of the PHIL questionnaire was used. This format contains all four questions for PHIL, and each participant responds to all four questions. Then in the scoring of the instrument, “if-then” statements are used to select the appropriate responses for each person based on that person’s response to the first item.

Conti (2002) developed PHIL using an approach that combined various multivariate techniques. The PHIL pool of inquiry items were developed from the 75 item of the Philosophy of Adult Education Inventory (PAEI) developed by Lorraine Zinn (1998). As a result of the development process, the validity and reliability of the PHIL instrument was established.

The validity and reliability of any data collection instrument are two of the most important aspects to be considered in empirical research. Validity is the most important characteristic of a measuring instrument (Gay & Airasian, 2003, p. 135). Validity, in its simplest form, “is the degree to which a test measures what is supposed to measure” (Gay, 1996, p. 138).

Educational research is mainly concerned with the construct, content, and criterion-related validity of an

instrument (Kerlinger, 1973, p. 457). The most important form of validity is construct validity (Gay, 1996, p. 139). Construct validity assesses the underlying construct of the instrument. A construct is a nonobservable trait, such as intelligence, which explains behavior. A construct cannot be seen. One can only observe the effect of the construct. Constructs are used to explain the behavior (pp. 139-140).

The construct validity of the PHIL was established through a process of using the pool of 75 items from the PAEI (Zinn, 2004) to develop the items for the new instrument. The construct validity for the PHIL was derived from the established validity for the items on the PAEI. The construct validity for the PAEI was statistically tested by applying the factor analysis procedure (Zinn, 1983, p. 148). Individual response items revealed that a majority "had a moderate to high common factor variance (>.50), indicating that they were both valid and reliable measures for the inventory" (p. 150).

Content validity is the degree to which a test measures an intended content area. Item validity and sampling validity are both requirements for content validity (Gay & Airasian, 2003, p. 136). Commonly, experts in the content area are asked to assess the content validity (p. 137). However, other methods that are consistent with the nature

of the instrument can be used to establish content validity (p. 137).

The content validity of the PHIL was assessed statistically with a database of 371 participants. A series of discriminant analyses were conducted to determine the differences between each philosophical school of thought grouping (Conti, 2007, p. 24). For the first item, the process that separated the groups was the amount of teacher control in the learning environment. For the second item, the process that separated the groups was the focus of educational material. The purpose of the educational process was the process that separated the third item. Lastly, for the fourth item, the process that separated the groups was the focus on feedback to the learners. The exact process that separated the groups was identified with each discriminant analysis, and a “precise item was written to describe this process” (p. 25).

Criterion-related validity involves correlating a measure with a second measure (Gay & Airasian, 2003, p. 137). “The second test is the criterion against which the validity of the initial test is judged” (p. 137). Criterion-related validity is associated with practical problems and outcomes. It is studied by comparing test or scaled scores with one or more external variables or criteria know or

believed to measure the attribute being studied (Gay, 1996, p. 137).

The criterion-related validity on the PHIL was assessed using several processes. Three separate processes were involved. The first processes compared the group placement on PHIL to the preferred group rating on the PAEI. Next, responses were collected for the various PAEI items from the structure matrices that were used to construct the items in PHIL. Lastly, participants responded as to the accuracy of the PHIL in placing them in the group that they felt described them best (Conti, 2007, pp. 29-31). It was determined that PHIL has criterion-related validity because of the strength of the correlation between placement on the PHIL and on the PAEI, because of the same relationship between scores on selected items in the PAEI and placement on the PHIL, and because of the extremely high respondent testimony as to the accuracy of the philosophical group placement on the PHIL (p. 31).

Reliability is “the degree to which a test consistently measures whatever it is measuring” (Gay, 1996, p. 145). The two basic forms of reliability are test-retest reliability and internal consistency reliability. Test-retest reliability refers to the consistency of scores on the same test over time (p. 146). Internal consistency reliability

refers to the consistency of items one test at a time (p. 147). The reliability of an instrument is expressed numerically as a coefficient: a high coefficient indicates a high reliability (p. 145).

The reliability of the PHIL was established by the test-retest reliability with a group of 39 adult education practitioners with a 2-week interval (Conti, 2007, p. 31). After two testing, the PHIL had a coefficient of .742 ($p < .001$) which is above the minimum coefficient of .7 for assessment instruments (Gay & Airasian, 2000, p. 324).

Principles of Adult Learning Scale

The teaching styles of nationally certified sign language interpreters were measured with the Principles of Adult Learning Scale (PALS). PALS was developed to measure the extent to which practitioners support the collaborative mode of teaching-learning (Conti, 1982, 1983, 1985). PALS is self-administered and can be completed in approximately 10-15 minutes. However, for this study, the online format of the PALS questionnaire was used to gather data. PALS consists of 44-items. The respondents are instructed to read each item and respond in the manner that it is most frequently practiced. Each of the 44-items is answered by selecting a number on a 6-point Likert scale. The numbers correspond as follows: 0--Always, 1--Almost Always, 2--

Often, 3--Seldom, 4--Almost Never, and 5--Never.

The instrument renders both an overall score and seven factor scores (Galbraith, 2004, pp. 79-80). The overall score is calculated by summing the value of the response to all items and can be interpreted by relating the score to the normal score for the instrument. Scores may range from 0-220 with an average score of 146. The total score indicates the individual's overall teaching style. High scores indicate support for a learner-centered approach to teaching while low scores suggest support for a more teacher-centered approach, and middle range scores indicate an eclectic approach to teaching. The overall PALS score is divided into seven factors. These factors identified are (a) Learner-Centered Activities, (b) Personalizing Instruction, (c) Relating to Experience, (d) Assessing Student Needs, (e) Climate Building, (f) Participation in the Learning Process, and (g) Flexibility for Personal Development (Galbraith, 2004, pp. 80-82). Each factor grouping is determined by summing values of particular items. The factor scores identify specific elements that make up the teaching style (p. 79). High scores in each factor represent support of the learner-centered concept that represents the factor name. Low factor scores indicate support of the opposite concept.

PALS has established validity and reliability (Conti,

1982, p. 145). The construct validity of the items was established by a two juries of adult educators. The initial jury was made up of three adult educators from Northern Illinois University. They analyzed the items on the instrument, provided comment on the constructs of the items, and suggested improvement for various items (Conti, 1982, p. 139). The second jury was a national jury. This jury was comprised of 10 adult education professors, which included Malcolm Knowles. The jury members analyzed the construct of each item on the instrument. All confirmed construct validity.

Content validity was established through field-testing with adult basic education practitioners. For PALS, “content validity was determined by Pearson correlations which measured the relationship between each individual item and the total score from each participant” (Conti, 1982, p. 140).

Criterion-related validity was established by comparing the scores on PALS to scores on the Flanders Interaction Categories. “Both instruments measure initiating and responsive actions” (Conti, 1982, p. 142). The results demonstrated that PALS consistently measure initiating and responsive constructs. In addition, PALS is able of consistently differentiate among those who have divergent

views concerning these constructs (p. 142).

PALS reliability as a stable standard for measuring the level of an adult education practitioner's support of the collaborative mode was established by the test-retest method. This measure of stability of a participant's performance on the instrument was conducted with a sample group of 23 adult basic education practitioners. The Pearson correlation yielded a reliability coefficient of .92 (Conti, 1982, p. 142).

Assessing The Learning Strategies of AdultS

The learning strategy preferences of nationally certified sign language interpreters were identified by the Assessing The Learning Strategies of AdultS (ATLAS). The ATLAS was designed to quickly identify learning strategy preferences of adults (Conti & Kolody, 1998, p. 109). The instrument may be completed in 2 minutes or less depending on the reading level of the respondent (Conti & Kolody, 2009, p. 16). ATLAS consists of five items. In the standard, original, and most widely used format, ATLAS is organized in a flow-chart format (Conti, 2009, p. 889). In this format,

> ATLAS is a 8.5' X 5.5' bound booklet with each item on a separate page and with each option for an item having a box which directs the respondent to the next appropriate action. . . Each page of this self-contained booklet is printed on a different colored card stock, and after selecting an option for an item, the participant is instructed to go to the appropriately colored

page. (Conti, 2009, p. 889)

Respondents read a descriptive phrase followed by two options. Depending on the option chosen, each response ultimately lead the respondents to a personal discovery of their learning strategy group. Thus, based on their responses, participants are grouped as a Navigator, a Problem Solver, or an Engager.

For this study, the online format of the ATLAS questionnaire was utilized. In this format, the participants respond to all five questions that make up ATLAS. Then in scoring of the instrument, “if-then” statements are used to select the appropriate responses for each person based on that person’s responses to the first item.

ATLAS has established validity and reliability (Conti, 2009, p. 3).

> The process of establishing construct validity for ATLAS used both logical and empirical analyses. First, the items that were used for constructing ATLAS were from SKILLS. Since the construct validity of these items had already been established (Conti & Fellenz, 1991), their validity did not have to be reestablished and was inferred to ATLAS. Second, the results of the numerous research studies using SKILLS were synthesized and consolidated. Third, cluster analysis was used to identify the naturally-occurring groups inherent in the data. (Conti, 2009, p. 889)

The data set of consolidated SKILLS studies contained responses from 3,070 adults from North America (Conti &

Kolody, 1999, p. 17). The cluster analysis conducted with this group “resulted in the identification of three groups with similar patterns of learning strategy usage” (p. 891), and these groups were named Navigators, Problem Solvers, and Engagers because of their similarity to some of the groups found in the SKILLS’ studies that were reviewed. “The distribution of the respondents among the three groups was relatively equal: Navigators–1121 (36.5%), Problem Solvers–973 (31.7%), and Engagers–976 (31.8%)” (p. 891).

The content validity for ATLAS was concerned with constructing accurate items to differentiate the three groups identified in the cluster analysis (Conti, & Kolody, 1999, pp. 16-18; Conti & Kolody, 1998, pp. 110-111). Thus, content validity for ATLAS addressed “the degree to which the items are representative of learning strategy characteristics of the three groups identified in the SKILLS’ research” (Conti, 2009, p. 891). This was accomplished by conducting a series of discriminant analyses with groups from the cluster analysis and with the items from SKILLS as the discriminating variables. The results of each of these discriminant analyses were used to develop one item on the ATLAS.

The criterion-related validity on the ATLAS was established by three separate processes were involved and

included a total of 2,515 participants. The first process involved 40 professional adult educators. It compared the group placement on ATLAS to the scores on SKILLS. As a result, “for 80% of the participants, their scores on SKILLS in the six learning strategy areas that were most influential in the discriminant analyses for forming the ATLAS groups were consistent with their ATLAS preference group selection” (Conti, 2009, p. 892). Second, 154 participants responded to modified SKILLS scenarios that contained only the learning strategies that influenced the discriminant analyses used to form ATLAS. From this process, 75.7% of the participants’ responses for their learning strategy preference groups were as expected (p. 893). Lastly, 2,938 participants were asked to self-report the accuracy of the ATLAS placement after they had read a description of the ATLAS groups. Of this group, 92.1% concurred that the learning strategy placement on the ATLAS was accurate and representative of their real-world situation (p. 893). Because of the consistency between scores on SKILLS for the learning strategies used to create ATLAS and ATLAS group placement, because of the expected responses based on ATLAS groupings on approximately three-fourths of the items in modified SKILLS scenarios, and because of the extremely high testimony by respondents ofthe

accuracy of the group placement by ATLAS, it was judged that ATLAS has criterion-related validity (p. 893).

The reliability of the ATLAS was established by the test-retest reliability with a group of 129 adult education practitioners with a 2-week interval (Conti, 2007, p. 31). After two testings, the ATLAS had a reliability coefficient of .88 with 90.9% of the participants responding consistently for both testings (Conti, 2009, p. 893). Thus, ATLAS was judged as reliable.

Adult Attitudes Toward Continuing Education Scale

Darkenwald and Hayes (1988) fashioned the Adult Attitudes Toward Continuing Education Scale (AACES) to determine adult attitudes toward continuing education. The AACES is an instrument with 22-items that utilizes a 5-point Likert scale to provide a measure of person's perceived attitudes toward adult continuing professional education. The scale options are 1–-Strongly Disagree, 2-–Disagree, 3-–Undecided, 4-–Agree, and 5--Strongly Agree. The AACES has a possible range of 22 to 110. The individual items comprise a three factor structure: (a) Enjoyment of Learning Activities, (b) Importance of Adult Education, and (c) Intrinsic Value of Adult Education (p. 162). These factors contain 20 of the 22 items in the instrument; two of the items did not load on any factor, and one item loaded about

the cut-oof level of .4 on two factors (p. 161). The first factor, Enjoyment of Learning Activities, consists of seven items which indicate a “like or dislike of learning situations” (p. 161). The second factor, Importance of Adult Education, consists of nine items which reflect the learner’s perceived need for adult education globally or individually (pp. 162-163). The third factor, Intrinsic Value of Adult Education, consists of five items which address the respondent’s opinions of the inherent worth of continuing education (p. 163).

Construct validity for the AACES was determined from several factor analysis which were conducted to confirm the original construct validity established by Darkenwald and Hayes (Blunt & Yang, 2002, pp. 300-302). Confirmatory factor analysis supported the earlier findings that attitudes toward continuing education is a multifactorial construct (p. 310).

The content validity support for the AACES was “inferred from the procedures utilized in its construction” (Darkenwald & Hayes, 1988, p. 5). A panel of doctoral students and university faculty evaluated the scale and determined content validity (Hayes & Darkenwald, 1990, p. 160).

Criterion-related validity was established by comparing

results on the AACES with the Behavior Index (Hayes & Darkenwald, 1990, p. 160). The Behavior Index consists of four items that assess past and present participation in continuing education activities and one's encouragement to others concerning their participation in continuing education.

Research by Hayes and Darkenwald (1990) found that all correlations between the AACES items and the instrument's total score were significant at the .001 level. It was established that the AACES has a reliability coefficient of .90 as determined by the Cronbach alpha (p. 160).

Procedure

Data were collected electronically via the Internet. At the beginning of this study, a sample was selected randomly from the membership list for National Registry of Interpreters for the Deaf. RID makes the list available to the general public on its website (www.rid.org) so that the public can contact members for the use of their services. The membership list contained the e-mail address for members.

The form containing the items for the study was posted on an Internet website. This website was under the personal control of the advisor for this study, and he was the only one that had access to it. The form was generated in Front

Page and contained the items for PHIL, PALS, ATLAS, AACES, and the demographic items. Although the four instruments were designed in their original form to be self-administered instruments, no feedback was provided to the participants. Therefore, only the items were included on the form.

Those who were randomly selected were sent an e-mail asking them to participate in the study. The e-mail message contained a link to the form containing the instruments. By clicking on the link, the person was giving their electronic consent to participate in the study and was then linked to the form. After completing the form, the respondent clicked on the “submit” button in the form, and this then sent an e-mail to the advisor’s website with the person’s responses. The data were then downloaded into an Excel file for analysis in SPSS.

One of the issues with survey research is the response rate. Even with an interesting topic and well organized survey, “research suggest that the first mailings will typically result in a 30% to 50% return rate” (Gay, 1996, p. 269). Because this study needed a sample of approximately 400, the initial mailing was sent to a random sample of 800 certified members of the RID membership list. When this mailing failed to produce many responses, a second mailing of 560 randomly selected members was sent. Because these

mailings only provided approximately a 5% response rate, the remaining names in the membership list were downloaded. The third mailing was to 4,919 members. Thus, a total of 6,275 requests were sent. It is estimated that approximately 500 request were not delivered because of such factors as incorrect e-mail addresses, blocked messages, and change of address. As a result, there were approximately 5,775 valid requests to participate in the study. The 292 responses represent a return rate of approximately 5%. While this return rate is low, it is a condition that can occur in field-based research. This return rate should be kept in mind by the reader when interpreting the results of this study. Despite this rate, the voices of the interpreters deserves to be heard, and these voices and results of the quantitative measures suggest implications for why the return rate was so low.

One factor that may have contributed to the low response rate was that many respondents did not accept the "educator" role for interpreters. The request to participate in the study clearly stated the "dual role" of interpreters:

> As professionals, we are always looking for ways to improve our professional skills. We are keenly aware that the field of interpreting has changed dramatically over the past three decades. These changes have reshaped the scope and function of certified sign language interpreting. We now function in "dual" roles as professionals: interpreters and educators. These dual roles

> relate to what we believe about the educational process and about how individuals learn? In order to adequately plan professional development activities for our fellow professional interpreters, we need information about interpreters' beliefs about these dual roles.

However, in the text box for comments at the end of the survey form, many participants wrote that they did not consider themselves to be educators. In simple, direct words several declared that they are not teachers:

> I am not a teacher so the above section does not apply to me
>
> I am not a teacher-I am a free lance interpreter
>
> I am not an educator, so I am not sure if you intended for me to do this survey.
>
> your survey assumes one is an educator - i am not.
>
> I am not an educator, so teaching style does not apply.
>
> None of these questions relate to Interpreters in general in the freelance and shouldn't apply to those in the Educational field. This is a Teachers survey not an interpreters survey?

Others had a less reflexive response, but they still concluded that as interpreters they were not teachers. They saw the role of interpreting as different from that of teaching.

> I don't consider the deaf clients I interpret for to be students of mine. I interpret. If they learn from me, fine. But my goal is clear communication in every situation.
>
> As I was filling out this survey / study I was confused by a good part of it. It seemed much

> more geared for teachers as opposed to interpreters. Too many of the questions implied that I was the one to make decisions as to work situations, planning etc.

Another group of respondents viewed teaching as a formal classroom-based activity. Rather than recognizing that the teaching-learning transaction can take place in informal settings, they equated teaching with the formal activities of planning, organizing, and conducting teaching activities in a classroom.

> I am not a classroom teacher so some of the questions were not applicable.
>
> For the helping others learn section - it is not clear if you are asking about what we do in the role of interpreter or role of educator. Most of these questions are against the code of professional conduct for an interpreter.
>
> One thing that is important to know is that I do not teach workshops. I am the trainer for a small interpreting agency and train in the VRS environment.
>
> I answered never in the section on adult education at the beginning because I have not taught in the adult classroom.
>
> The learner section was quite difficult to answer despite the fact that during my doctoral program I had opportunities to teach in a classroom and despite the fact that I currently mentor some interns as well as work with some pre-certs.
>
> On the question related to teaching, my answers were about non-interpreting experiences.
>
> I'm not a teacher nor do I teach so the questions through most of this survey were not applicable to me as an interpreter as far as a classroom setting.

> I have attended several workshops/classes, but have never taught one.
>
> i'm not a teacher as a freelance interpreter but I do teach individuals computer access or reconciling bank statements on an individual basis and confidentiality. Most of the questions do not pertain to interpreters since we are not the instructors.
>
> As interpreters, we are not allowed to plan classes, so a lot of the questions do not apply to us.

While most of the comments were declarations that interpreters are not educators, some of the comments and e-mail requests revealed that others are open to the concept of interpreters as educators. Some of the comments indicated that the respondents were reflecting upon their educational roles. For example, one respondent wrote, “Thanks for the invitation and the opportunity to give these concepts some thought. I would like to learn what you discover in your research.” Another pointed out how she is able to transfer her learning between functioning in different teaching and interpreting roles: “My bachelors degree was in Deaf Ed. Now that I teach in an Interpreter Education Program at a community college, I find that I apply many of the same principles of ‘special education’ to my students.” Another functioned both as a teacher and interpreter and was appreciative for being included in the study: “I am an Instructor at a University not K-12. This was interesting,

thank you for allowing me to participate.”

Some participants responded by e-mail rather than putting their concerns in the comments box. Most of these e-mails sought clarification related to the purpose of the study or the meaning of the “dual roles”.

> Can you explain what you mean by "We now function in “dual” roles as professionals: interpreters and educators. I don't see myself as a professional educator, so I'm not sure I can accept your basic premise. Thanks.
>
> I am confused by the survey. It seems to apply to teachers rather than to interpreters. Could you please clarify. Thanks so much!

Others were not sure if the survey actually applied to them. Some asked for additional information while others had a professional concern that their responses might be misinterpreted and were therefore providing additional information.

> Hi, this questionnaire is not designed for professional sign language interpreters and I can not answer it. We are NOT educators (other than educating people).
>
> We function as conduits for flow of information only. There are times when cultural adjustments are made but the questions in your questionnaire are not germane to the field of interpreting, at least not the first questions. I will go ahead and answer the survey stating "no" in the questions that asks me if I allow my students to.... or if I "discipline" my students.

Regardless of why they sent the e-mail, a common reaction after receiving additional information was to

complete the survey. Either the human contact or the additional information seemed to satisfy their concern and alleviate their questions about participating in the study.

> Oh. I see. Thanks for clarifying.
>
> Thanks for your quick response. I am actually a teacher of interpreting, so would it be accurate to answer from that perspective? I am still struggling to see how as interpreters we would answer questions about things like using classroom discipline... unless it is from our perspective as being on the receiving end of instruction, in which case it would be about experiencing classroom discipline as learners. Does this make sense? Thanks.

The exchange with several of those who sent e-mails involved more than one message. This process provided them with an opportunity to explore questions about the study and, most importantly, for them to express their comments on the study. One participant wrote:

> Thank you for sharing this with me. Janna is doing amazing work and looking at a very important issue. This information is a wonderful addition to what I have been learning about adult learning theory. I look forward to exploring the website more and looking at some of the other resources Janna cited. I look forward to watching for the continued progress on this important research and hope Janna will considering publishing something in the new journal that the Conference of Interpreter Trainers now has.

Thus, the comments and e-mails of the participants indicated that there was some concerns and confusion about the “dual” or “educator” role of interpreters. While some were hostile to the concept of the educator role, others

were open to it but needed additional information. Several of those who objected to the educator role did not answer the questions on PALS. It is not known how many interpreters did not complete the survey because of their opposition to this “dual” role, but it is known that disagreement with this concept resulted in many participants not completing all of the items in the survey.

CHAPTER 4

FINDINGS

Introduction

Information gathered from 292 Nationally Certified Sign Language Interpreters provided the quantitative data for this descriptive study. Specifically, data were provided by completing the online questionnaire that was made up of four instrument surveys and demographic items. The Adult Attitudes Toward Continuing Education Scale (AACES) measured educational attitudes of the participants, Assessing The Learning Strategies of AdultS (ATLAS) measured learning strategy preferences, the Principles of Adult Learning Scale (PALS) instrument measured teaching styles, and the Philosophy Held by Instructors of Lifelong-learners (PHIL) instrument measured educational philosophy. The resultant data provided a profile of nationally certified sign language interpreters and made it possible to execute numerous statistical analysis utilizing chi-square analysis, analysis of variance, and discriminant analysis

Profile of National Interpreters

Two types of demographic variables were gathered for this study. One type of demographic variable related to personal factors, and the second type related to professional factors.

Personal Demographics

The variables related to personal characteristics were gender, age, race, education, and hearing status (see Table 1). The predominant gender of participants was female. Females comprised nearly nine-tenths (88.38%)of the sign language interpreters as compared to the approximate 50% that make up the general population of the United States (U.S. Census Bureau, 2000). While this percentage is overwhelming high compared to the general population, it is in line with the professional field. The field of sign language interpretation has historically been dominated by female practitioners. Over the past two decades in the United States, researchers have determined that the field of sign language interpretation has been predominantly comprised of females, with percentages ranging from 76.2% to 79% (Cokely, 1984; Stauffer et al, 1999).

Table 1: Distribution of Personal Demographic Variables

Group	Frequency	Percent
Gender		
Male	33	11.62
Female	251	88.38
Non-Response	8	
Total	292	100.00
Age Groups		
22 to 38	69	25.09
39 to 47	71	25.82
48 to 52	71	25.82
53 to 71	64	23.27
Non-Response	17	
Total	292	100.00
Race		
African American	5	1.75
Asian	3	1.05
Hispanic	3	1.05
White	264	92.63
Other	10	3.51
Non-Response	7	
Total	292	100.00
Education		
High School Diploma	1	0.35
Some College	26	9.15
2-year Degree	52	18.31
Bachelors Degree	106	37.32
Masters Degree	87	30.63
Doctorate	12	4.23
Non-Response	8	
Total	292	100.00
Hearing Status		
Hearing	280	98.25
Deaf	2	0.70
Hard of Hearing	3	1.05
Non-Response	7	
Total	292	100.00

The median age of the participant sample was 45 years (see Table 1). This compares to the median age of 35.3 years for individuals in the United States (U.S. Census Bureau, 2000). While the ages ranged from 22-71, the majority (50%) of the participants ages fell within the 39-52 range with a mean age of 55 years.

The racial profile of sign language interpreters was overwhelmingly White with only 7% non-White participants. This is in contrast to the three-fourths (75.1%) of Caucasians that comprise the general American population (U.S. Census Bureau, 2000).

The educational level for this sample was high. Approximately 90% of the sign language interpreters in this study held a formal educational degree as compared to about two-thirds (65%) of those professional interpreters in 1997 (Stauffer, Burch, & Boone, 1999, p. 110). Out of these sample participants, over one-third (37.32%) hold a bachelors degree and less than one-third (30.63%) hold a graduate degree. This demographic is reflective of the current trend in the profession.

Since the times of untrained, to familial interpreter services (Cokely, 2003; Deninger, 1987), and to the advent of the first national push for formal interpreter instruction (Frishberg, 1990, p. 88), the importance on

formal education has been in the forefront of the field of professional sign language interpreters.

Overwhelmingly, the participants were hearing (98.25%). Less than one percent were deaf. This is indicative of the nature of the field and the historic certification process of the Registry of Interpreter for the Deaf primarily being focused upon hearing individuals serving as interpreters (RID, n.d.).

Professional Demographics

In addition to the demographic variables related to personal characteristics, several questions regarding the respondents' professional certification level and training experience were addressed. Certification and training was then divided into four areas: (a) Professional Training, (b) Generalist Certifications, (c) Educational Certifications, and (d) Specialist Certifications (see Table 2).

Table 2: Distribution of Training and Certificates

Cert.	Freq	Percent	Cert.	Freq	Percent
Inter. Train. Prog.--2 years			Inter. Cert./Trans. Cert.		
Yes	125	42.81	Yes	13	4.45
No	167	57.19	No	279	95.55
Inter. Train. Prog.--4 years			Cert. Deaf Inter.		
Yes	40	13.7	Yes	2	0.68
No	252	86.3	No	290	99.32
Deaf Studies Program			Cert. Deaf Inter.-Prov.		
Yes	23	7.88	No	292	100
No	269	92.12	Comp. Skills Cert.		
No Formal Training			Yes	42	14.38
Yes	98	33.56	No	250	85.62
No	194	66.44	Master Comp. Skills Cert.		
National Inter. Cert.			Yes	1	0.34
Yes	48	16.44	No	291	99.66
No	244	83.56	Reverse Skills Cert.		
NIC Advanced			Yes	1	0.34
Yes	13	4.45	No	291	99.66
No	279	95.55	Oral Trans. Cert.		
NIC Masters			Yes	4	1.37
Yes	8	2.74	No	288	98.63
No	284	97.26	OIC: Comp.		
NAD Generalist			No	292	100
Yes	20	6.85	OIC: Spoken to Visible		
No	272	93.15	Yes	1	0.34
NAD Advanced			No	291	99.66
Yes	15	5.14	OIC: Visible to Spoken		
No	277	94.86	No	292	100
NAD Master			Educational Cert.: K-12		
Yes	10	3.42	Yes	47	16.1
No	282	96.58	No	245	83.9
Cert. of Interpretation			Specialist Cert.: Legal		
Yes	148	50.68	Yes	17	5.82
No	144	49.32	No	275	94.18
Cert. of Transliteration			Prov. Specialist: Legal		
Yes	157	53.77	Yes	2	0.68
No	135	46.23	No	290	99.32
Inter. Cert.			CLIP		
Yes	5	1.71	No	292	100
No	287	98.29	CLIP-Relay		
Trans. Cert.			No	292	100
Yes	9	3.08	Specialist: Performing Arts		
No	283	96.92	No	292	100

One area of professional certification relates to professional training. The participants professional training was attained primarily via 2-year interpreter training certificate programs (42.81%). Only a fraction (7.88%) of the sign language interpreters attended deaf studies programs, while one-third (33.56%) indicated they had not received any formal interpreter education training.

A second area relates to generalist certifications. There are three levels of generalist certifications. One level pertained to the National Interpreter Certification (NIC): (a) NIC, (b) NIC-Advanced, and (c) NIC-Masters; nearly one-fourth (23.63%) held these certificates. This certification process is relatively new having been instituted in 2008. Another level of certification related to the National Association of the Deaf (NAD): (a) NAD-General, (b) NAD-Advanced, and (c) NAD-Masters; 15.41% of participants held NAD certificates. The third level relates to Registry of Interpreters for the Deaf certifications. While there are several original certifications, the most notable were the Certificate of Interpreting and the Certificate of Transliterating. Approximately half of the participants held the Certificate of Interpreting (50.68%) and/or the Certificates of Transliterating (53.77).

Educational certification and Specialist certification

were the third and fourth areas examined. Educational certification is a relatively new certification, since 2006, and only a small percentage (16.1%) of the respondents hold this certificate. The fourth area examined was Specialist Certifications-Legal. This certification has four levels of legal skill recognition: (a)Specialist Certification-Legal, (b) Provisional, (c) Conditional, and (d) Conditional-Relay. Of the total respondents, only 5.82% of the respondents held the Specialist Certification-Legal.

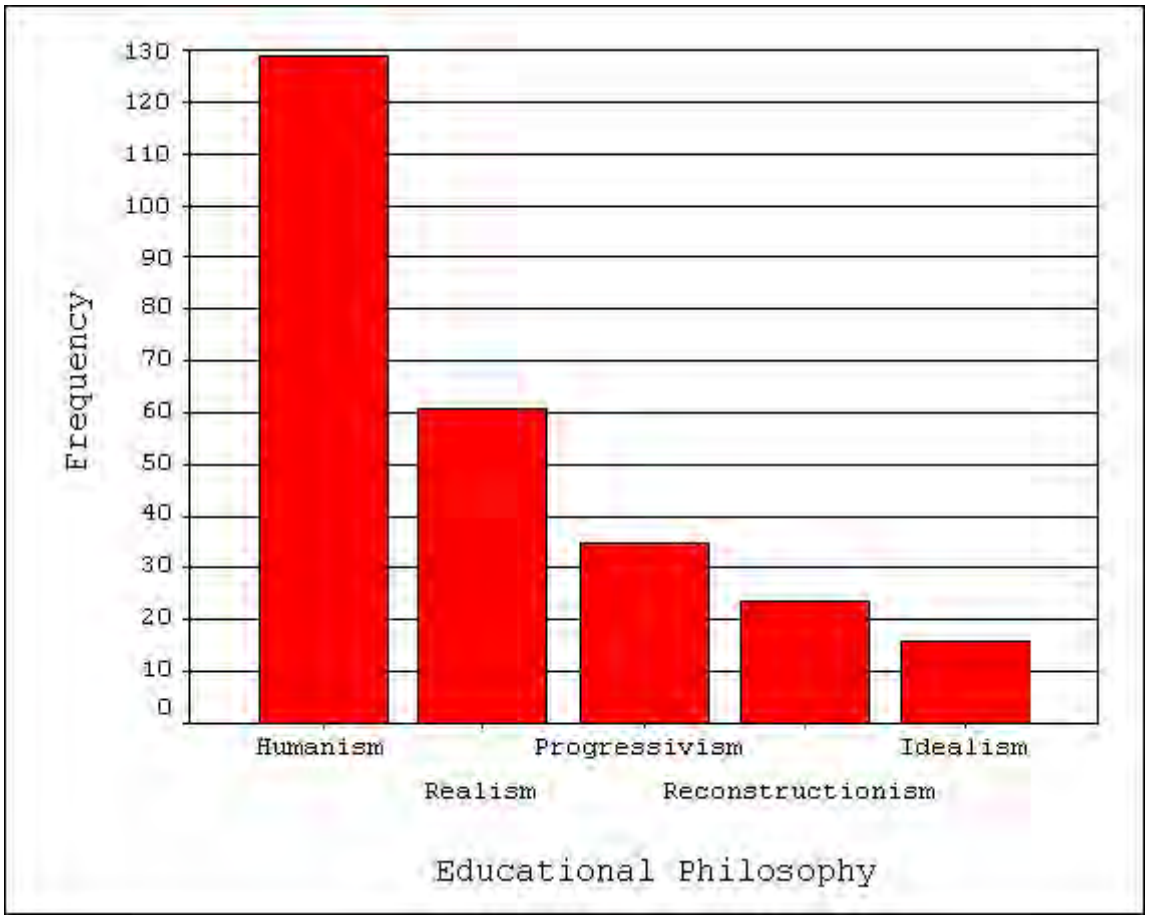
Educational Philosophy

A profile of the educational philosophies of nationally certified sign language interpreters was constructed. This profile was constructed to address the first research question in the study by utilizing data collected from the Philosophies Held by Instructors of Lifelong-learners (PHIL). PHIL is a 4-item instrument that measures "respondents preferences for one of the major schools of philosophical thought" (Conti, 2007, p. 22). The instrument is organized in a flow-chart design with each item leading to two options. The participants proceed through the instrument to its conclusion, and the respondent's philosophical school of thought is identified (p. 32). In the original form, respondents considered only the questions that apply directly to them. However, in the online version,

they respond to all of the items, and then the statements were used to determine the participants correct philosophy. The five educational philosophy orientations are Humanism, Realism, Progressivism, Reconstructionism, and Idealism.

PHIL frequency scores were calculated for the 265 who responded to the items. The nationally certified sign language interpreters were distributed among all five educational philosophies (see Figure 2). The Humanism philosophy comprised the largest concentration of interpreter (48.7%). The Realism philosophy comprised the second largest number of interpreters (23.0%). The Progressive philosophy comprised the third largest concentration of interpreters (13.2%). The Reconstructionism philosophy (9.1%) and the Idealism philosophy (6.0%) were approximately the same size and comprised the smallest group of participants.

Figure 2: Distribution of PHIL scores for Nationally Certified Sign Language Interpreters



Teaching Style

A profile of the teaching style of nationally certified sign language interpreters was constructed. This profile was constructed to address the second research question in the study by utilizing data collected from the Principles of Adult Learning Scale (PALS). PALS is a 44-item instrument that measures the frequency with which an individual employs the teaching-learning principles in the Adult Education literature (Conti, 2004, p. 79). People respond to the items in PALS on a 6-point Likert-type scale with the following options: Always––0; Almost Always––1; Often––2; Seldom––3; Almost Never––4; and, Never––5 (p. 87). Of the 44-items, 24 are positive, and 20 are negative (p. 90). For scoring, the values of the respondents scores on the positive items are converted as follows: Always––5; Almost Always––4; Often––3; Seldom––2; Almost Never––1; and, Never––0 (p. 90). “Omitted items are assigned a neutral value of 2.5" (p. 90).

Scores on PALS consist of a total score and seven factor scores. The total score for PALS is the summative values of the 44-items. The factor scores are extracted items from the overall score which make up a major part of teaching style (Conti, 2004, p. 80). The factor scores are “calculated by adding up the points for each item in the factor” (p. 80). For the total score, “scores may range from

0 to 220" (p. 79). A mean score for PALS is 146 with a standard deviation of 20. Scores which fall above 146 are indicative of a learner-centered approach; in contrast, scores that fall below 146 are indicative of the teacher-centered approach (p. 79).

Reliability of PALS

Statistical reliability is a key characteristic of a standardized measuring instrument (Gay & Airasian, 2003, p. 127). Reliability “is the degree to which a test consistently measures whatever it is measuring” (p. 141). The reliability of PALS was checked with the group of nationally certified sign language interpreters to ensure the reliability of the instrument with this particular group (Gay, Mills, & Airasian, 2009, p. 162) and because “reliability coefficients really apply to data and not to measuring instruments” (Huck, 2004, p. 86). In order to gain information about items in a single test that was only taken once and to determine the internal consistency reliability for the PALS with the participants in this study, a Cronbach’s alpha test was run (p. 142). Cronbach’s alpha is a versatile procedure that can be used with Likert-type responses (Huck, 2004, pp. 80-81).

For PALS, the Cronbach’s alpha reliability was calculated using the responses on the 44-items for the 226

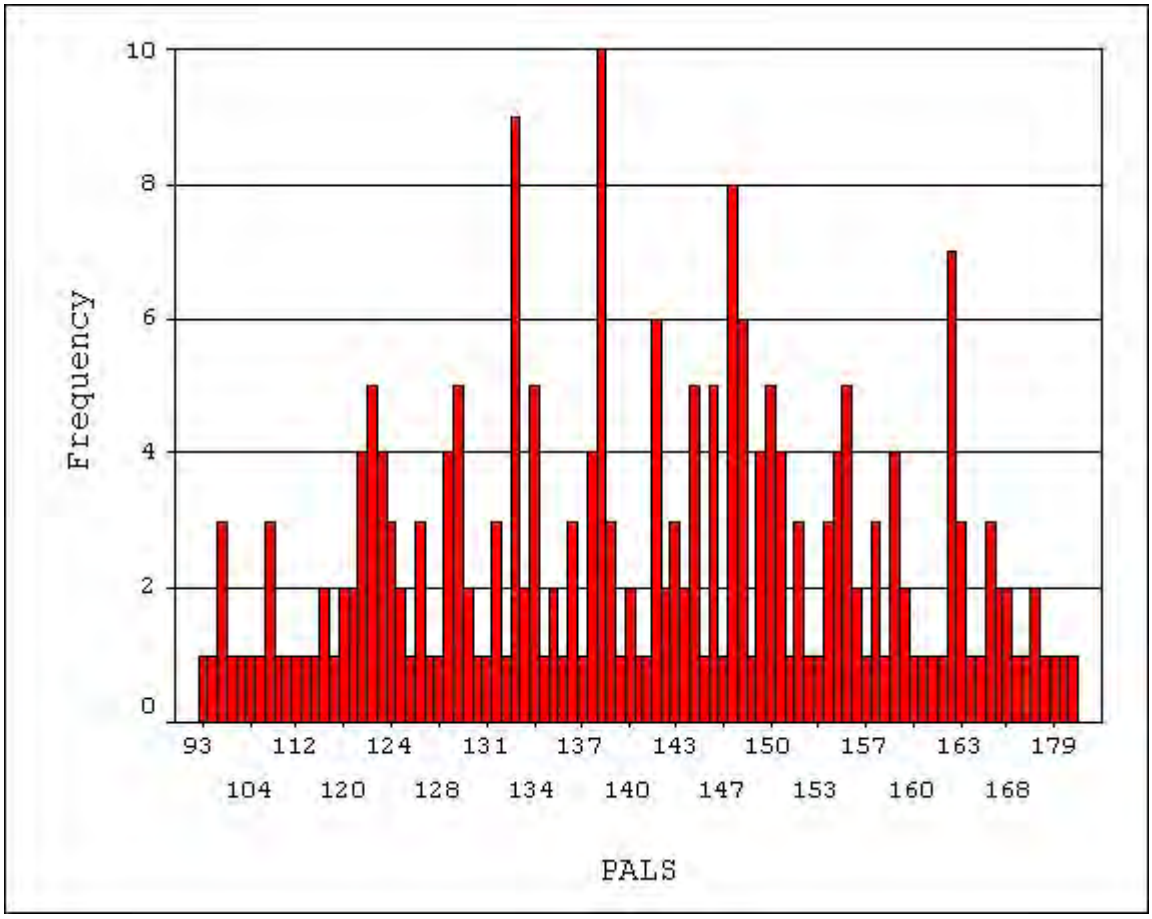
participants. The alpha reliability coefficient was .78 (p > .0001); when this coefficient is squared, it yields a coefficient of determination (Huck, 2004, p. 68) that indicates that it explains 61% of the variance in the responses. While this is below the reliability level of PALS for its norms and for when it is used in most educational settings, it is within the .7 range which is the minimally acceptable level for a test of this nature (Gay, 1987, p. 234) and which is a level that accounts for about half of the variance in the test (Huck, 2004, p. 69).

Profile

Because some of the nationally certified sign language interpreters did not feel that the questions in PALS applied to them, they either did not respond to the items or they followed the instructions of entering a Never for “does not apply”. Of the 292 responses, 66 (22.6%) of the respondents fell into this category. In order to prevent these cases from influencing the group scores, they were omitted from the analysis. Therefore, PALS scores were calculated for 226 respondents. The scores for these 226 nationally certified sign language interpreters ranged from 93 to 190. The group median was 142, the mode was 138, and the mean for the group was 140.8 with a standard deviation of 17.5; the group mean is 0.26 (146 - 140.8 = 5.2; 5.2/20 = 0.26) standard

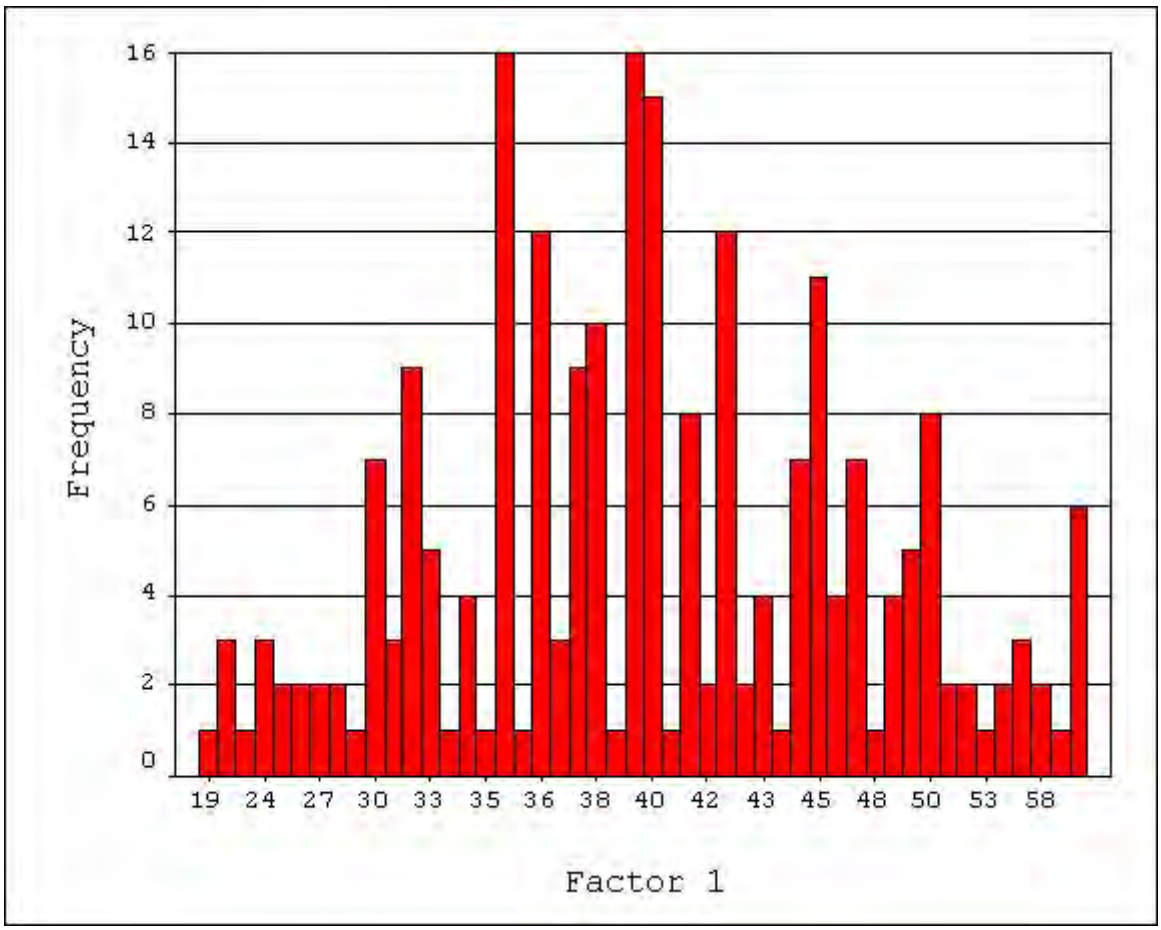
deviations below the mean for PALS. The scores were distributed in a general bell-shaped curve; however, it had numerous single frequency scores distributed throughout the range (see Figure 3).

Figure 3: Distribution of PALS Scores for Nationally Certified Sign Language Interpreters



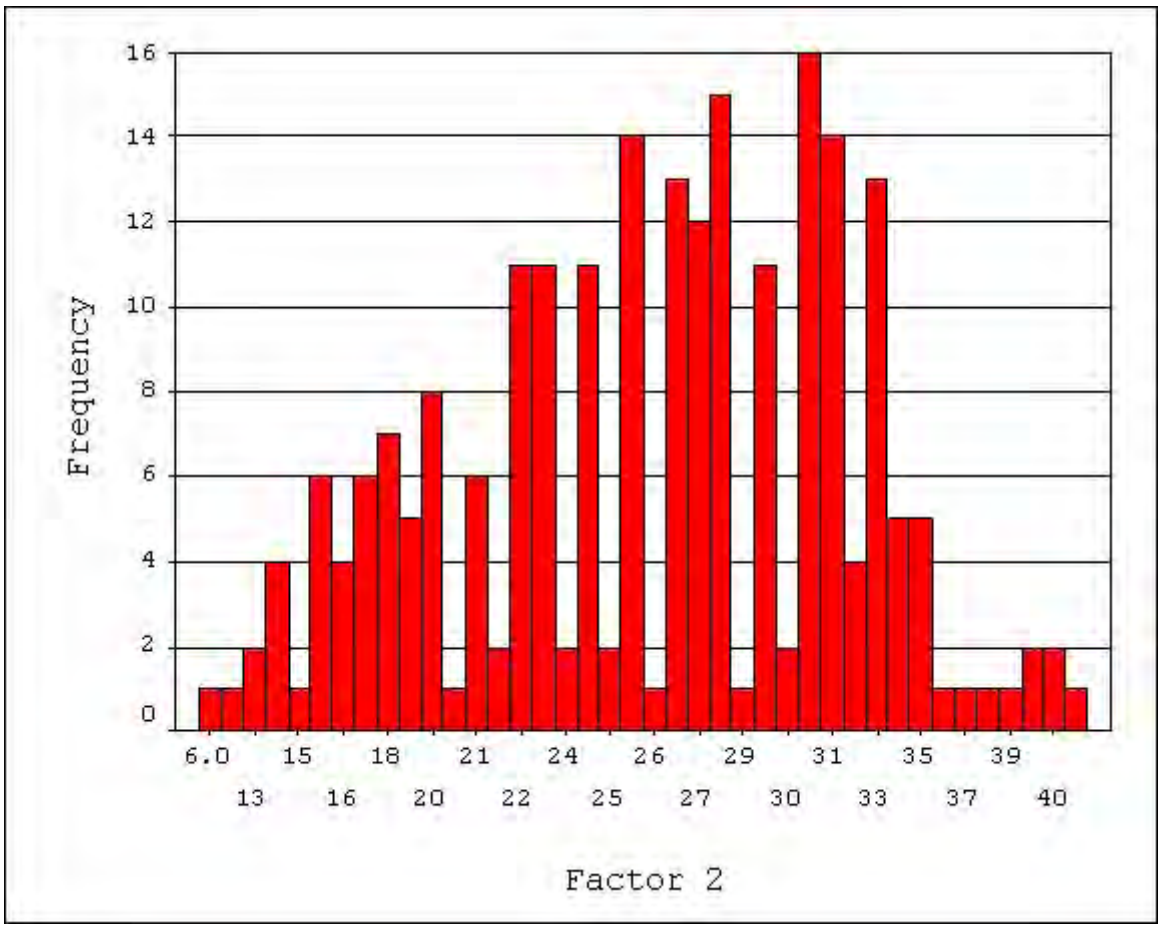
The overall score on PALS can be further subdivided into seven factors. “Each factor contains a similar group of items that make up a major component of teaching style” (Conti, 2004, p. 80). These factor titles are reflective of the adult education collaborative mode concepts (p. 80). Learner-Centered Activities is the focus of Factor 1. It is comprised of 12 negative items. The items for Factor 1 relate “to evaluation by formal tests and to a comparison of students to outside standards” (p. 80). Low scores on this factor are indicative of a teacher-centered style; in contrast, high scores are reflective of a support for the collaborative mode and a learner-centered approach found in the Adult Education literature (p. 80). Scores may range from 0 to 60, and the factor has a mean of 38 with a standard deviation of 8.3 (p. 91). Scores for the nationally certified sign language interpreters ranged from 19 to 60 with a median score of 39. The factor had multiple modes of 35 and 39. The mean score was 39.9 with a standard deviation of 8.2, and this is .23 standard deviations above the mean for the factor (39.9 - 38 = 1.9; 1.9 / 8.2 = .23). The scores were distributed in a general bell-shaped curve; however, it had several single scores throughout the range (see Figure 4).

Figure 4: Distribution of Factor 1, Learner-Centered Activities, of PALS for National Certified Sign Language Interpreters



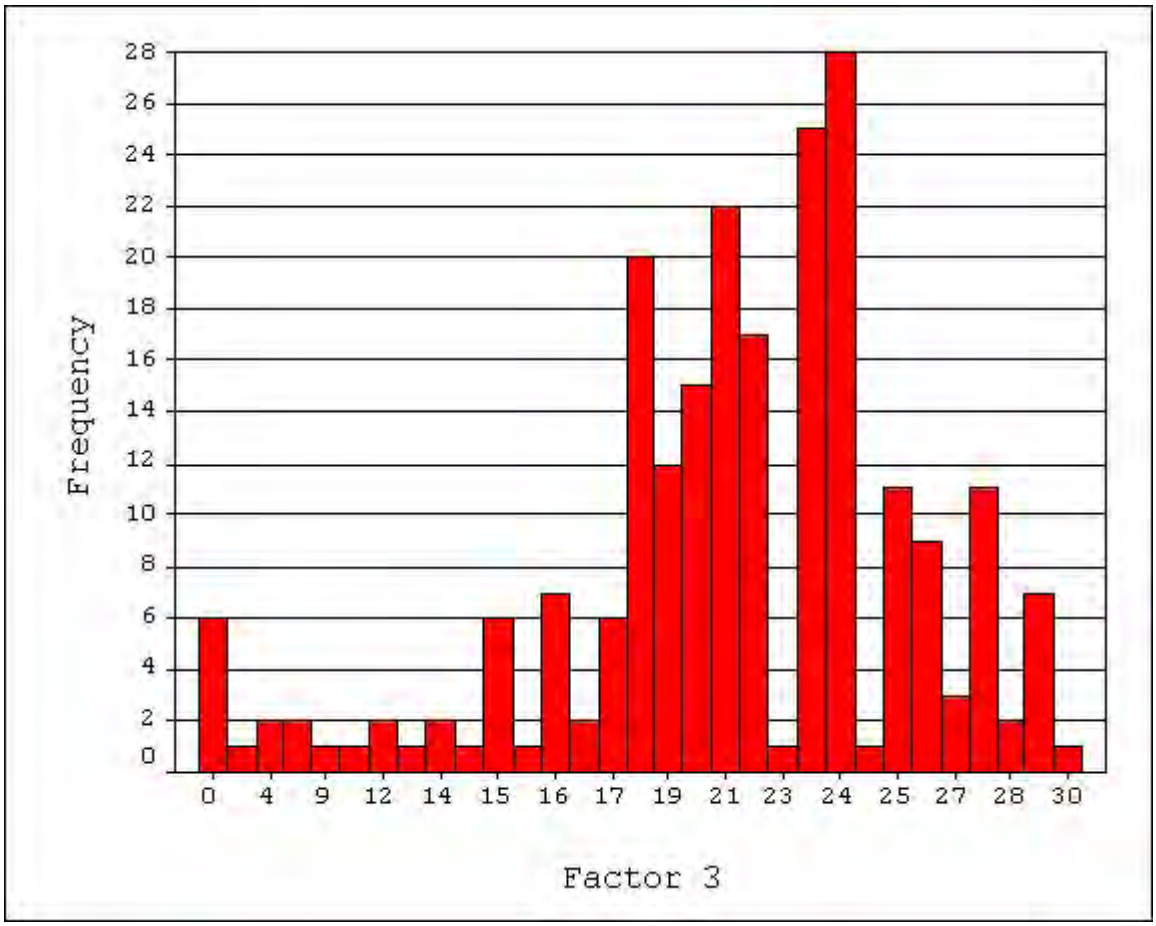
Personalizing Instruction is the focus of Factor 2. It is comprised of 6 positive items and 3 negative items. The items for Factor 2 relate to doing “a variety of things that personalize learning to meet the unique needs of each student” (p. 80). Scores may range from 0 to 45, and the factor has a mean of 31 with a standard deviation of 6.8 (p. 91). The scores for the nationally certified sign language interpreters ranged from 6 to 43. The group median was 26; the mode was 30. The mean score was 25.80 with a standard deviation of 6.23, and this is 0.76 standard deviations above the mean for the factor (25.80 - 31 = -5.20; -5.20 / 6.8 = -0.76). The scores were skewed toward the high end with most of the scores distributed between the range of 21 to 33 (see Figure 5).

Figure 5: Distribution of Factor 2, Personalizing Instruction, of PALS for Nationally Certified Sign Language Interpreters



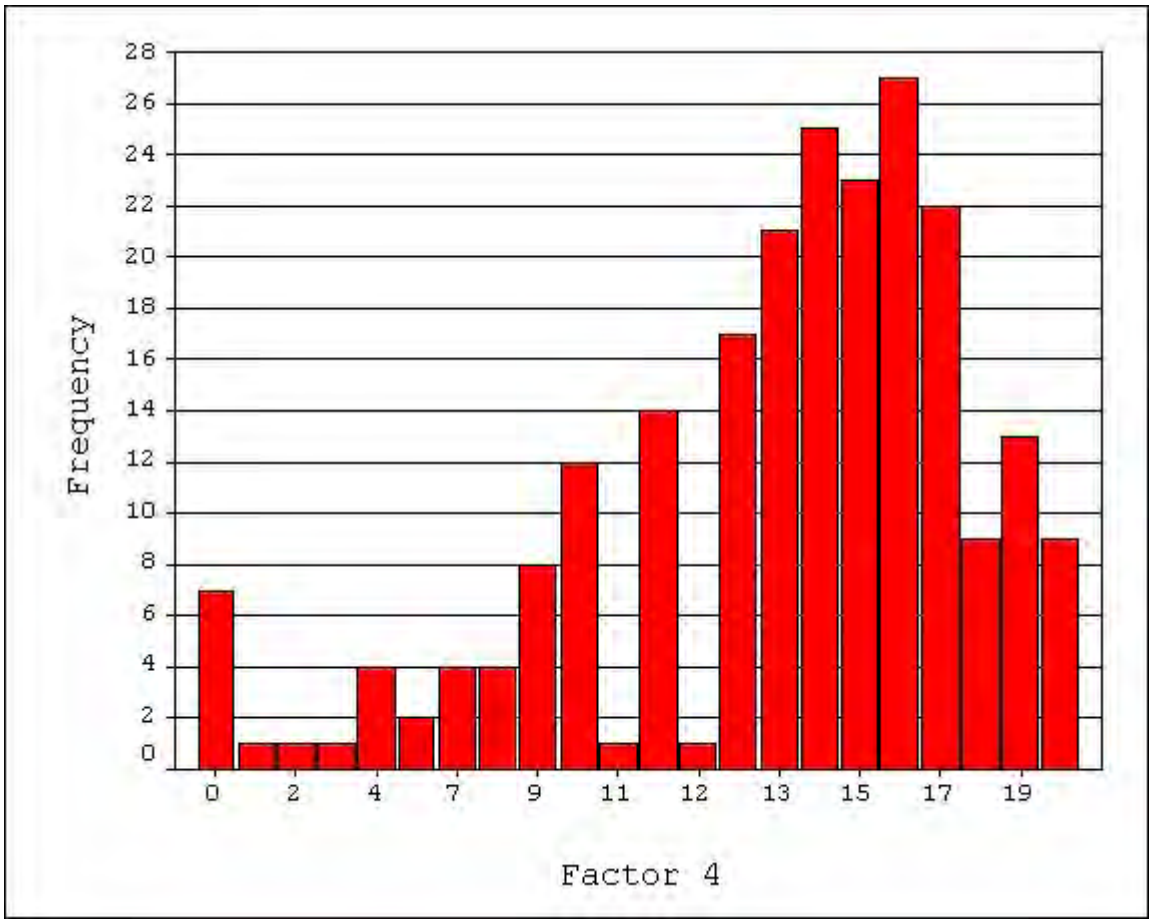
Relating to Experiences is the focus of Factor 3. It is comprised of 6 positive items. The items for Factor 3 relate to “planning learning activities that take into account your students’ prior experiences and encourage students to relate their new learning to experiences” (Conti, 2004, pp. 80-81). The scores may range from 0 to 30, and the factor has a mean of 21 with a standard deviation of 4.9 (p. 91). The scores for the nationally certified sign language interpreters ranged from 0 to 30. The group median was 22; the mode was 24. The mean score was 20.64 with a standard deviation of 5.71, and this is -.07 standard deviations below the mean for the factor (20.64 - 21= -0.36; -0.36 / 4.9 = -0.7). The scores were skewed toward the high end with approximately 81.9% above 17 (see Figure 6).

Figure 6: Distribution of Factor 3, Relating to Experience, of PALS for Nationally Certified Sign Language Interpreters



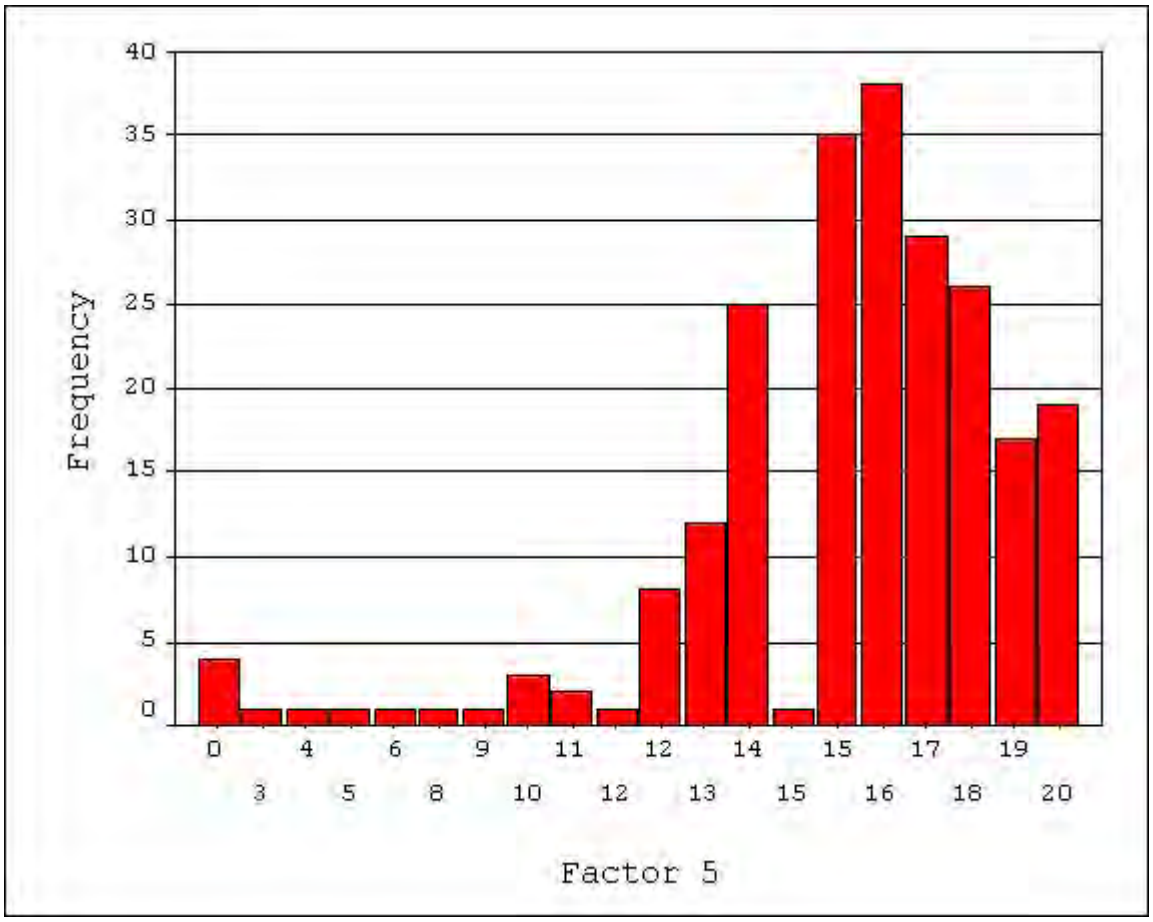
Assessing Student Needs is the focus of Factor 4. It is comprised of 4 positive items. The items for Factor 4 relate to “treating a student as an adult by finding out what each student wants and needs to know” (Conti, 2004, p. 81). The scores may range from 0 to 20, and the factor has a mean of 14 with a standard deviation of 3.6 (p. 91). The scores for the nationally certified sign language interpreters ranged from 0 to 20. The group median was 14; the mode was 16. The mean score was 13.40 with a standard deviation of 4.40, and this is 0.17 standard deviations below the mean for the factor (13.40 - 14 = -0.60; -0.60 / 3.6 = -0.17). The scores were skewed toward the high end with most of the scores ranging from 12-17 (see Figure 7).

Figure 7: Distribution of Factor 4, Assessing Student Needs, of PALS for Nationally Certified Sign Language Interpreters



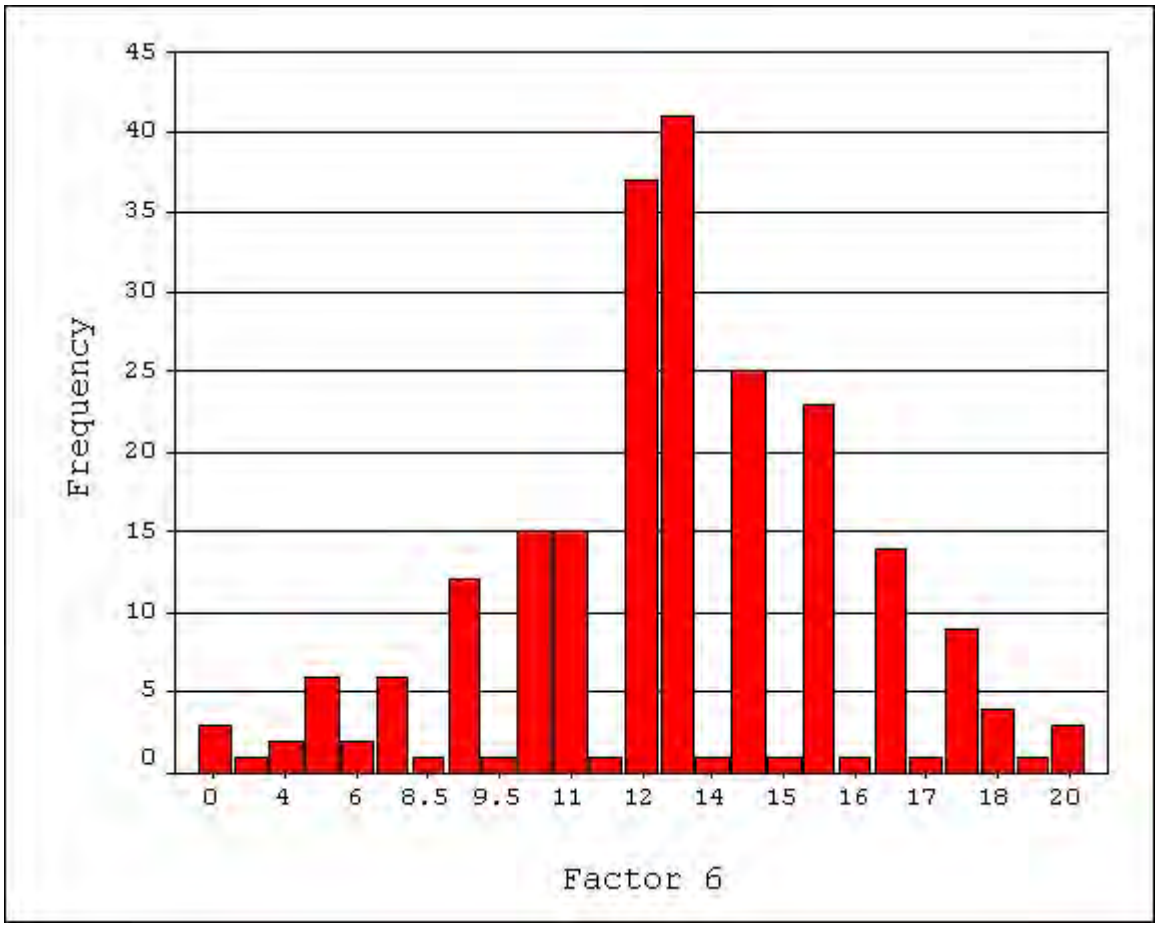
Climate Building is the focus of Factor 5. It is comprised of 4 positive items. The items for Factor 5 relate to “setting a friendly and informal climate as a initial step in the learning process. Dialogue and interaction with other students are encouraged” (Conti, 2004, p. 81). The scores may range from 0 to 20, and the factor has a mean of 16 with a standard deviation of 3.0 (p. 91). The scores for the nationally certified sign language interpreters ranged from 0 to 20. The group median was 16; the mode was 16. The mean score was 15.54 with a standard deviation of 3.51, and this is 0.15 standard deviations below the mean for the factor (15.54 - 16 = -0.46; -0.46 / 3.0 = -0.15). The scores were skewed toward the high end with most of the scores ranging from 14-20 (see Figure 8).

Figure 8: Distribution of Factor 5, Climate Building, of PALS for Nationally Certified Sign Language Interpreters



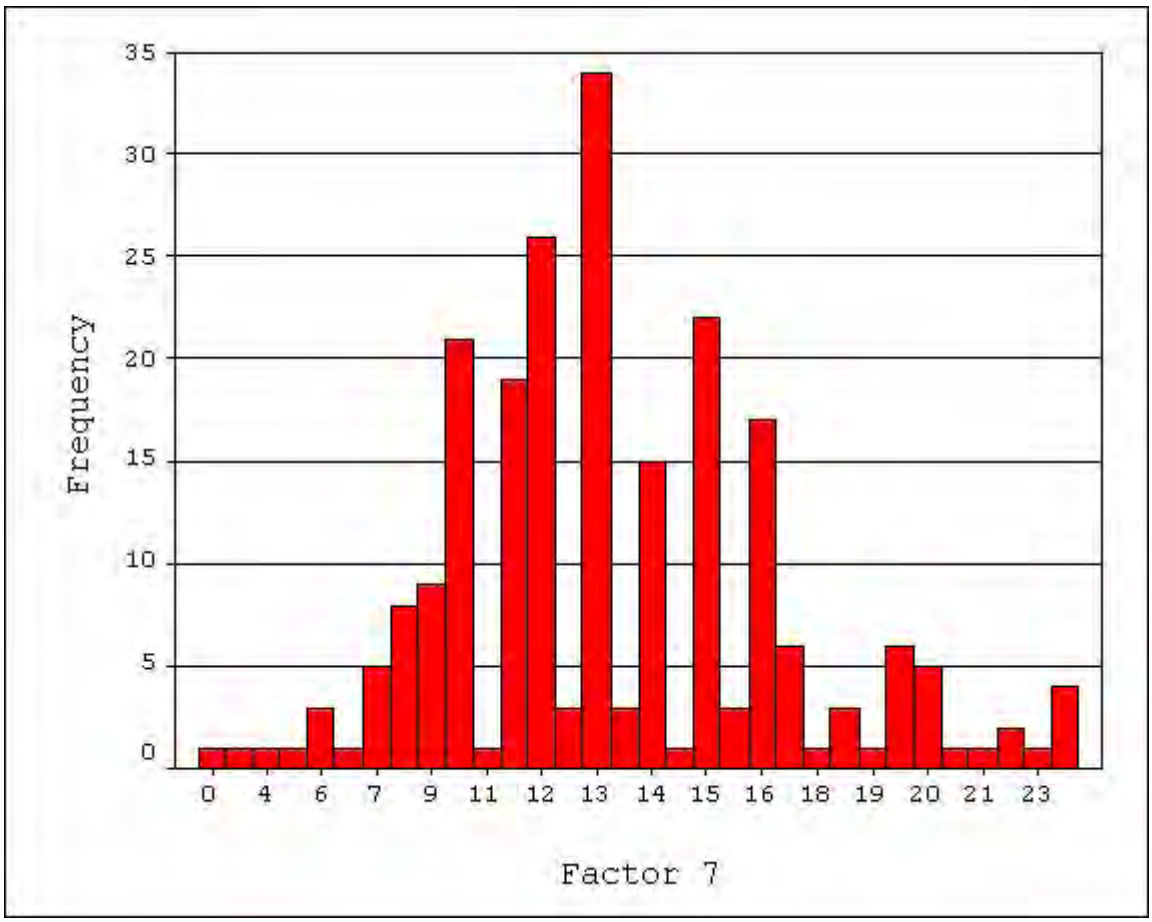
Participation in the Learning Process is the focus of Factor 6. It is comprised of 4 positive items. The items for Factor 6 relate to “the amount of involvement of the student in determining the nature and evaluation of the content material” (Conti, 2004, p. 81). The scores may range from 0 to 20, and the factor has a mean of 13 with a standard deviation of 3.5 (p. 91). The scores for the nationally certified sign language interpreters ranged from 0 to 20. The group median was 12; the mode was 13. The mean score was 12.45 with a standard deviation of 3.32, and this is 0.16 standard deviations above the mean for the factor (12.45 - 13 = -0.55; -0.55 / 3.5 = -0.16). The scores were distributed in a general bell-shaped curve with numerous single responses throughout the entire range (see Figure 9).

Figure 9: Distribution of Factor 6, Participation in the Learning Process, of PALS for Nationally Certified Sign Language Interpreters



Flexibility for Personal Development is the focus of Factor 7. It is comprised of 5 negative items. The items for Factor 7 relate to whether the teachers view themselves “as a provider of knowledge or as a facilitator” (Conti, 2004, p. 82). The scores may range from 0 to 25, and the factor has a mean of 13 with a standard deviation of 3.9 (p. 91). The scores for the nationally certified sign language interpreters ranged from 0 to 25. The group median was 13; the mode was 13. The mean score was 15.54 with a standard deviation of 13.12, and it was .65 standard deviations above the mean for the factor (15.54 - 13 = 2.54; 2.54 / 3.9 = .65). The scores were distributed in a general bell-shaped curve (see Figure 10).

Figure 10: Distribution of Factor 7, Flexibility for Personal Development, of PALS for Nationally Certified Sign Language Interpreters

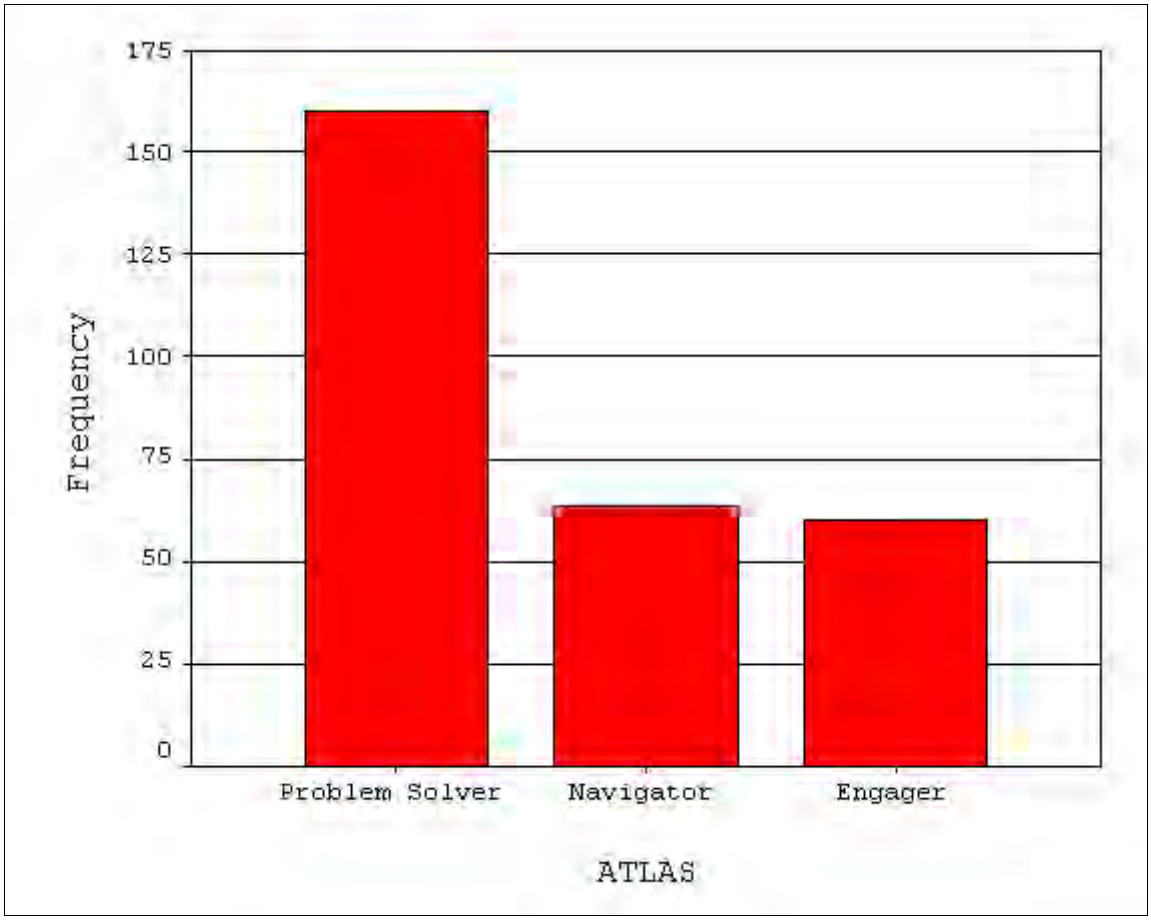


Learning Strategy Preference

A profile of the learning preferences of nationally certified sign language interpreters was constructed. This profile was constructed to address the third research question in the study by utilizing data collected from the Assessing the Learning Strategies of AdultS (ATLAS). ATLAS is a five item instrument which is organized in a flow-chart format. Once the participants navigate the items, learning strategy preference are determined. A person's primary learning strategy preference is the techniques that the person selects to use when engaging in a learning event (Fellenz & Conti, 1989, pp. 7-8). Participants are grouped according to a preferred learning strategy and are identified as a Navigator, a Problem Solver, or an Engager, and "the distribution among the three groups is relatively equal" (Conti & Kolody, 2004, p. 185).

The learning strategy preference distribution for the 284 nationally certified sign language interpreters was as follows: Problem Solvers––160 (56.3%), Navigators––64 (22.5%), and Engagers––60 (21.1%) (see Figure 11).

Figure 11: Distribution of ATLAS Groupings for Nationally Certified Sign Language Interpreters



Data analysis for causal-comparative studies involves "a variety of descriptive and inferential statistics" (Gay & Airasian, 2003, p. 343). Inferential statistics determine "how likely it is that results based on a sample or samples are the same results that would have been obtained for an entire population (p. 588). A common inferential statistical procedure utilized is chi square (p. 343). It compares group frequencies to see if an event occurs more frequently in one group as compared to that of another group (p. 343).

A chi square was calculated to compare the observed frequency of the learning strategy preference distribution of the nationally certified sign language interpreters in this study with the expected frequency distribution on the ATLAS. The expected frequencies for ATLAS are as follows: Navigator––36.5%, Problem Solver––31.7%, and Engager––31.8% (Conti, 2009, p. 5). The distribution of observed frequencies for nationally certified sign language interpreters were as follows: Problem Solvers––160, Navigator––64, and Engager––60. There is a significant difference between the observed distribution of nationally certified sign language interpreters and the expected distribution of the original group used to norm ATLAS ($÷^2$ = 79.7, df = 2, $\underline{p}$ = 7.001) (see Table 3). Among the nationally certified sign language interpreters, there were more

Problem Solvers than expected in one general population. They were over-represented by 77.7% (160 - 90.03 = 69.97; 69.97 / 90.03 = 77.79). Both Navigators and Engagers were under-represented by 38.36% (64 - 103.66 = -39.66; -39.66 / 103.66 = -38.26%), and the Engagers were under-represented by 33.56% (60 - 90.31 = - 30.31; - 30.31 / 90.31 = - 36.56%).

Table 3: Frequency Distribution of ATLAS Groupings for Nationally Certified Sign Language Interpreters

Group	Observed	Expected	Difference
Navigator	64	103.66	-39.66
Problem Solver	160	90.03	69.97
Engager	60	90.31	-30.31

Attitudes Toward Continuing Education

A profile of the attitudes toward continuing education of nationally certified sign language interpreters was constructed. This profile was constructed to address the fourth research question in the study by utilizing data collected from Adult Attitudes Toward Continuing Education Scale (AACES). This scale was developed by Darkenwald and Hayes (1987). AACES is a 22-item instrument that measures the frequency with which an individual supports continuing education. “The scale includes seven attitude-to-situations and 15 attitude-to-objects items” (Darkenwald & Hayes, 1988). Participants respond to the items in AACES on a 5-point Likert-scale with the following options: Strongly

Disagree, Disagree, Undecided, Agree, and Strongly Agree (Darkenwald & Hayes, 1990, p. 160). AACES has a possible range of 22 to 110 with a midpoint score of 66. The individual items comprise a three factor structure, (a) Enjoyment of Learning Activities, (b) Importance of Adult Education, and (c) Intrinsic Value of Adult Education (p. 161). The first factor scale, Enjoyment of Learning Activities, consists of seven items which indicate a "like or dislike of learning situation" (Hayes & Darkenwald, 1990, p. 161). The second factor scale, Importance of Adult Education, consists of nine items which reflect the learners perceived need for adult education globally or individually (p. 161). The final factor, Intrinsic Value of Adult Education, consists of five items which address the respondents opinions of the inherent worth of continuing education (p. 161).

Reliability of AACES

Before the profile of the 292 nationally certified sign language interpreters was examined, two statistical procedures were conducted to investigate the fit of the instrument with the group. First, the reliability of the instrument was checked with the group of nationally certified sign language interpreters to ensure the reliability of the instrument with this particular group

(Gay, Mills, & Airasian, 2009, p. 162). As with PALS, Cronbach's alpha was used for this analysis

For the AACES, the Cronbach's alpha reliability was calculated using the responses on the 22-items for the 292 participants. The alpha reliability coefficient was .90 (p > .0001); when this coefficient is squared, it yields a coefficient of determination (Huck, 2004, p. 68) that indicates that it explains 81% of the variance in the responses. This is well above the coefficient of .7 that is minimally acceptable for test (Gay, 1987, p. 234) and that only accounts for about half of the variance in the test (Huck, 2004, p. 69).

Factor Analysis of AACES

The second check on the fit of the data was a check on the construct validity of the AACES with the 292 nationally certified sign language interpreters who participated in this study. Factor analysis was used for this check.

Statistical analysis is a field of study that is devoted to the collection, organization, and interpretation of data utilizing well-defined procedures (Kachigan, 1991, p. 1). One segment of statistical analysis is multivarient statistical analysis (p. 1). Multivarient analysis is "concerned with simultaneous investigation of two or more variable characteristics which are measured over a set of

objects” (p. 1). Factor analysis is one such statistical technique. Factor analysis is utilized for “removing the redundancy from a set of correlated variables and representing the variables with a smaller set of ‘derived’ variables, or factors” (p. 237). Factor analysis assist in the identification of underlying constructs or abstract underlying dimensions of a set of variables (p. 237). Factor analysis is extremely dependant upon the extent of correlations between variables (p. 241).

Factor analysis is a statical procedure that can identify, extract, and quantify data that can then serve in the interpretation and application of the resulting correlations (Kachigan, 1991, p. 241). By using factor analysis, the researcher can find and determine the number and nature of constructs underlying research instruments (Conti & Fellenz, 1986, p. 73).

A factor analysis was conducted with the responses of 292 nationally certified sign language interpreter utilizing the AACES. Using principle component analysis with a varimax rotation, this analysis the 22 items of the AACES yielded 5 factors. These factors accounted for 56.93% of the variance However, the fifth factor contained only two items, and one of these items had almost an equal loading on another factor. In addition, several of the 22 items shared a high

degree of variance across several factors. Therefore, additional factor analysis was conducted.

The second factor analysis also used principle component analysis with a varimax rotation, but the number of factors was limited to four. These factors accounted for 52.25% of the total variance in the analysis. This analysis also was not useful because several of the items shared a high degree of variance across several factors. Indeed, three of the four items in Factor 4 shared a high degree of variance with at least one other factor. Therefore, additional factor analysis was conducted.

The third factor analysis also used principle component analysis with a varimax rotation, but the number of factors was limited to three. These factors accounted for 47.04% of the total variance in the analysis. This analysis also was not useful. While the first few items with the highest loadings in each factor did not share much variance with other factors, several of the other items in each factor shared a high degree of variance with other factors. Indeed, three of the four items in Factor 4 shared a high degree of variance with at least one other factor. Therefore, additional factor analysis was conducted.

The fourth factor analysis also used principle component analysis with a varimax rotation, but the number

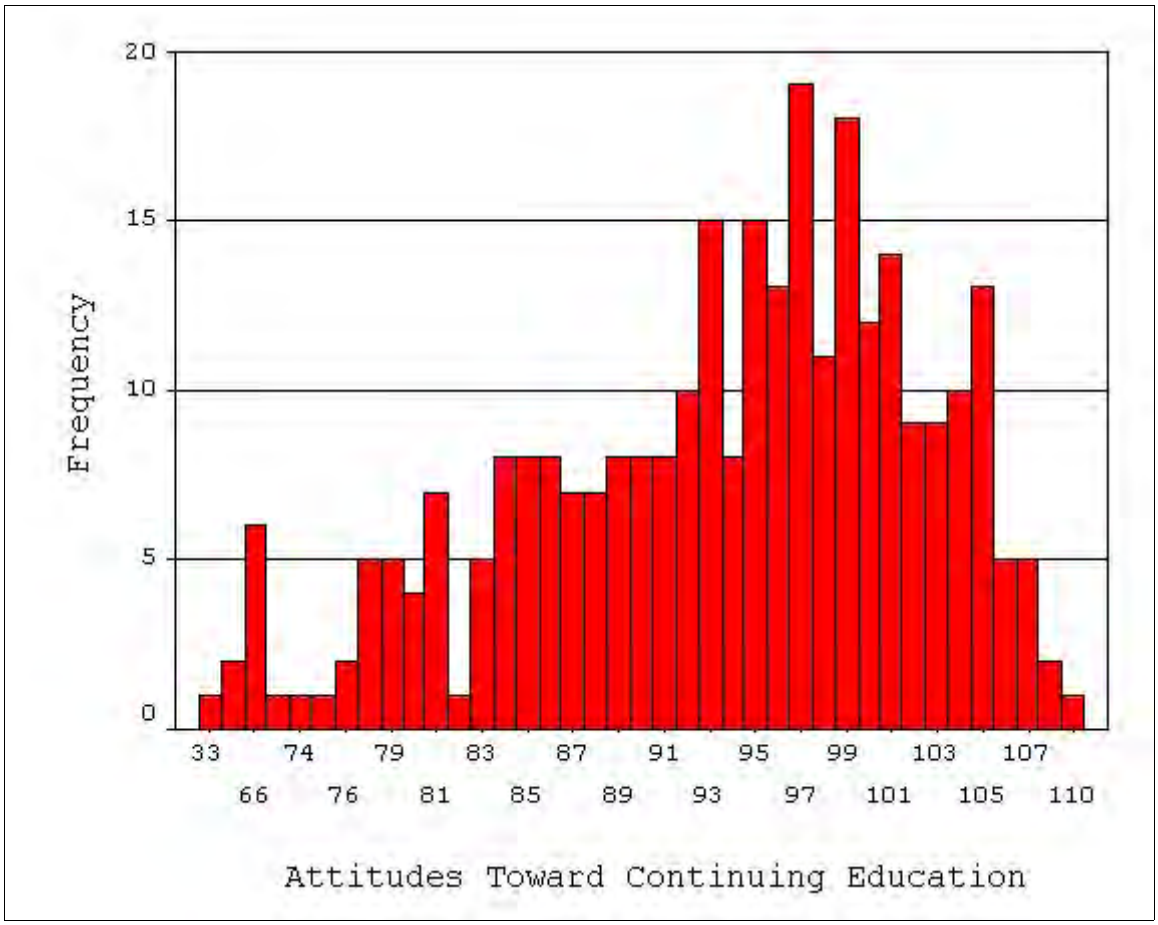
of factors was limited to two. These factors accounted for 41.28% of the total variance in the analysis. Like the 3-factor analysis, this analysis also was not useful. Like the 3-factor solution, the first few items with the highest loadings in each factor did not share much variance with other factors. However, 8 of the 22 items shared a high degree of variance with the other factor. Thus, several factor analysis were conducted to confirm the original construct validity of the instrument as proposed by its authors. Although this sample had more than the usual ratio of 10 respondents for each variable in the analysis, it could neither confirm the factor strictures of the authors of the instrument nor produce a clear structure for this sample.

Profile

AACES frequency scores were calculated for 292 respondents. The scores for these 292 nationally certified sign language interpreters ranged from 33 to 110. The group mean was 93.17 with a standard deviation of 10.0; this represents an average response of 4.23 on the 5-point scale. The sign language interpreters were divided into quartiles to further examine the distribution of scores; the quartiles were distributed as follows: 33 to 88–79, 89 to 95–72, 96 to 100–73, and 101 to 110–68. The first quartile of respondents

was the only group to have a portion of the scores fall at or below the midpoint of the AACES; even though only 9 of the 79 scores were at 66 or below. The remaining 70 scores ranged from 70 to 88. The three remaining quartiles scored far above the midpoint of the instrument, which indicates a positive attitude toward continuing education. Thus, the scores for the AACES were skewed toward the high end of the scale (see Figure 12).

Figure 12: Frequency Distribution of AACES Scores for Nationally Certified Sign Language Interpreters



Profile of Factor Scores

Blunt and Yang (2002)conducted a rigorous examination of the AACES utilizing confirmatory factor analysis on a sample of 458 adult learners (p. 302). They agree that the AACES instrument could be reduced to three factors with each factors consisting of three items. Factor 1 consists of items 9, 15, and 17; Factor 2 consists of items 2, 5, and 18; and Factor 3 consists of items 1, 12, and 20. Blunt and Yang proposed a revised nine-item Revised Adult Attitudes Toward Continuing Education Scale (RAACES) (p. 313). RAACES is comprised of three factors that are similar to the factors proposed by Hayes and Darkenwald, 1990): (a) Enjoyment of Learning, (b) Perceived Importance, and (c) Intrinsic Value (p. 311). They further concluded that these three dimensions of attitude were significantly related to attitudes and participation in adult continuing education (p. 299).

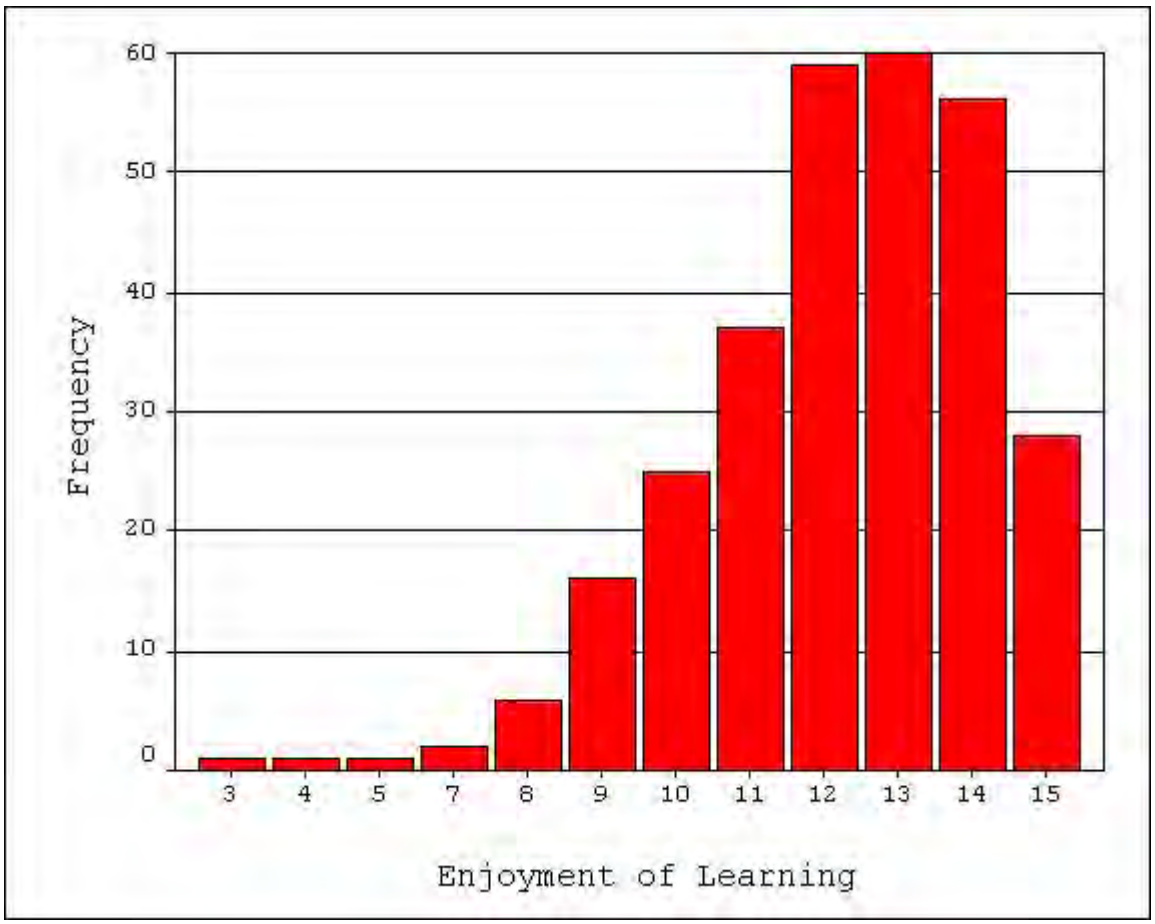
Since the original factors for the AACES could not be confirmed with the sample of nationally certified interpreters and since distinct factors did not exist for this sample, the factors from the RAACES were used to describe the interpreters. This mean for the sample used by Blunt and Yang (2002) was high (M = 86.91) (p. 305) just as it was for the group used to develop the instrument (M =

87.4) (Hayes & Darkenwald, 1990, p. 160). For both of these samples, which used samples made up of adults enrolled in university courses, the mean responses for each item was approximately 4 or “Agree” on the response scale. Blunt and Yang (2002) do not provide mean scores for each of their factors. However, mean scores can be calculated for each factor from the data provided by Blunt and Yang. They report a mean for their sample for each of the factors from the total AACES (p. 305). The mean scores for each scale are as follows: (a) Enjoyment of Learning (27.57), (b) Perceived Importance of Adult Education (36.35), and (c) Intrinsic Value (22.98). Participants in the Blunt and Yang (2002) study averaged about a 4 response (i.e., Agree) for each of the three factor scales: Scale 1 (27.57 / 7 items = 3.94), Scale 2(36.35 / 9 items = 4.04), and Scale 3 (22.98 / 6 items = 3.83). Therefore, the mean for each factor would be approximately 12 (3 items x 4 points = 12).

Enjoyment of Learning is the first factor scale. Scores for the nationally certified sign language interpreters ranged from 3 to 15 for the three items in this factor. The group median score was 12, and the mode was 13. The mean score was 12.22 with a standard deviation of 1.98. The mean score for the interpreters was right at the mean for this factor. The scores were skewed toward the high end with

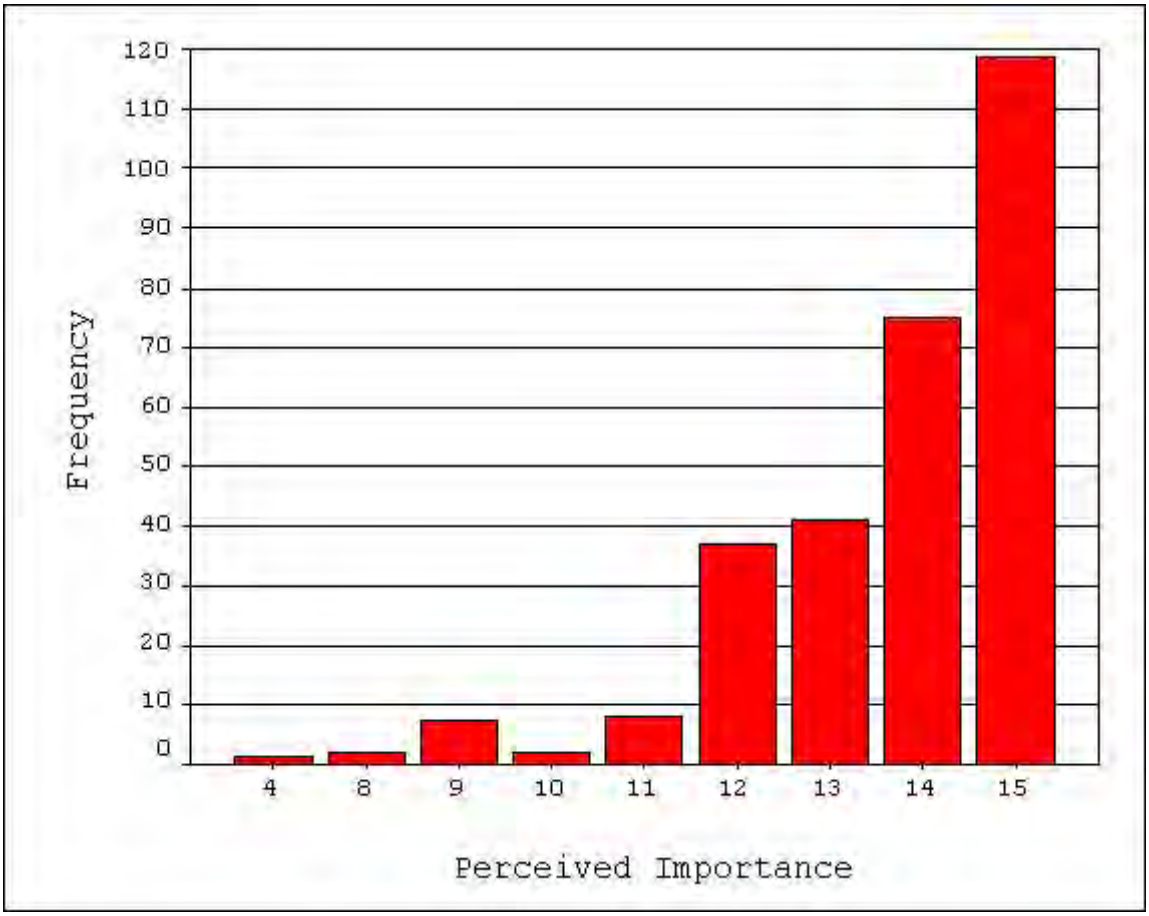
69.5% of the scores distributed between the range of 12 and 15 (see Figure 13).

Figure 13: Frequency Distribution of Enjoyment of Learning for Nationally Certified Sign Language Interpreters



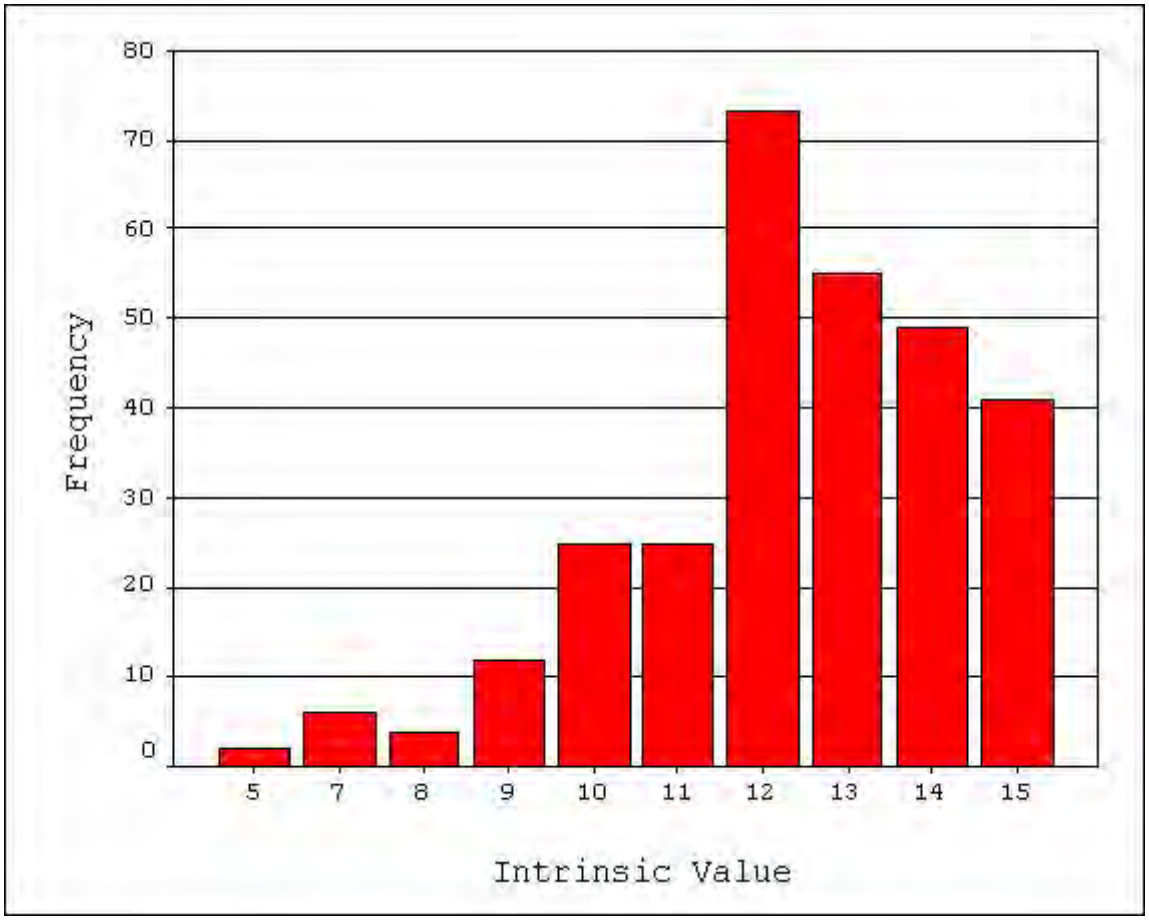
Perceived Importance is the second factor. Scores for the nationally certified sign language interpreters ranged from 4 to 15. The group median score was 14 and the mode was 15. The mean score was 13.71 with a standard deviation of 1.59. Thus, the mean score for the interpreters was higher than the mean response for this factor scale with approximately three-fourths (76.5%) scoring with 14 or 15. The scores were skewed toward the high end with of the scores distributed between the range of 13 and 15 (see Figure 14).

Figure 14: Frequency Distribution of Perceived Importance for Nationally Certified Sign Language Interpreters



Intrinsic Value is the third factor scale. Scores for the nationally certified sign language interpreters ranged from 5 to 15. The group median score was 12 and the mode was 12. The mean score was 12.36 with a standard deviation of 1.97. The mean score for the interpreters was right at the mean score for this factor scale. The scores were skewed toward the high end with 74.7% of the scores distributed between the range of 12 and 15 (see Figure 15).

Figure 15: Frequency Distribution of Intrinsic Value for Nationally Certified Sign Language Interpreters



Relationship to Demographic Variables

Several analyses were conducted to investigate the relationship between each of the instruments used in this study and the demographic variables that were made of personal variables and professional variables. Analysis of variance was used in the analyses using PALS and AACES because these instruments yield scores that are continuous. Chi square was also used in the analyses with PHIL and ATLAS because these instruments produce categorical results.

Analysis of Variance

Analysis of variance (ANOVA) was used to investigate the fifth and seventh research questions. ANOVA is a inferential statistic used for data analysis. “Analysis of variance is used to determine whether there is a significant difference between two or more means at a selected probability level” (Gay & Airasian, 2003, p. 467). The key concept foundational to ANOVA is that the total variance of scores can be separated into two sources: variance between groups and variance within groups (p. 467). These two sources of variance are combined into a ratio that is called the F ratio (Gay, Mills, & Airasian, 2009, p. 341). This ratio uses:

> Group differences as the numerator (i.e., variance between the groups) and error as the denominator (i.e., variance within groups). If the variance between groups is much greater than the variance

> within groups, greater than would be expected by chance, the ratio will be large, and a significant effect will be apparent. If, on the other hand, the variance between groups and the variance within groups do not differ by more than would be expected by chance, the resulting F ratio is small; the groups are not significantly different. (p. 342)

When a significant difference is found, it "tells the researcher only that groups are not all the same" (Gay, Mills, & Airasian, 2009, p. 342); that is, a statistically significant result indicates "that the variability among the full set of sample means is larger than would be expected if all populations means were identical" (Huck, 2004, p. 289). When a significant difference is found, "the researcher must move past the significant ANOVA F and apply a subsequent analysis....which are called, understandably, post hoc or follow-up tests" (p. 289). These tests were developed because the F does not provide any insights into what caused the significant difference (p. 295). The post hoc procedure allows the researcher to explore the data to uncover various combinations that may have caused the differences (p. 295). In this way, the researcher can understand why the hypothesis being tested was rejected (p. 296). There are five commonly used post hoc tests (p. 299) with the Sheffe′ being the most conservative; that is, it provides the greatest control over the Type I error risk in the post hoc analysis (p. 301).

Two important assumptions of ANOVA are that each population involved in the analysis should be normally distributed and that the populations associated with the samples in the study should have the same degree of variability related to the variable being studied (Huck, 2004, p. 255). These assumptions should be addressed before an analysis is conducted, and the sample data can be used to examine these assumptions (p. 256). While there are a variety of statistical procedures that can be used to check these assumptions, “theoretical statistics have shown that a test on means will function very much as it should even if the populations have unequal amounts of variability, as long as....the sample sizes are equal” (p. 260).

The demographic variables in this study consisted of 5 personal variables and 30 professional variables. The responses to these variables for the 292 respondents demonstrated a tremendous amount of variance in the group sizes for most of these variables (see Table 1 and Table 2). The differences in group sizes were so extreme and obvious (e.g., gender–88.4% in one group, hearing status–98.3% in one group, and several professional variables with 92% to 100% in one group) that no statistical procedures or data transformations (Huck, 2004, p. 258) were conducted for these variables. Instead, they were not included in the

analyses because of this disparity in group sizes. As a result, the variables included in the analyses to explore the research questions were the two personal variables of age and education and the four professional variables of participation in a 2-year interpreter training program, having no formal training, holding a Certificate of Interpretation, and holding a Certificate of Transliteration.

The normality of the distribution was checked for these six variables with the Mann-Whitney U Test. Of the 72 analyses (12 measures x 6 variables = 72), only three indicated that the distribution was not equal; these were (a) the Importance of Continuing Education for the groupings on age and on Certificate of Interpretation and (b) Enjoyment of Learning for the groupings on age. Likewise, the Levene's test to check on the equal variance assumption indicated that a similar degree of variability exists for most of the groups for the various measures (see Table 4). The greatest threat to this assumption was for the groupings in education. However, since the groups were large for each of these analyses, no corrections or data transformations were made for the analyses.

Table 4: Tests of Homogeneity of Variances for ANOVA

Measure	Significance					
	Age	Educ	Program	Training	CI	CT
PALS	0.21	0.16	0.64	0.41	0.10	0.18
Factor 1	0.60	0.01	0.64	0.63	0.40	0.29
Factor 2	0.88	0.54	0.73	0.94	0.12	0.33
Factor 3	0.73	0.00	0.91	0.31	0.26	0.08
Factor 4	0.72	0.02	0.35	0.53	0.33	0.13
Factor 5	0.40	0.01	0.74	0.38	0.44	0.28
Factor 6	0.42	0.05	0.39	0.60	0.07	0.02
Factor 7	0.03	0.04	0.18	0.38	0.38	0.13
AACES	0.77	0.31	0.74	0.27	0.10	0.11
Importance	0.03	0.89	0.40	0.83	0.48	0.60
Enjoyment	0.31	0.50	0.49	0.77	0.73	0.90
Value	0.13	1.00	0.72	0.83	0.99	0.57

Age of participants, one of the personal variables analyzed for this research, was grouped by quartiles (see Table 1). The quartiles used were the same as with the general demographic data: 22-38, 39-47, 48-52, 53-71. Using a criterion value of .05, 12 separate one-way ANOVA analyses were calculated: one each for the total score on PALS and on ACCES and one each for the 7 factors in PALS and the 3 factors in ACCES. Of these analyses, only one significant difference was found with Enjoyment of Learning (.002) on the ACCES (see Table 5).

The Scheffe′ post hoc test was utilized to further identify the difference among the age groups for Enjoyment of Learning. The post hoc analyses determined that the four age groups formed two subsets. One group was made up of ages

22-38 (M = 15.7). This mean was much lower than that of the older age group (M = 17.5). This indicated that the older group had a greater enjoyment of learning for continuing education experiences than the younger group. The means for the other groups did not differ significantly for these two subsets.

Table 5: ANOVA of Age Groupings by PALS and AACES

Groups	SS	df	MS	F	p
PALS					
Between	719.47	3	239.82	0.79	0.499
Within	63754.24	211	302.15		
Factor 1					
Between	67.34	3	22.45	0.33	0.801
Within	14212.34	211	67.36		
Factor 2					
Between	264.28	3	88.09	2.33	0.076
Within	7994.32	211	37.89		
Factor 3					
Between	2.35	3	0.78	0.02	0.995
Within	6804.48	211	32.25		
Factor 4					
Between	14.22	3	4.74	0.25	0.861
Within	4001.94	211	18.97		
Factor 5					
Between	20.23	3	6.74	0.58	0.627
Within	2441.89	211	11.57		
Factor 6					
Between	9.44	3	3.15	0.30	0.828
Within	2237.68	211	10.61		
Factor 7					
Between	33.66	3	11.22	0.76	0.519
Within	3121.33	211	14.79		
Attitudes Toward Continuing Education					
Between	123.43	3	41.14	0.46	0.712
Within	24379.68	271	89.96		
Importance of Continuing Education					
Between	16.87	3	5.62	0.64	0.589
Within	2375.32	271	8.77		
Enjoyment of Learning					
Between	86.84	3	28.95	5.09	0.002
Within	1542.52	271	5.69		
Intrinsic Value					
Between	14.67	3	4.89	0.84	0.475
Within	1585.75	271	5.85		

The second personal variable analyzed for this research was the educational level of participants. Because of the small size of some of the original levels of educations it was regrouped into three levels: (a) Less than a Bachelors Degree, (b) Bachelors Degree, and (c) Graduate Degree. Using a criterion value of .05, 12 separate one-way ANOVA analyses were calculated: one each for the total score on PALS and on ACCES and one each for the 7 factors in PALS and the 3 factors in ACCES. There was a significant difference on two PALS factors and one ACCES factor: Factor 4––Assessing Student Needs (.043), Factor 5––Climate Building (.038), and Enjoyment of Learning (.018) (see Table 6).

The Scheffe′ post hoc test was used to identify how the groups differed in each significant analysis. The Scheffe′ is a conservative procedure and indicates that the means are significantly different only when the means are far apart (Huck, Cormier, & Bounds, 1974, p. 64). It is not uncommon for a conservative procedure such as the Scheffe′ to not find very significant differences even though the test of the overall null hypothesis was significant (Roscoe, 1975, p. 315; Sheskin, 2007, p. 876). For the two factors of PALS, Factor 4–Assessing Student Needs and Factor 5––Climate Building, the Scheffe′ indicated that more of the differences among the educational levels was great enough to

be significant. For Enjoyment of Learning, the group with less than a Bachelors Degree (M = 16.10)scored higher than those with a Graduate Degree (M = 17.13). The group with a Bachelors Degree did not differ from either of the other two groups.

Table 6: ANOVA of Educational Groupings by PALS and AACES

Groups	SS	df	MS	F	p
PALS					
Between	1658.05	2	829.03	2.73	0.068
Within	66553.79	219	303.90		
Factor 1					
Between	33.01	2	16.51	0.24	0.784
Within	14856.70	219	67.84		
Factor 2					
Between	194.58	2	97.29	2.51	0.083
Within	8480.85	219	38.73		
Factor 3					
Between	143.20	2	71.60	2.20	0.113
Within	7128.45	219	32.55		
Factor 4					
Between	122.55	2	61.27	3.20	0.043
Within	4194.62	219	19.15		
Factor 5					
Between	81.26	2	40.63	3.32	0.038
Within	2679.59	219	12.24		
Factor 6					
Between	43.36	2	21.68	1.97	0.142
Within	2412.95	219	11.02		
Factor 7					
Between	18.20	2	9.10	0.60	0.548
Within	3307.70	219	15.10		
Attitudes Toward Continuing Education					
Between	444.39	2	222.19	2.55	0.080
Within	24514.28	281	87.24		
Importance of Continuing Education					
Between	15.22	2	7.61	0.89	0.413
Within	2408.15	281	8.57		
Enjoyment of Learning					
Between	47.15	2	23.57	4.09	0.018
Within	1618.22	281	5.76		
Intrinsic Value					
Between	1.80	2	0.90	0.16	0.856
Within	1622.61	281	5.77		

For each of the four professional variables of (a) participation in a 2-year Interpreter Training Program, (b) having no formal training, (c) holding a Certificate of Interpretation, and (d) holding a Certificate of Transliteration, the participants were grouped as either in the group or not in the group. As with the personal variables, 12 separate analysis were conducted for each professional variables.

For the variables of participation in 2-Year Interpreter Programs, the participants were grouped according to those with a 2-Year Interpreter Training Degree (43%) and those without such a degree (57%). Using the established criterion of .05 for ANOVA, there were no significant differences for any of the 12 analysis related to teaching style and attitudes toward continuing education (see Table 7).

Table 7: ANOVA of 2-Year Training Program by PALS and AACES

Groups	SS	df	MS	F	p
PALS					
Between	83.75	1	83.75	0.27	0.601
Within	68460.78	224	305.63		
Factor 1					
Between	45.18	1	45.18	0.68	0.411
Within	14946.37	224	66.72		
Factor 2					
Between	8.77	1	8.77	0.22	0.636
Within	8732.29	224	38.98		
Factor 3					
Between	5.25	1	5.25	0.16	0.689
Within	7335.33	224	32.75		
Factor 4					
Between	17.42	1	17.42	0.90	0.343
Within	4323.44	224	19.30		
Factor 5					
Between	0.13	1	0.13	0.01	0.920
Within	2764.52	224	12.34		
Factor 6					
Between	0.36	1	0.36	0.03	0.858
Within	2481.81	224	11.08		
Factor 7					
Between	0.16	1	0.16	0.01	0.917
Within	3332.37	224	14.88		
Attitudes Toward Continuing Education					
Between	65.82	1	65.82	0.66	0.419
Within	29085.62	290	100.30		
Importance of Continuing Education					
Between	4.12	1	4.12	0.42	0.519
Within	2865.97	290	9.88		
Enjoyment of Learning					
Between	8.30	1	8.30	1.31	0.253
Within	1836.61	290	6.33		
Intrinsic Value					
Between	0.09	1	0.09	0.01	0.903
Within	1688.75	290	5.82		

For the variable of having no formal training, the participants were grouped according to those with formal training (34%) and those with no formal training (66%). Using the established criterion of .05 for ANOVA, there were no significant differences for any of the 12 analysis related to teaching style and attitudes toward continuing education (see Table 8).

Table 8: ANOVA of No Formal Training by PALS and AACES

Groups	SS	df	MS	F	p
PALS					
Between	100.98	1	100.98	0.33	0.566
Within	68443.55	224	305.55		
Factor 1					
Between	11.06	1	11.06	0.17	0.685
Within	14980.49	224	66.88		
Factor 2					
Between	10.46	1	10.46	0.27	0.605
Within	8730.59	224	38.98		
Factor 3					
Between	35.33	1	35.33	1.08	0.299
Within	7305.24	224	32.61		
Factor 4					
Between	8.39	1	8.39	0.43	0.511
Within	4332.47	224	19.34		
Factor 5					
Between	1.66	1	1.66	0.13	0.714
Within	2762.99	224	12.33		
Factor 6					
Between	0.25	1	0.25	0.02	0.880
Within	2481.91	224	11.08		
Factor 7					
Between	0.24	1	0.24	0.02	0.899
Within	3332.29	224	14.88		
Attitudes Toward Continuing Education					
Between	82.34	1	82.34	0.82	0.366
Within	29069.10	290	100.24		
Importance of Continuing Education					
Between	8.04	1	8.04	0.81	0.367
Within	2862.05	290	9.87		
Enjoyment of Learning					
Between	3.15	1	3.15	0.50	0.482
Within	1841.76	290	6.35		
Intrinsic Value					
Between	0.17	1	0.17	0.03	0.864
Within	1688.66	290	5.82		

For the variable of holding a Certificate of Interpretation, the participants were grouped according to those who hold a Certificate of Interpretation (51%) and those who do not hold a Certificate of Interpretation (49%). Using the established criterion of .05 for ANOVA, there were no significant differences for any of the 12 analysis related to teaching style and attitudes toward continuing education (see Table 9).

Table 9: ANOVA of Certificate of Interpretation by PALS and AACES

Groups	SS	df	MS	F	p
PALS					
Between	473.23	1	473.23	1.56	0.213
Within	68071.30	224	303.89		
Factor 1					
Between	19.15	1	19.15	0.29	0.593
Within	14972.40	224	66.84		
Factor 2					
Between	4.64	1	4.64	0.12	0.731
Within	8736.42	224	39.00		
Factor 3					
Between	91.04	1	91.04	2.81	0.095
Within	7249.54	224	32.36		
Factor 4					
Between	9.28	1	9.28	0.48	0.489
Within	4331.57	224	19.34		
Factor 5					
Between	1.39	1	1.39	0.11	0.738
Within	2763.26	224	12.34		
Factor 6					
Between	0.76	1	0.76	0.07	0.794
Within	2481.41	224	11.08		
Factor 7					
Between	5.43	1	5.43	0.37	0.546
Within	3327.10	224	14.85		
Attitudes Toward Continuing Education					
Between	130.67	1	130.67	1.31	0.254
Within	29020.77	290	100.07		
Importance of Continuing Education					
Between	15.06	1	15.06	1.53	0.217
Within	2855.04	290	9.84		
Enjoyment of Learning					
Between	1.23	1	1.23	0.19	0.661
Within	1843.69	290	6.36		
Intrinsic Value					
Between	0.42	1	0.42	0.07	0.788
Within	1688.41	290	5.82		

For the variable of holding a Certificate of Transliteration, the participants were grouped according to those who hold a Certificate of Transliteration (54%) and those who do not hold a Certificate of Interpretation (46%). Using the established criterion of .05 for ANOVA, there were no significant differences for any of the 12 analysis related to teaching style and attitudes toward continuing education (see Table 10).

Table 10: ANOVA of Certificate of Transliteration by PALS and AACES

Groups	SS	df	MS	F	p
PALS					
Between	122.77	1	122.77	0.40	0.527
Within	68421.76	224	305.45		
Factor 1					
Between	51.40	1	51.40	0.77	0.381
Within	14940.14	224	66.70		
Factor 2					
Between	0.27	1	0.27	0.01	0.934
Within	8740.78	224	39.02		
Factor 3					
Between	103.01	1	103.01	3.19	0.076
Within	7237.56	224	32.31		
Factor 4					
Between	24.72	1	24.72	1.28	0.259
Within	4316.14	224	19.27		
Factor 5					
Between	33.94	1	33.94	2.78	0.097
Within	2730.70	224	12.19		
Factor 6					
Between	0.34	1	0.34	0.03	0.862
Within	2481.83	224	11.08		
Factor 7					
Between	2.56	1	2.56	0.17	0.679
Within	3329.97	224	14.87		
Attitudes Toward Continuing Education					
Between	14.21	1	14.21	0.14	0.707
Within	29137.23	290	100.47		
Importance of Continuing Education					
Between	7.02	1	7.02	0.71	0.400
Within	2863.07	290	9.87		
Enjoyment of Learning					
Between	0.11	1	0.11	0.02	0.896
Within	1844.81	290	6.36		
Intrinsic Value					
Between	0.45	1	0.45	0.08	0.780
Within	1688.38	290	5.82		

Chi Square

Chi square tests “compares proportions actually observed in a study with proportions expected, to see if they are significantly different” (Gay, 1996, p. 483). Chi-square is an appropriate statistic to use when the data collected represents a nomianl scale and categories (p. 483). There are two types of chi-square test. The one-dimensional may be used with a single sample while the two-dimensional may be used when more than one category is compared (Gay & Airasian, 2003, pp. 478-479).

Chi square was performed to investigate the fifth research question. It examined the relationship of the participants between PHIL and the two personal variables and four professional variables.

For age, one of the personal variables analyzed, the participants were grouped according to quartiles as with the general demographic data: 22-38, 39-47,48- 52,53-71 (see Table 1). The variables were cross tabbed with five adult education philosophies: (a) Idealism, (b) Realism, (c) Progressivism, (d) Humanism, and (e) Reconstructionism. Using a criterion value of .05, chi-square contingency tables were used to analyze the relationship between age and adult education philosophy. The chi-square ($\div^2 = 10.4$, $df = 12$, $p = .58$) indicated that the pattern of distribution was

due to chance; therefore, no relationship exists between age and adult educational philosophy.

Education, the second personal variable analyzed, was grouped by those who held: (a) less than a Bachelors Degree, (b) Bachelors Degree, and (c) a Graduate Degree. These variables were cross tabbed with the five adult education philosophies of PHIL. Using a criterion value of .05, chi-square contingency tables were used to analyze the relationship between education and adult educational philosophies. The chi-square ($\div^2 = 5.9$, $\underline{df} = 8$, $\underline{p} = .66$) indicated the pattern of distribution was due to chance; therefore, no relationship exists between educational level and adult educational philosophy.

A chi-square test was performed to determine if there was a significant relationship of the participants for the four significant professional variables and PHIL. Research participants were grouped according to the four professional variables analyzed in this research: (a) either participation in a 2-Year Interpreter Training Program or lack of participation, (b) either having formal training or having no formal training, (c) either holding a Certificate of Interpretation or not holding the certificate, and (d) either holding a Certificate of Transliteration or not holding the certificate. Using a criterion value of .05,

chi-square, contingency tables were used to analyze the relationships between each of the four professional variables and adult educational philosophies. After analyses and cross tabulation with PHIL, no significant differences were found for any of the professional variables; therefore, no relationship exists between adult educational philosophy and (a) 2-Year Interpreter Training Programs ($÷^2$ = 5.4, df = 4, p = .24), (b) no formal training ($÷^2$ = 4.71, df = 4, p = .32), (c) holding Certificates of Interpretation ($÷^2$ = .35, df = 4, p = .99), and (d) holding a Certificate of Transliteration ($÷^2$ = 1.48, df = 4, p = .83).

A chi square was performed to determine if here was a significant relationship of the participants between the ATLAS and the two personal demographic variables and the four professional demographic variables. The participants were grouped on six demographic variables as they were for the analysis with PHIL. For ATLAS, they were grouped according to their placement as a: (a) Navigator, (b) Problem Solver, or (c) Engager. Using a criterion value of .05, chi-square contingency tables were used to analyze the relationships between each of the variables and ATLAS. Three significant differences were found.

The chi square test is used to determine if the variables in the analysis are independent of each other

(Gay, Mills, & Airasian, 2009, p. 349). The expected frequencies are the numbers that would be found if the variables are independent of each other; that is, the pattern of distribution of the variables is the same for the groupings of a variable across the levels of other variables in the analysis (p. 349). When a significant difference is found, the “chi-square value tells us, however, only that the patterns are no the same; it does not tell us how they differ’ (Gay, Mills, & Airasian, 2009, p. 350). To explain these differences, a closer analysis of the crosstabulation table is necessary (p. 350). Standardized residuals can help in this process. “The term residual is employed to represent the absolute difference between the expected and observed cell frequencies” (Sheskin, 2004, p. 525). The standardized residual is the residual divided by an estimate of its standard deviation, and standardized residuals allow comparisons of the overall degree of difference between expected and observed cell frequencies (p. 526). Standardized residuals can be computed for every cell of the crosstabulation and allow for the determination of “which cells are the major contributors to a significant chi-square value” (p. 526). The size of the standardized residuals can be related to the tabled critical two-tailed values for Z scores, which directly express how far a score is from the

mean in terms of standard deviations (Gay, Mills, & Airasian, 2009, p. 314). A standardized residual greater than 1.96 is significant at the .05 level, and one greater than 2.58 is significant at the .01 level.

> Any cell in a contingency table which has a significant residual makes a significant contribution to the obtained chi-square value. For any cell that has a significant residual, one can conclude that the observed frequency of the cell differs significantly form its expected frequency. (p. 526)

A significant difference was found between ATLAS and age ($÷^2$ = 21.43, df = 6, p = .002). An examination of the standardized residuals revealed that this difference was due to there being significantly more Navigators in the 22 - 38 year-old group (n = 27, p = .002) than expected and less Navigators in the 53-72 year-old group (n =5, p = .016). Therefore, ATLAS and age are not independent of each other.

A significant difference was also found between ATLAS and educational level ($÷^2$ = 10.97, df = 4, p = .027). An examination of the standardized residuals revealed that this difference was due to there being more Navigators in the Graduate Degree group (n = 30, p = .07) than expected and less Engagers in the Graduate Degree group (n = 12, p = .06). Thus, although the overall chi square indicates that ATLAS and age are not independent of each other, the standardized residuals suggest that this difference is due

to the distribution in the Graduate Degree group, but these differences are significant at a slightly higher .05 criteria used in the chi-square analysis.

Finally, a significant difference was found between ATLAS and holding a Certificate of Interpretation ($\div^2$ = 7.50, df = 2, p = .024). An examination of the standardized residuals revealed that none of the cells differed from chance in their distribution. Although more Navigators (n = 39, p = .27) than expected and less Engagers (n = 22, p = .13) than expected holding the Certificate of Interpretation, the differences from the expected scores were not great enough to be difference from a chance distribution. Therefore, although the overall chi square indicates that ATLAS and holding the certificate are not independent of each other, the standardized residuals suggest that none of the groups differ significantly from chance.

Interaction of Variables

The interaction of educational philosophies, teaching styles, learning strategy preferences, and attitudes toward continuing education was examined with discriminant analysis. Discriminant analysis, a powerful statistical procedure, is utilized “for examining the difference between two or more groups of objects with respect to several

variables simultaneously” (Klecka, 1980, p. 5). It is a multivariate procedure that provides a mechanism to identify which variables significantly contribute to the formation of designated groups. It “focuses upon the groups that exist and the set of discriminating variables that may explain the differences between the groups” (Conti, 1993, p. 91). Discriminant analysis provides a procedure for utilizing categorical criterion variables by using continuous predictor variables to determine group membership (Gay & Airasian, 2003, pp. 322-323). Within the field of Social Science, this statistical tool is used to analyze the interrelationship of these multiple variables to both identify real-life group membership and to explain an individual’s placement in a particular group (Conti, 1993, p. 91).

Profiling the groups is a critical step when designing research which involves discriminant analysis. Group profiles are based upon the discriminating variable which are the “attributes used to distinguish among the groups” (Conti, 1993, p. 92). For the analysis, participants are “grouped according to some meaningful criterion” (Kachigan, 1991, p. 218). The discriminating variables “must be measured at the interval or ratio level of measurement so that means and variances can be calculated” (Conti, 1993, p.

92). These measures make it possible to identify which variables are associated with the criterion variables and subsequently, make it possible to predict values of the criterion variable (Kachigan, 1991, p. 215).

“Discriminant analysis is essentially an adaptation of the regression analysis techniques, designed specifically for situations in which the criterion variable is qualitative rather than quantitative in nature” (Kachigan, 1991, p. 217). To describe the relationship of the variables to participant’s membership in one of the criterion groups, the analysis produces a discriminate function (p. 219). “This is a formula which contains the variables and their coefficients and which can be used to place people in the groups” (Conti, 1993, p. 91). To classify groups or give value to criterion variable groups, the discriminant function uses a weighted consolidation of predictor variable values (Kachigan, 1991, p. 219). It identifies the weights attributed to each predictor variable and establishes the critical cutoff score for group membership (p. 221).

Important components of the analysis outcomes are related to the discriminat function. The strength of the discriminant function is reported using eigenvalues and their canonical correlation. The eigenvalue is the representative number of variables that are associated with

the factor (Kachigan, 1991, p. 246). It summarizes the variance associated with the function, and “large eigenvalues are associated with useful functions” (Conti, 1993, p. 93). A canonical correlation indicates the correlation among both criterion and predicator variables (Gay & Airasian, 2003, pp. 322-323). This correlation expresses the usefulness of the analysis in explaining group differences (Conti, 1993, p. 93). When the canonical correlation is mathematically squared, it explains the proportion of the variation by the groups (p. 93).

The discriminant function places people into groupings (Klecka, 1980, pp. 49-51). These grouping are graphically displayed in a “classification table which indicates the accuracy of the discriminant function in correctly placing people in the correct group” (Conti, 1993, p. 91). When evaluating the meaningfulness of the discriminant function, the actual number and type of errors of the classification must be examined (Kachigan, 1991, p. 230). The data and the “accuracy of the classification results must be interpreted in relationship to that which could be expected from random assignment” (Conti, 1993, p. 94).

Discriminant analysis examines the interaction of variables within the study and is expressed by applying the discriminant function (Conti, 1993, pp. 90-91). The variable

interactions are stated in the discriminant function; however, the nature of the interactions are not revealed. Therefore, a structure matrix is used to “name the discriminant function so that qualitative terms exist to explain the interaction that exist among the variable in distinguishing among the groups” (p. 91). The structure matrix is a graphical display of the “correlation coefficients that indicate how closely a variable and the discriminant function are related” (pp. 93-94).

When a discriminat analysis has been performed, the predetermined criteria for acceptance should be stated. Appropriate criteria for judging a discriminat analysis useful are: (a) that the discrimination function can be meaningfully described using the structure matrix and (b) that a predetermined number of cases are correctly grouped (Conti, 1993, p. 93).

Discriminant analysis was performed to investigate the ninth research question which examined the interaction between educational philosophies, teaching styles, learning strategy preferences, and attitudes toward continuing education. The participants were grouped according to the learning strategy preferences on ATLAS and the discriminating variables were the 44 items from PALS, the 22 items from AACES, and dummy variables for PHIL. A dummy

variable is a binary or dichotomous variable for each level of a qualitative variable; to avoid a collinearity problem, one less dummy variable are used then grouping levels of the qualitative variables (Kachigan, 1991, pp. 187-190). For this analysis, no dummy variables was entered for Idealism while it was the philosophy with the lowest level of support. Wilks' stepwise analysis, the variables are entered into the analysis based on statistical rules with those variables that have the highest correlation with the grouping variables being entered first (Sheskin, 2007, p. 1527).

Two criteria were used to determine the usefulness of the discriminat function produced by the analysis. Initially, the discriminat function had to be at least 75% accurate in correctly classifying the participants. If this criterion was satisfied, the structure matrix needed to clearly describe the separation of groups. While 75% is more than twice the chance placement rate of 33.3%, it was deemed critical because any formula which cannot correctly place at least three-forths of the research participants does not have any practical use with interpreters.

Although 70 discriminating variables were used in the analysis, the analysis produced only one function. The discriminate function was as follows: D = .95 (PALS - 16) -

3.55. The single item in the function was from PALS. Item 16 dealt with individuals using one basic teaching method because they believed most adults have a similar style of learning. Eigenvalues which are large, at least a minimum of 1.0, and are representative of the variables associated with the factors (Kachigan, 1991, p. 256) are considered strong functions. The eigenvalue of the function was .035. This value is extremely low and reflective of a function that lacks power in discriminating between groups. This weakness is also reflected in the low canonical discriminant function of .184. While one may explain the relationship by squaring the canonical discriminant, this value only explains 3% of the variance in the group; because, it does not explain 97% of the variance, the function is weak. The structure matrix further supported that Item 16 from PALS was the only item describing the interaction; the correlation between the item and the discriminant function was a perfect 1.0. Based on the criteria used to evaluate the analysis, the discriminant function was judged not to be useful for discriminating among the groups. As a result, the lack of usefulness is indicative of no meaningful interaction among educational philosophies, teaching styles, learning strategies preferences, and attitudes toward continuing education.

CHAPTER 5

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Summary of Study

Deaf and hearing individuals have long sought communication access with family, peers, and professionals. From this expression of a basic human need for shared communication, the field of professional sign language interpreting has evolved. Individuals have left behind the familial interpreter role and have been transported into the contemporary era of highly educated, skilled, and qualified professional interpreters, whose primary aim is to facilitate this communication process on a new professional plane.

This new professional plane has broadened the scope and function of the sign language interpreter as an individual and collectively as a professional field. As interpreters transverse this new stage, interpreters are no longer solely “an interpreter” but have evolved into educators, trainers, and mentors. As interpreters find themselves functioning within these new parameters, it is critical to gain new knowledge and understanding as it relates to educational philosophies, teaching style, learning strategies, and attitudes toward continuing professional education both individually and collectively.

Sign language interpreting is a field that continues to evolve and demand excellence. This ever changing field has placed great value on continuing professional education. Continuing professional education is an ongoing need and professional mandate for the certified professional sign language interpreter. However, it will be difficult to plan professional development activities for them without a current profile of the contemporary sign language interpreter.

Therefore, the purpose of this study was to describe the educational philosophies, teaching styles, learning strategies preferences, and attitudes toward continuing education of certified sign language interpreters and transliterators. To accomplish this purpose a descriptive research study was utilized.

Data were collected electronically via the Internet from 292 nationally certified sign language interpreters from the National Registry of Interpreters for the Deaf membership list. The interpreters educational philosophies were identified by using the Philosophies Held by Instructors of Lifelong-learners (PHIL), their teaching styles were identified by the Principles of Adult Learning Scale (PALS), their learning strategy preferences were measured by the Assessing The Learning Strategies of AdultS

(ATLAS), and their attitudes toward continuing education were measured by the Adult Attitudes Toward Continuing Education Scale (AACES). In addition, data were collected on the following demographic variables: age, gender, education, certification level, hearing status, and ethnic background.

Using descriptive statistics, numerous analyses were executed to construct a profile of nationally certified sign language interpreters who hold membership in the National Registry of Interpreters for the Deaf on their educational philosophies, teaching styles, learning strategies, and attitudes toward continuing education. Analysis of variance and the chi-square analysis were used to examine the relationships of interpreter's educational philosophy, teaching style, learning strategy preference, and attitudes toward continuing education with the demographic variables. Discriminate analysis was used to examine the interaction between the educational philosophy, learning strategy preference, teaching style, and attitudes toward continuing education. A typical nationally certified sign language interpreter with membership in the national interpreter association was a 45 year-old, Caucasian, female with a normal hearing status. Additional demographic categories reveled the highly educated nature of the field with approximately 90% of participants holding a formal

educational degree and holding either a Certificate of Interpretation or Certificate of Transliteration.

Summary of Findings

Prior to data being analyzed to address the research questions of this study, the reliability of the PALS and the AACES with the sample was analyzed. Cronbach's alpha analyses were conducted for both of the instruments which confirmed the reliability for the use of the instruments with nationally certified sign language interpreters. The PALS instrument has been used in numerous educational research studies in excess of 35 years. Its reliability as a stable standard of measuring the level of an adult education practitioner's learning strategies has been well established by the test-retest method and reconfirming the seven factor division of teaching style. Its reliability is further confirmed by an established Pearson's correlation coefficient of .92. Likewise, AACES, while used in few studies, has a well established reliability. AACES has a reliability coefficient of .92 as determined by the Cronbach alpha and this was the standard followed in this research study.

Profiles

The first research question addressed the educational philosophies of the participants using the Philosophies Held

by Instructors of Lifelong-learners (PHIL). Nationally certified sign language interpreters, while distributed among all five philosophical categorizes, held more to the Humanism philosophy (48.7%). When an individual adheres to this philosophy, the individual views themselves as a facilitator of the teaching-learning process. Realism was the second largest educational philosophy (23.0%) held by these interpreters. Individuals with this philosophy tend to emphasize the concept of practice while consistently providing feedback to the learners while maintaining a structured learning environment. The Progressive philosophy comprised the third largest concentration of interpreters (13.20%). The two smallest groups were the Reconstructionism (9.1%) and Idealism (6.0%) philosophy. Overall, 71% of the interpreters supported a learner-centered approach to education while 29% supported a teacher-centered approach.

The second research question addressed the teaching style of participants using the Principals of Adult Learning Scale (PALS). Due to the nature of the interpreting profession and not viewing themselves as “educators”, 66 (22.6%) of the respondents indicated this instrument did not apply to them. However, of the 226 valid responses, scores ranged from 93 to 190 and were distributed in a general bell-shaped curve; however, numerous single frequency scores

were distributed throughout the range. The group median was 142 and the mean was 140.8 with a standard deviation of 175. This is approximately one-forth of a standard deviation below the normal mean for PALS.

The overall PALS scores are further subdivided in seven factors. These factors are reflective of the collaborative concept to the teaching-learning transaction. Factor 1-Learner-Centered Activities and Factor 6-Participation in the Learning Process scores were generally distributed in general bell-shaped curve with several single scores occurring throughout the entire range. The scores for Factor 7-Flexibility for Personal Development were skewed toward the lower end of the normal bell-curve with numerous single scores. Factors 2-5 were all skewed toward the high end of the normal bell-curve with numerous single scores.

The third research question addressed the learning strategy preference of participants using the Assessing the Learning Strategies of AdultS (ATLAS). Nationally certified sign language interpreters, while distributed among all three learning strategy groups, were overwhelmingly identified as Problem Solvers (56.3%). This is 24.6% above the expected frequencies norm for Problem Solvers. The Problem Solver learning strategy is characterized by a propensity to generate alternatives, identify various

resources, and test assumptions when approaching a new learning task. The remaining interpreters were almost evenly divided between Navigators (22.5%) and Engagers (21.1%).

The fourth research question addressed the attitudes toward continuing professional education of participants using the Adult Attitudes Toward Continuing Education (AACES). The group mean was 43.7 with a standard deviation of 10.0, this represents an average response of 4.23 on the 5-point scale. Only 7 of the 292 scores were below the med point of 66 on AACES. Thus, the interpreters hold a very positive attitude toward continuing education.

A factor analysis with the responses from the interpreters failed to either confirm the original factors of Hayes and Darkenwald or the provide a clear factor structure. Therefore, the factor structure developed by Blunt and Yang was used. The norm for these factors is approximately 4 (Agree) on a 5 point scale. On these factors, the interpreters were near the mean on Enjoyment of Learning and Intrinsic Value of Adult Education and was higher than the mean for Perceived Importance.

Relationships

Research questions five through eight investigated the relationship of the nationally certified sign language interpreters demographic variables to the four instruments

in the study. The demographic variables were categorized as personal or professional. Originally, there were 5 personal variables and 30 professional variables. While many of the variables demonstrated a tremendous amount of variance in the group sizes for most of these variables, the differences in some group sizes were so extreme and obvious that no statistical procedures or data transformation were used (e.g., gender-88.4%, hearing status-98.3%, and several professional variables with 92% to 100%). Therefore, the demographic variables included in the analyses were the two personal variables of(a) age and (b) education and the four professional variables of (a) participation in a 2-year interpreter training program, (b) no formal training, (c) certificate of interpretation, and (d) certificate of transliteration.

ANOVA was used to analyze the relationship (a) between teaching styles as measured by PALS and attitudes as measured by AACES and the (b) demographic variables. Separate one-way ANOVAs were calculated (a) for the total score on PALS and each of the seven factors of PALS, (b) for the total score for AACES and each of the three factors for AACES with each of the demographic variables. Although numerous ANOVAs were calculated, almost no significant differences were found. Of the 12 analyses completed, for

age, no differences for PALS and only one for AACES (Enjoyment of Learning Activities) were found.

Chi square was used to analyze the relationship (a) between learning strategy preference as identified with ATLAS and between educational philosophies as identified with PHIL and the (b) demographic variables. Of the 12 analyses with ATLAS and the demographic variables, only two significant differences were found that could be interpreted. A significant differences was found with ATLAS and age with more Navigators than expected in the 22-38 year-old group and less in the 53-72 year-old group. A difference was also found for educational level with more Navigators than expected with a Graduate Degree and less Engagers than expected.

Twelve analyses were completed with PHIL and the demographic variables. No significant differences were found for either the personal or professional variables.

Interactions

The ninth research question examined the interaction among participants' using PHIL, PALS, ATLAS, and AACES by using discriminate analysis. Of the 224 valid participant responses on the 70 discriminate variables utilized, no meaningful interactions were found between educational philosophies, teaching styles, learning strategy

preferences, and attitudes toward continuing education.

Conclusions

Based on findings of this study, conclusions and recommendations were drawn related to the educational philosophy, teaching styles, learning strategy preferences, and attitudes toward continuing professional education with the caveat that the response rate for the study was approximately 5%:

Interpreters as Educators

1. The field of nationally certified professional interpreters heavily draws individuals with philosophies that support a learner-centered approach to education.

2. The field of nationally certified professional interpreters exhibit typical adult educator diversity in their support of the adult education literature base.

3. Professional sign language interpreters are confused with the concept of “dual” roles.

Interpreters as Learners

1. Professionally certified interpreters have a high positive attitude toward continuing professional education.

2. The nature of the interpreting field and learning strategy preferences are compatible.

Interpreters as Educators

Educational Philosophy

Contemporary interpreters function in dual roles of “interpreter” and “educator.” This dual role is a problem

for the field. Traditionally, interpreters have focused on the “technical side” of the interpreter role. The technical side of the interpreter focuses on the process of communication facilitation. Legislative funding was made available to develop and provide professional development and training for interpreters to teach this facilitation process (Frishberg, 1990, p. 13). However, most of the training focused on the technical side of the interpreter role (p. 14). The educational side of the dual role has not been examined. A vital part of the “educator” role is the interpreter’s personal beliefs about the teaching-learning process and how to go about fulfilling this role. The findings of this study better explain the nature of this dual role.

Professional interpreters are a diverse group in their philosophical beliefs of the teaching-learning process. Although diverse, approximately half of the group supports philosophical views that are congruent with the Humanism educational philosophy. However, approximately one-forth of the group support the Realist position. The remaining groups consist of Progressive (13.2%) and Reconstructionist (9.1%) orientation. When the educational philosophy of nationally certified interpreters is considered, the resultant data indicates that nearly three-fourths (71%) of the group

supports the learner-centered adult education principles.

The Humanistic philosophy of adult education views education as a means to enhance personal growth. The humanistic orientation emphasizes autonomy, freedom, and self-directed learning (Elias & Merriam, 1995, p. 118). One of the loftiest aims of humanistic education is self-actualization, self-improvement, and self-understanding (p. 122). It focuses on the student as the hub of the learning process, the teacher as the facilitator in the teaching-learning process, and the act of learning as an individualized application of the new learning to one's own realities.

As a student-centered philosophy, a Humanistic orientation in education assumes individual student responsibility and choice in the learning process. The concept of personal autonomy is the most significant for professional adult learners (Knowles 1998, p. 135). In addition, within humanistic education, the teacher functions in the role of facilitator not the giver of knowledge. As a facilitator of learning, helping adult learners become more self-directed and autonomous should be the major focus of the teaching-learning transaction (Brookfield, 1984, p. 59).

The interpreter functions as a communication facilitator in the interpreting transaction. The interpreter

creates an environment in which the consumer is autonomous and has opportunity to take information from the communication interaction and assimilate it into one's own realities. "The role of a teacher in a humanistic setting is that of facilitator, helper, and partner in the learning process" (Elias & Merriam, 1995, p. 125).

The Progressive philosophical orientation has had a significant impact on adult education in the United States (Elias & Merriam, 1995, p. 45). Progressivism is a learner-centered orientation which emphasizes experience and social reform and was advocated by adult educators like Lindeman and Houle (Elias & Merriam, 1995, p. 45). Progressive education evolved from the belief that education could solve the problems of society and increase the specific skills of the individual (p. 47). Its greatest ideal for education was democracy. Education also serves to free the learners so their individualized potential might be realized for the betterment of society and culture (p. 47). Many forms of adult education evolved from this school of thought such as education for social action and adult vocational education.

Those with this orientation encourage individual differences and independence. They apply knowledge gained to real-life situations, emphasize experience, and engage the learner in activities that reflect decision making

behaviors.

Reconstructionism is a philosophical orientation that believes education can bring about social, political, and economic changes in society (Elias & Merriam, 1995, p. 139). It can serve to reconstruct society. This philosophical orientation supports concepts of adult education as a change agent to current views of culture and its often oppressive nature to human freedoms and dignity (p. 171). This orientation is futuristic and reflective of alternatives for ensuring social change (p. 171). Reconstructionism is learner-centered with the role of the teacher being one of assisting students in recognizing social ills and developing lifelong learning skills. Only a small percentage of interpreters held this view; however, they contributed to the learner-centered majority of interpreters.

Interpreters in this study, nearly three-forth (71%), align with Humanism, Progressive, and Reconstructionism educational philosophies. These philosophies form the underpinning of adult learning principles. Thus, overwhelmingly the field is open to adult learning principles which position them for greater understanding of the “educator” role. Leadership within the field should look at this role and determine ways to involve the field in a professional dialogue related to the “educator” role of the

professional interpreter.

The Realist orientation was held by approximately one-forth (23%) of the group. Realist such as Watson and Skinner believe that all behavior is a result of prior learning and is determined by external forces in the environment of which the individual has little or no control. Watson believed that human behavior could be studied and measured via scientific methods but that the affective domains of feelings and attitudes could not be measured. Realist in adult education “would define adult education in terms of changes in behavior brought about by the educational process” (Darkenwald & Merriam, 1982, p. 39). This orientation is congruent with the teacher-centered philosophy. Realist support the concepts of overt, observable behaviors as opposed to the personal development of the individual. The role of the teacher is to design and present information in a structured manner as to accomplish a set of predetermined objective criteria. These objectives are competency driven and accountability of learning lies within the control of the student. The emphases of learning is based on the outcomes of the learning rather than on the process of learning.

The Realist philosophy is congruent with the “technical” side of the professional interpreter. This

segment of professionals have a different view of education than do the Humanist. These interpreters tend to view learning and education differently. Those who hold the Realist philosophy view the teacher as the “contingency manager, an environmental controller or behavioral engineer” (Elisa & Merriam, 1995, p. 88). The teacher presents skills-based learning objectives that are tangible and practical for the learner to enhance interpreting skills.

Professional educational training of interpreters had its genesis in the field of Vocational Rehabilitation (Frishberg, 1990, pp. 11-14) which is intensely centered upon regulations and specific outcomes (O’Brien, 2001). As a competency based field, the Registry of Interpreters for the Deaf instituted competency based continuing education training for professional interpreters. This was a way to meet the escalating demands for competent, qualified interpreters created by the Vocational Rehabilitation Act of 1973, and the Americans with Disabilities Act. Interpreter skills development gradually intensified in order to reach expected levels of expertise. Likewise, the implementation of mandatory, competency-based continuing education requirements “as a way of ensuring practitioners maintain their skill levels and keep up with the developments in the interpreting field” (RID, n.d.) served to solidify the

“technical” side of the interpreter role as opposed to the “educator” role. With governmental mandates and educational programs being a strong contributor to the field of interpreting, one might have expected a larger group than one-fourth to ascribe to this philosophy. While this is comparatively a small group of interpreters that align with the Realist orientation, several of the respondents were very vocal in their position of not recognizing the “educator” side of the interpreting field.

Teaching Style

The Principles of Adult Learning Scale (PALS) was developed to measure the extent to which practitioners support the collaborative mode of teaching-learning (Conti, 1982, 1983, 1985). Of the 292 participants in the study, 226 completed PALS. With a median of 142, approximately half of the nationally certified interpreters were above the norm of 146 for PALS, and approximately half below the norm. Interpreters indicated some commitment to a teacher-centered approach, some commitment to the learner-centered approach, and a large group that is eclectic in their teaching style. Therefore, when compared to the normed data for PALS, the interpreters exhibited typical adult educator diversity for those who were not hostile to the “dual role” concept. Since this group acts like typical adult educators, continuing

education should focus on teaching the interpreters about adult learning principles and how to combine the learning principles with their educational philosophies in order to implement effective teaching styles based not only what they are to do but also on an awareness of the principles and reasons for acting. Realist, for example, believe in defining instructional objectives. However, adult learning principles purport that learner needs should be taken into consideration. Therefore, Realist need to determine how to assess learner needs before defining objectives.

In the study, approximately one-quarter of the group was extremely hostile to the “dual role” concept of interpreters. More specifically, 66 (22.6%) of the nationally certified sign language interpreters were so alienated by the concept of being an “educator” that they refused to take the instrument. They further expressed their opposition to the “educator” role by communicating via emails their hostility of the “educator” concept. This is a clear indication that this group does not view themselves as “educators”. They do not see any connection between the “technical” role of the interpreter communicating a physical message and the “educator” role.

“Adult education can be defined from two different perspectives–that of programming and that of process”

(Knowles, 1980, p. 25). Adult education involves an organized development of activities carried on by institutions; however, process adult education centers around the “acquisition of new knowledge, understanding, skills, attitudes, interest, or values” (p. 25). It is the process perspective of adult education that is addressed by the “educator” side of nationally certified sign language interpreters. The “educator” side of the interpreter serves as the language processor and language model for the deaf individual.

Communication is the vehicle through which new knowledge, understanding, skills, attitudes, values, and cultural awareness is expressed. However, communication cannot occur void of language whether that is verbal or non-verbal. It is the “educator” side of the interpreter that is the language processor and ultimately the medium of education for the deaf individual.

When serving in the “technical” role, the interpreter is the communication facilitator. In this role, the interpreter is producing a visible or audible representation of the linguistic exchange. The interpreter produces and delivers a clear, exact, signed language-equivalent message; however, the “technical” role is secondary to the “educator” role.

The “educator” side of the interpreter is the language processor. The interpreter takes in the message via the source language, identifies the deep structural meaning, applies contextual meaning and schema, and cognitively formulates an appropriate language equivalent message. This language processing demands higher order cognitive competencies which drive adult teaching-learning concepts.

As the language processor, interpreters use analysis, syntheses, and evaluation to determine the deep construct meaning of the physical massage. The message and meaning is filtered through the interpreters own life-experiences (Humphrey & Alcorn, 2001, p. 10.12). Discovering deep structure meaning also requires the interpreter to be aware of personal beliefs and values (p. 10.12). Personal and professional beliefs, attitudes, and values influence language process output. These same characteristics are reflective of the “educator” side of the interpreter. Knowledge about principles and practices, knowledge of self, knowledge of the consumer, knowledge of content, and knowledge of process models contribute to the interpreting process (Humphrey & Alcorn, 2001, pp. 10.12-10.14) and contribute to the “teaching style” of the interpreter. The interpreter as “educator” must know how individual personal beliefs, values, and attitudes impact the communication

exchange and the interpreting event which constitutes the learning environment. The “educator” side of the interpreter linguistically processes the communication exchange which serves as a linguistic model for the deaf individual.

Language Development

Albert Bandura, a social learning theorist, has contributed much to the understanding of the development of language and cognition based on social learning. Social learning theory “posits that people learn from one another, via observation, imitation, and modeling” (www.learning-theories.com). This theory is related to the social development theory of Vygotsky. His work has been directly related to language learning of deaf individuals.

Ninety percent of deaf children are born to hearing parents. With these individuals, language acquisition is a challenge. The deaf individuals initial exposure to language is spoken English. When unsuccessful, parents often begin to use sign language for rudimentary communication and language development. According to Vygotsky, parents may learn sign language; however, complex language learning is limited by the inability of the parents to model the deep structural meaning of language (Nowell & Marskhak, 1994, p. 16). Therefore, much language learning occurs when interpreters, as language models, are involved in a communication event

with the deaf individual. The deaf individual observes the language process model, engages in the communication event, builds cognitive and linguistic confidence, and assimilates the learning for subsequent use. The “educator” interpreter is modeling the language usage and process for the deaf individual. Likewise, when an interpreter is interpreting for a native user of the language, the interpreter processes, incorporates, and utilizes the language presented by the individual to ensure effective communication and language processing.

“Interpreting is not merely transposing from one language to another. Rather, it is, throwing a semantic bridge between two cultures, two different thought worlds” (Namy, 1977, p. 2). The “educator” side of the professional sign language interpreter is equipped to effectively bridge the chasm between the deaf culture and hearing culture and between the visual-spatial thought world and auditory thought world.

Continuing Education for Interpreters

Interpreter Attitude Toward Continuing Education

Recent studies support the view that attitudes toward continuing education are one of the most influential variables related to participation in continuing education activities (Cervero, 1990, p. 163). Therefore, one avenue of

inquiry in this study examined interpreter attitudes toward continuing professional education. Hayes and Darkenwald (1990) proposed three factors as significant constructs related to attitudes and participation n adult continuing education: (a) Enjoyment of Learning Activities, (b) Importance of Adult Education, and (c) Intrinsic Value of Adult Education. While the factor norms are high on the Adult Attitudes Toward Continuing Education Scale (AACES), interpreters were at the norm on Enjoyment of Learning Activities and Intrinsic Value of Adult Education; yet they were above the norm on the Importance of Adult Learning. This attitude reflects the perceived need for education for one's self and for adults in general (p. 162). Although continuing education is mandatory for maintenance of professional certification, these interpreter attitudes are indicative of a strong support, a perceived need, and a high value of continuing professional education within the field. These attitudes provide the foundation for practical and professional growth.

The interpreters high regard for continued training and the national organization's call for excellence in service provision through the pursuit of lifelong learning (RID, n.d.) provide a primed platform from which the "dual" nature of the field can be explored. While most interpreters are

comfortable with the concept of the “technical” role, many are confused and resistant to the concept of an interpreter functioning in an “educator” role. As professionals, interpreters must strive to advance professional understanding and practice from the traditional to the contemporary.

The AACES scores indicate that the interpreters are open and receptive to continuing professional development. An understanding of the “educator” role is paramount to the field of interpreting and can be clarified by utilizing adult learning principles. Therefore, continuing education activities should be designed to help interpreters gain a better understanding of the “educator” role and to reflect upon the implications of their role for the field.

Interpreters as Learners

The success of continuing education largely depends upon the design on the programs. When designing workshops, training, or curriculum for the training of interpreters, one must know the individual as a learner. Learning strategy preferences, which deals with how the interpreter perceives information related to the learning task, could be utilized. In adult education research, there are three distinct patterns related to the preferences that adults have for initiating a learning activity (Conti, 2009). These groups

are identified as Problem Solvers, Navigators, and Engagers.

The field of professional sign language interpreting is a diverse, fluid, and inherently alternative-generating field. In this study, a disproportionally large number of professional interpreters were Problem Solvers. The diverse nature of the field may have drawn individuals into the field. Although many interpreting events have common elements, many are unique. Whether common or unique, each event will require critical, spontaneous judgements to be made. Interpreters will assess the interpreting task, assess the language demands of the task, determine the process model to be used for the task, and assess appropriate environmental and cultural alternatives when approaching the task. Subsequently, the interpreter will evaluate the productivity of prior decisions and make mental adjustments for future decisions.

Interpreters are decision-makers and problem solvers. These problem solving activities require the use of critical thinking skills (Humphrey & Alcorn, 1994 p. 12.17). Likewise, interpreters whose learning preference is a Problem Solver “rely heavily on a reflective thinking process which utilize higher order thinking skills” (Conti & Kolody, 2004, p. 186). These higher order cognitive skills place the interpreter into the “educator” role. The number

of Problem Solvers in the field is indicative that problem solving techniques work and are necessary skills for success within the field. As supported by the professional Code of Conduct, interpreters endeavor to advance their decision-making skills through experience and professional development (Humphrey & Alcorn, 1994, p.12.17). Therefore, problem solving and advanced problem solving activities need to be provided for interpreters in an effort to identify and enhance the critical thinking skills which aligns with the "educator" side of the dual roles.

The second largest group were Navigators. Navigators are focused learners. They systematically approach the learning process with order, structure, and efficiency. Navigators prefer organized learning events, delineated goals, and definite clearly-communicated expectations. Navigators fit well with the competency-based continuing education requirements of the field. Each learning activities must delineate the educational outcomes or measurable and observable objectives. Navigators are results oriented and seek logical connections. They are internally driven to attain perfection, are excessively self-critical of errors they produce, and need time to process any external critique of their work. This learning strategy aligns with the "technical" role of the interpreter. They

are most often concerned with learning specific standard responses to ethical and linguistically situations. , enhances the sense of perfection and diminishes the likelihood of internal or external critique. They may tend to adhere strictly to the professional Code of Conduct because their ability to generate alternatives, in response to the interpreting event, is not their typical approach. Therefore, their training should focus on “brainstorming” activities that will help the interpreter to enhance problem solving skills and creative thinking. These skills may help the Navigator more effectively deal with variety of interpreting situations and move them toward an understanding of the “educator” role.

Engagers are passionate learners and learn best when they are actively involved in the learning task. They want involvement with the content, the environment, and the teacher. They begin learning tasks from the affective domain. They use the reflective process to consider if they will enjoy the activity enough to participate. However, the ultimate goal of the learning task is to establish relationships with others.

The nature of the field can be conducive to each learning strategy. Professional interpreting affords individuals with a variety of interpreting settings in which

they can engage, interact, and network. This is appealing to both the Problem Solvers and the Navigators. While Engagers are under-represented in the field, professional educational training could focus on the interactive nature of the field. Training can be developed in which interpreters can be involved in and emotional attached to the learning task. Create activities that address the alternative generating nature of the field which can address the learning strategies of Problem Solvers. This will allow exploration and advancement toward an understanding of the “educator” side of the interpreter.

A Model Training Session

One way of training interpreters about the educator role in the field is through a 1-day workshop. Such a workshop could be conducted by the national association or by training programs such as the one at East Central University.

An all day training session to address this purpose would be conducted to deal with the following topics: (a) Interpreters as Educators: Do We Do More Than Just Transmit Words? (b) Improving Your Technical Skills, (c) Consumers as Learners, (d) Facilitating Learning in Our Consumers, and (e) Developing Your Personal Professional Development Plan.

The first topic, “Interpreters as Educators: Do We Do

More Than Just Transmit Words?", would deal with the "dual" nature of the field. Participants could be ask to participate in a brainstorming activity to generate a list of all the things they do as interpreters. Working in groups, the participants would place each of the generated items in either the "technical" or the "educator" category. This brainstorming task would be very natural for the Problem Solvers. Although generating alternative is not as natural for the Navigators, this activity would provide structure for them in the development of the list and would encourage broader thinking about the topic. The group format will serve to actively pull in the Engagers and provide an arena for greater interaction. After the list of activities is generated, the participants should be asked to discuss the items to identify common themes in each category and further reflect upon the idea of "dual" roles within the field.

The second topic would be "Improving Your Technical Skills." This session will be a traditional skill-building activity. The activity would address a well-defined grammatical feature of American Sign Language designed to enhance participant's sign production. The facilitator would utilize large and small group work to introduce, apply, and practice the skill. The continual rotation of members from

each group would provide an opportunity for everyone to participate in all groups. Problem Solvers and Engagers should work well in this type of interactive group format. This session again would provide an opportunity for Navigators to work in groups while being able to receive immediate feedback about the learning task. The participants would then create a brief scenario illustrating the skill learned and sign it to the larger group.

The third session would look at the “Consumers as Learners”. Through activities the participants will experience the “educator” side of the interpreter. Participate would be involved in a collaborative effort to analysis a piece of source language text to determine the deep structural meaning and compile a listing of possible linguistic equivalent statements within the source language. After determining the most appropriate equivalent message, that message would then be manually produced in the target language. This higher-order language processing exercise places the interpreter into the “educator” role.

The forth session would look at “Facilitating Learning in Our Consumers”. The participants will explore and assimilate two foundational tenants of adult learning principles: andragogy and self-directed learning. Activities will center upon characteristics of adult learners, learner-

centered educational environments, and adults as self-directed learners. Participants will examine these constructs and relate the concepts to professional interpreters as adult learners.

The fifth session would look at “Developing Your Personal Professional Development Plan”. This session will ask participants to reflect upon the adult learning principles previously explored, to collaborate with group members, and to develop a plan for professional development. This activity should meet the learning needs of all participants. The Engagers and Navigators will enjoy the collaboration and the opportunity to formalize a plan for professional development while ensuring the Problem Solvers will be unable to postpone the development of their personal plan of learning.

“True professionals know not only what they are to do but also are aware of the principles and reasons for acting” (Elias & Merriam, 1995, p. 9). Thus, awareness of their beliefs about the teaching-learning transaction and knowledge concerning how they learn can cognitively and professionally enable the interpreters to embrace the “educator” role as strongly as they have traditional embraced the “technical” role. Then as a profession, they can understand their colleagues on an informed basis. A

greater understanding of their colleagues, both individually and collectively, fosters respect and can give rise to innovative and student-centered professional learning experiences.

Reflections on the Conceptual Framework

"No researcher, regardless of disciplinary orientation, enters a research setting as a tabula rasa, unencumbered by preconceived notions of the phenomenon that he or she seeks to understand" (Gay, Mills, & Airasian, 2009, p. 429). These theoretical frameworks are derived from the nature of the field and from the literature base (p. 429). The guiding conceptual framework for this research was created from knowledge of the professional field, knowledge of adult education, and knowledge of teaching principles. Collectively, these are reflective of the "dual role" function of professional sign language interpreters. While this concept can be derived from the knowledge base for interpreting and its associated fields, this conceptualization created resistance within this study as evidenced by those individuals who expressed attitudes of hostility toward the "dual role" concept. This reaction, which was expressed by so many of the participants and which may have caused others to not participate in the study, necessitates a reconsideration of the conceptual framework

for this study.

The strenuous denial of the educator role is clearly an issue related to attitude. Part of this resistence may be due to the use of the term “educator”. Education and interpreting are separate professions, and the way that interpreting was equated with education in the description of the “dual roles” to the interpreters may have alienated some of those contacted to participate in this study. In discussing the concept of “dual roles”, sensitivity to the term “educator” as a part of a professional interpreter role could possibly be diffused by utilizing the concept of the “multifaceted” roles of interpreters. This inclusive term is representative of the varied roles in which the professional interpreter may engage.

However, the underlying implication of the resistence to the “dual role” concept as conceived in this study is the issue of attitude. Although recommendations were made for training based upon the findings of this study, the success of any such training is highly dependent upon the attitude of the participants. While the interpreters are very supportive of continuing education activities, adult learning principles suggest that the adults must be open to the training before it can be successful. This implies that continuing professional education training must begin with

an understanding of this attitude. Therefore, further research is needed related to the elements that make up the concept of the “dual role” to determine if it truly exists, and if these “dual roles” do exist, research is needed to more accurately describe it.

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Appendix A

Instruments

Adult Attitudes Toward Continuing Education Scale

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

1. Continuing education helps people make better use of their lives.
2. Successful people do not need continuing education.
3. I enjoy participating in educational activities.
4. Education for adults is less important than education for children.
5. Continuing education is mostly for people with little else to do.
6. The need for education continues throughout one's lifetime.
7. I find learning activities stimulating.
8. Participating in continuing education is a good use of leisure time.
9. I dislike studying.
10. Going back to school as an adult is embarrassing.
11. More people should be encouraged to participate in continuing education.
12. Continuing my education would make me feel better about myself.
13. Continuing education would not be of any benefit to me.
14. Continuing education is not necessary for most adults.
15. I'm fed up with teachers and classes.
16. Being in a classroom makes me feel uncomfortable.
17. I enjoy educational activities that allow me to learn with others.
18. Money spent on continuing education for employees is money well spent.
19. For me, continuing education is less important than my leisure activities.
20. Continuing education is an important way to help people cope with changes in their lives.
21. The best way for adults to learn is to attend continuing education programs.
22. I can learn everything I need to know on my own without participating in continuing education.

Assessing The Learning Strategies of AdultS

Directions: The following statements relate to learning in real-life situations in which you control the learning situation. These are situations that are **not** in a formal school. Instead, these are situations like learning things related to learning to operate a new computer program or learning for your professional development. For each statement, select the one answer that best fits you. Some of the items make look similar to you, so it is important that once you respond to an item, do not go back and change any items.

1. When considering a new learning activity such as learning a new craft, hobby, or skill for use in my personal life:
    ____a. I like to identify the best possible resources such as manuals, books, modern information sources, or experts for the learning project.
    ____b. I usually will not begin the learning activity until I am convinced that I will enjoy it enough to successfully finish it.

2. It is important for me to:
    ____a. Focus on the end result and then set up a plan with such things as schedules and deadlines for learning it.
    ____b. Think of a variety of ways of learning the material.

3. I like to:
    ____a. Involve other people who know about the topic in my learning activity.
    ____b. Structure the information to be learned to help remind me that I can successfully complete the learning activity.

4. I like to:
    ____a. Set up a plan for the best way to proceed with a specific learning task.
    ____b. Check out the resources that I am going to use to make sure that they are the best ones for the learning task.

5. I like to:
    ____a. Involve other people who know about the topic in my learning activity.
    ____b. Determine the best way to proceed with a learning task by evaluating the results that I have already obtained during the learning task.

Philosophies Held by Instructors of Lifelong-learners

Directions: For each of the following four items, select the one response that most closely reflects your beliefs.

1. When I am helping someone learn, I seek to create a learning environment that has content and learning activities that are:
   ____a. Controlled with careful analysis by me of the material to be covered and concepts to be taught so that learners can systematically move toward the learning objectives.
   ____b. Considerate of the learner's needs so that each learner can explore and make educational decisions in consultation with me.

2. I believe that people learn best:
   ____a. From expert instructors who know what they are talking about.
   ____b. From instructors who emphasize practice and continually provide feedback to the learners.

3. I believe that educational activities should:
   ____a. Start with the instructor planning activities by identifying problems that can be solved by the instruction.
   ____b. Involve the learner in making key decisions in consultation with the instructor about what to include in the educational activity.

4. I believe that the effective instructor:
   ____a. Capitalizes on the learners' feelings during the learning process to accomplish the learning objectives.
   ____b. Helps learners increase their awareness of significant social and political issues so that they can have an impact on these situations.

Principles of Adult Learning Scale

Directions: The following survey contains several things that a teacher of adults might do in a classroom. You may personally find some of them desirable and find others undesirable. For each item please respond to the way you most frequently practice the action described in the item. Your choices are Always, Almost Always, Often, Seldom, Almost Never, and Never. On your answer sheet, circle 0 if you always do the event; circle number 1 if you almost always do the event; circle number 2 if you often do the event; circle number 3 if you seldom do the event; circle number 4 if you almost never do the event; and circle number 5 if you never do the event. If the item **does not apply** to you, circle number 5 for never.

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

1. I allow students to participate in developing the criteria for evaluating their performance in class.
2. I use disciplinary action when it is needed.
3. I allow older students more time to complete assignments when they need it.
4. I encourage students to adopt middle-class values.
5. I help students diagnose the gaps between their goals and their present level of performance.
6. I provide knowledge rather than serve as a resource person.
7. I stick to the instructional objectives that I write at the beginning of a program.
8. I participate in the informal counseling of students.
9. I use lecturing as the best method for presenting my subject material to adult students.
10. I arrange the classroom so that it is easy for students to interact.
11. I determine the educational objectives for each of my students.
12. I plan units which differ as widely as possible from my students' socio-economic backgrounds.
13. I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions.
14. I plan learning episodes to take into account my students' prior experiences.
15. I allow students to participate in making decisions about the topics that will be covered in class.
16. I use one basic teaching method because I have found that most adults have a similar style of learning.
17. I use different techniques depending on the students being taught.
18. I encourage dialogue among my students.
19. I use written tests to assess the degree of academic growth in learning rather than to indicate new directions for learning.

20. I utilize the many competencies that most adults already possess to achieve educational objectives.
21. I use what history has proven that adults need to learn as my chief criteria for planning learning episodes.
22. I accept errors as a natural part of the learning process.
23. I have individual conferences to help students identify their educational needs.
24. I let each student work at his/her own rate regardless of the amount of time it takes him/her to learn a new concept.
25. I help my students develop short-range as well as long-range objectives.
26. I maintain a well-disciplined classroom to reduce interferences to learning.
27. I avoid discussion of controversial subjects that involve value judgments.
28. I allow my students to take periodic breaks during the class.
29. I use methods that foster quiet, productive, deskwork.
30. I use tests as my chief method of evaluating students.
31. I plan activities that will encourage each student's growth from dependence on others to greater independence.
32. I gear my instructional objectives to match the individual abilities and needs of the students.
33. I avoid issues that relate to the student's concept of himself/herself.
34. I encourage my students to ask questions about the nature of their society.
35. I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives.
36. I have my students identify their own problems that need to be solved.
37. I give all students in my class the same assignment on a given topic.
38. I use materials that were originally designed for students in elementary and secondary schools.
39. I organize adult learning episodes according to the problems that my students encounter in everyday life.
40. I measure a student's long-term educational growth by comparing his/her total achievement in class to his/her expected performance as measured by national norms from standardized tests.
41. I encourage competition among my students.
42. I use different materials with different students.
43. I help students relate new learning to their prior experiences.
44. I teach units about problems of everyday living.

About You

The following information will help us better understand the information that you provide us.

Gender:

____a. Male
____b. Female

Your Age: ____

Race:

____a. African American
____b. Asian
____c. Hispanic
____d. Native American
____e. White
____f. Other

Educational Level: Highest degree you have earned

____a. Less than High School Diploma
____b. High School Diploma
____c. Some college but no degree
____d. 2-year college degree or certificate
____e. Bachelor's degree
____f. Master's degree
____g. Doctoral degree

Hearing Status: Which best describes you?

____a. Hearing
____b. Deaf
____c. Hard of Hearing

Your Professional Training and Certification

Directions: Check all that apply.

Professional Training
____ Interpreter Training Program--2 years
____ Interpreter Training Program--4 years
____ Deaf Studies Program
____ Have had no formal professional interpreter education program training

Generalist Certifications

NIC (National Interpreter Certification)
____ NIC
____ NIC Advanced
____ NIC Masters

NAD (National Association of the Deaf Certification)
____ NAD Generalist
____ NAD Advanced
____ NAD Master

RID (Registry of Interpreters for the Deaf Certification)
____ CI (Certificate of Interpretation)
____ CT (Certificate of Transliteration)
____ IC (Interpretation Certificate) (Formally known as the Expressive Interpreting Certificate EIC)
____ TC (Transliteration Certificate) (Formally know as the Expressive Transliterating Certification ETC)
____ IC/TC (Interpretation Certificate/Transliteration Certificate)
____ CDI (Certified Deaf Interpreter)
____ CDI-P (Certified Deaf Interpreter-Provisional)
____ CSC (Comprehensive Skills Certificate)
____ MCSC (Master Comprehensive Skills Certificate)
____ RSC (Reverse Skills Certificate) RID Oral Certification
____ OTC (Oral Transliteration Certificate)
____ OIC:C (Oral Interpretation Skills: Comprehensive)
____ OIC:S/V (Oral Interpretation Skills: Spoken to Visible)
____ OIC:V/S (Oral Interpretation Skills: Visible to Spoken)

Educational Certification
____ Ed:K-12 (Educational certification: K-12)

Specialist Certifications

____ RID (Registry of Interpreters for the Deaf Certification)
____ SC:L (Specialist Certificate: Legal)
____ Provisional SC:L (Provisional Specialist: Legal)
____ CLIP (Conditional Legal Interpreting Permit)
____ CLIP-R (Conditional Legal Interpreting Permit-Relay)
____ SC:PA (Specialist Certificate: Performing Arts)

Appendix B

Institutional Review Board Approval
Vita

Oklahoma State University Institutional Review Board

Date:	Tuesday, March 03, 2009	Protocol Expires:	2/4/2010
IRB Application No:	ED097		
Proposal Title:	Educational Philosophies, Teaching Styles, Learning Strategy Preferences and Attitudes Toward Continuing Education of Nationally Certified Sign Language Interpreters		
Reviewed and Processed as:	Exempt **Modification**		

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):

Janna Byrd
1100 E. 14th St. PMB S-71
Ada, OK 74820

Gary J Conti
1193 N. Lakeview Dr.
Sand Springs, OK 74063

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

The reviewer(s) had these comments:

The modification request to add an instrument to the protocol and change the title is approved.

Signature :

Sheila Kennison, Chair, Institutional Review Board

Tuesday, March 03, 2009
Date

VITA

Janna Lou Byrd

Candidate for the Degree of
Doctor of Education

Thesis:
EDUCATIONAL PHILOSOPHIES, TEACHING STYLES, LEARNING STRATEGY PREFERENCES, AND ATTITUDE TOWARD CONTINUING EDUCATION OF NATIONALLY CERTIFIED SIGN LANGUAGE INTERPRETERS

Major Field: Occupational and Adult Education

Education: Graduated from Byng High School, Byng, Oklahoma May 1974; received Bachelor of Education degree in Special Education from East Central University in May 1978; received a Masters in Human Resources degree from East Central University in Ada, Oklahoma in May 1986. Completed the requirements for the Doctor of Education degree with a major in Human Resources and Adult Education at Oklahoma State University, Stillwater, Oklahoma in May, 2010.

Experience: Program interpreter for the Services to the Deaf at East Central University, 1978 to 1986. Program Director for the Services to the Deaf at East Central University, 1987 to 2005. Full-time assistant professor in the Human Resources Counseling Services for the Deaf at East Central University, 2005 to present.

Professional Memberships/Certifications: Oklahoma Standard Teaching Certificate - Special Education and Elementary Education. Member of the National Registry of Interpreters for the Deaf, President of the Oklahoma Registry of Interpreters for the Deaf, member of the National Registry of Interpreters for the Deaf President’s Council, member of Oklahoma Quality Assurance Interpreter Screening Board. Hold Comprehensive Skills Certificate with the National Registry of Interpreter for the Deaf and State QA Level V/V.