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The Relatioship Between Adult Basic and Adult Secondary Educational Instructional Styles and Learner Outcomes When Measured as Educaional Gain on the National Reporting System

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The Relationship between Adult Basic and Adult Secondary Educational Instructional Styles and Learner Outcomes When Measured as Educational Gain on the National Reporting System Scale

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Abstract

The research activity was designed to explore the idea of a predominance of one of two teaching styles, defined as teacher-centered or learner-centered, among adult basic education and adult secondary education teachers in Missouri. The Principles of Adult Learning Scale (Conti, 1985), consisting of 44 questions, was employed to identify the teaching style of respondents. The scores on the survey were compared to the educational outcome measure provided by the Department of Education and State of Missouri with the intention that conclusions as to the efficacy of one of the two styles would be revealed.

The survey was distributed to the 36 adult education programs in Missouri Three total attempts to obtain responses were made during the survey period. Of the 756 full- and part-time teachers in the Missouri system, 89 surveys were returned but due to improperly identified or unidentified numbers, only 34 of the survey responses were deemed usable.

Requiring a minimum sample of approximately 250 upon which to draw inferential conclusions, no generalizations could be drawn about the larger population of Missouri adult basic education and adult secondary education teachers. Descriptive statistics relative to the 34 participants revealed that most of the teachers were female and the highest education level was the doctorate, but most teachers held masters. The sample group average age was above 40 with 42 % older than 60. As to tenure in adult education 62 % of responding teachers had taught adult education for more than five years and 42% greater than 10 years. The 34 teachers favored teacher-centered instructional methods versus student-centered instructional methods. .

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Chapter One

Throughout the United States, adults who missed their chance to graduate from high school through "normal" means or within the traditional time frame, get a second chance to achieve equivalency through adult education and literacy (AEL) programs. These programs enable adults to obtain high school equivalency and thereafter to pursue post-secondary or other vocational education. This research focuses upon AEL sites throughout the state of Missouri and the teachers who staff the learning sites of the AEL program at public schools, churches, and community centers. The research does not address the English second language (ESL) program in Missouri and the teachers in those classes are not included in the survey population.

In Missouri, AEL teachers, whether adult basic education (ABE) or adult secondary education (ASE), are a key component in the success of adult learners. The background of AEL teachers is varied and includes individuals who have never taught prior to adult education, as well as teachers and administrators from the full K-12 spectrum. Training for AEL instructors is determined by each state. In Missouri, all instructors have to complete a 12-hour training program among other requirements but training does not include exposure to adult learning theory, the concept of adults as unique learners nor is there clear direction regarding the teaching styles to be used in the education of adults. Although 9,222 students successfully obtained their high school equivalency in Missouri in 2012 (Annual Statistical Report on the GED), it is unclear how the teaching styles practices of instructors impacted students' success. This research surveyed AEL instructors in Missouri to identify their particular inclination to teach in a more or less collaborative style and to associate the teaching style with a state-wide measured objective outcome, used by all programs and learning sites, to determine success in educational outcomes.

Missouri's Adult Education and Literacy (AEL) Population

The U.S. Department of Education (2013) reports that, according to the 2009-2010 American Community Survey, approximately 591,797 adults 16 or older in the state of Missouri did not possess a high school credential – 10% of the state population. This comprises the Adult Education Target Population, a formal description used in State of Missouri documents to describe the number of individuals in the state who could benefit from adult education. Of the target population, 243,653 members possess between 0 and 8 years of schooling (U.S. Census, Profiles of Adult Education Target Population, 2005).

Missouri's own assessment of adult literacy, the Missouri State Assessment of Adult Literacy (SAAL) of 2003, reports that,

> 35% of Missouri Adults have prose literacy skills at or below the basic skill level . . . 25% of Missouri adults are at or below the basic skills level in document literacy and 49% are at or below the basic skill level in quantitative literacy. (para. 2)

These data suggest that the need for a wide and comprehensive remediation program, serving adults 16 years and older who are not in school, is significant. While the need for programming is essential, programs cannot exist without proper funding.

AEL Funding

The funds to create and support such a remediation program are provided to the State of Missouri through the Workforce Investment Act (WIA) originally authorized in 1998 and the accompanying Family Literacy and Adult Education Act (FLAEA), Title II of the Act, of the

same year. These programs have been re-authorized in 2014 as the Workforce Investment and Opportunity Act (WIOA), (H.R. 803, 113 Congress, 2014).

Missouri's need and the availability of funds through the WIA join to create the AEL program of the Missouri Department of Elementary and Secondary Education. Through the AEL program, funds originally authorized by the WIA, and now its successor the WIOA, are distributed to the states on a basis of population and projected need (Missouri State AEL Plan, 2013). These state funds are then passed on to individual local AEL programs through grants. Local programs use the funds, together with state contributions, to pay teachers, provide central office support services and acquire resources such as books, test materials and classroom supplies. The funding process used by the federal government to award monies to states is detailed in the WIA.

AEL funding requests for local programs are reconsidered annually on a state-by-state basis by the Department of Education (ED) which administers the WIA and the distribution of funds to the states. Programs project their financial needs and apply for funds through the Missouri AEL state office. In order to maintain funding each state must have met defined goals and outcome measures established for the previous year's program (Missouri AEL State Plan, 2013).

There are five categories of outcome measures that have been established by the Division of Adult Education and Literacy, Office of Vocational and Adult Education of the U.S. Department of Education (OVAE) and are described under the National Reporting System for Adult Education, Implementation Guidelines, June 2013. Each outcome category is given a performance goal. The goal for each category is expressed in percentage terms. Of the total of

all enrollees, a percentage of the total are expected to achieve the required measure. The five primary categories for all Missouri outcome measures are;

- Educational gain (referred to in some Missouri documents as Academic Attainment),
- Entered employment,
- Retained employment,
- Received high school equivalence,
- Placement in postsecondary education or training. (Missouri Annual Performance, 2011)

The first Outcome – Educational Gain – is referred to in the National Reporting System (NRS) Guidelines as the Core Outcome Measure and the remaining four outcomes are characterized as Follow-up Measures 1 through 4.

NRS Implementation Guidelines define educational gain as follows:

> Educational gain measures the primary purpose of the adult basic education program: to improve the basic literacy skills of participants. This goal is the reason that all students are counted in the educational gain measure. The NRS approach to measuring educational gain is to define a set of educational functioning levels at which students are initially placed based on their abilities to perform literacy-related tasks in specific content areas. After a set time period or number of instructional hours set by the State, students are again assessed to determine their skill levels. If their skills have improved sufficient to be placed one of more levels higher, an advance is recorded for that student. (p. 17)

This differentiation between measures relates to the fact that only educational gain is achieved and recorded in the Adult Education and Literacy program specifically. The remaining

measures are noted by the ED through other forms of reporting not relevant to this study and which generally occur after the program is completed or abandoned by the learner (Implementation Guidelines, 2013).

The state and ED negotiate annually for achievement targets in each of these categories. Achievement targets can be described as percentage measures of all enrolled students. For example, of every 100 students enrolled in a learning location or site, the ED specifies that a certain percentage of those students must attain the desired goal. For the 2013-2014 school year, Missouri's target for the Educational Gain category was an overall 63% (Missouri AEL State Plan, 2013). Outcome goals negotiated each year between the state and the ED are often changed year-over-year, as illustrated in Table 1.

Table 1

Adult Education and Literacy and Proposed Federal Targets for Fiscal Year 2013

Performance Measure	Actual 2012	Target 2013	Proposed 2014
Beginning Literacy	71%	68%	71%
Beginning Basic Ed.	61%	61%	61%
Low Inter. Basic Ed.	63%	61%	63%
High Inter. Basic Ed.	58%	54%	58%
Low Adult Sec. Ed.	60%	55%	60%
High Adult Sec. Ed.	60%	60%	60%

Note: Core Indicator 1. Demonstrated improvements in literacy skill levels in reading, writing, and speaking, numeracy, and other literacy skills (Missouri AEL State Plan, 2013).

Both the state and ED can reduce or withhold funding for programs which do not meet annual goals for learner outcomes. This penalty can result in a reduction of a maximum of 10% of total budget for non-performance in meeting goals (Missouri State AEL Plan, 2013). The outcome goals for each of the five categories has varied over the last three years with increases and decreases reflecting their negotiated nature. The outcome goal requirements for educational gain are generally well above 60% (Missouri State AEL Plan, 2013). In the academic year 2011-2012, Missouri's goal for educational gain was 58%. For year 2012-2013 the goal was raised to 60%. In 2013-2014, the educational gain minimum was set at 63% (Missouri State AEL Plan, 2013). Such pressure to continually maintain and increase achievement implies that

something must also be enhanced in the adult education process; improved instruction, facilitation, use of resources, classroom environments and retention strategies are areas available to the AEL program where improvement efforts can be applied. Among these, the impact and effectiveness of the instructor may be paramount (Marzano, 2003).

The NRS system, by which the ED benchmarks a learner's skill level, determined by a pre-test, ranks learner's along a six-level progression scale. One is the lowest skill ranking and six is highest. Learners are ranked in this manner in each of three content areas; reading, math and language. The NRS ranking is the key measure used in federal evaluations of adult education programs as to a learner's skill level and is the measure used to determine educational gain. For purposes of continued funding, understanding which teaching approaches, techniques and models produce the most efficient NRS progression rates is appropriate. Finding instructional practices that have strong research bases, referred to as "scientifically-based" methods of instruction (Mikulecky, 2003, p.1), is a mandate of many of the Department of Education's regulations. The intent of such mandates is to assure that programs and states using or seeking federal monies demonstrate that instruction is clearly linked to strategies that are scientifically founded (Mikulecky, 2003).

Style and Teaching

The use of the term 'style' in reference to a teaching practice is intended to imply that teachers have dominant methods of instruction that result from their essential epistemological orientation (Brookfield, 1986). Spoon and Schell (1998) have used the term style in the following way, "teaching style refers to a person's pervasive instructional qualities that persist even though situational conditions may change" (p. 2). Conti (1985) has described teaching style

as something that "refers to a pervasive quality of teaching behavior that persists even though the content that is being taught may change" (p. 22).

One aspect of teaching style is the degree of collaboration used in the instruction of AEL learners. Collaboration can be characterized as being highly so, involving significant learner input into the curriculum, learner determination of assessment, great flexibility in how subjects are taught and the style of relationship that is allowed to develop between learner and teacher. On the other hand, collaboration can be practiced minimally. Teachers not motivated to instruct in a more collaborative mode avoid allowing learners to impact the curriculum, believing that the teacher is in the best position to understand what should be taught, and how evaluation should be structured while maintaining a traditional teacher-student relationship based on teacher authority and position. Degrees of teaching style, as points on the continuum between teacher-centered (less collaborative) and learner-centered (more collaborative), can be infinitely different in application but all collaborative styles exist at some point between being highly teacher-centered or highly learner-centered (Brookfield, 1986; Conti, 1985). Learner-centered instruction seeks to associate what is studied with the needs and desires of the learner, allows the learner to determine the course of how the learning will progress and even looks to the learner as the proper determinant of how assessment shall be structured. In the learner-centered case, the teacher becomes a facilitator and resource for the learner (Knowles, 1980; Mackeracher, 2009). In the teacher-centered case, the teacher is arbiter and judge of what is studied, how studied, and how evaluation is structured.

This study relies upon the Principles of Adult Learning Scale (PALS) survey to assess the degrees of teacher-centered and learner-centered practices in the AEL programs of Missouri (Conti, 1982). The survey employs questions designed to identify a participant's inclination in

terms of teacher- or learner-centeredness on a modified Likert scale of six responses (Conti, 1982). More details about PALS is discussed in Chapters Two and Three.

Aligning teaching styles with learner outcomes.

The concept of two poles on a continuum containing between them variations on the degrees of collaborative teaching styles serves as the framework within which this study is situated. How adult education teachers place themselves on the continuum between teacher-centered and learner-centered practices served as the independent variable in this comparison between teaching styles and learner outcomes. The dependent variable is the educational outcome measured in NRS levels. Conti (1989) has described the relationship between style and effectiveness as follows;

> These two styles of teaching (teacher-centered and learner-centered) are drastically different. Are they equally effective for all learners in ABE, or does teaching style make a difference in student achievement….initial research evidence seems to indicate that teaching style does make a difference in how well students learn. (p. 311)

By associating style and educational gain, it is possible to draw conclusions regarding the efficacy of certain styles with particular degrees of educational gain. Movement from one NRS level to another, between the measures of one to six, allows for conclusions about the appropriateness of certain styles, when improvement in educational gain is desired.

Problem Statement

Based upon a review of the literature the researcher was unable to determine the existing styles and practices of AEL instructors in Missouri, in terms of their theoretical and philosophical approaches to instruction. Consequently, there is a significant opportunity to survey and explore the practiced teaching behaviors of Missouri Adult Basic Education/Adult Secondary Education instructors such that, once identified, conclusions may be drawn regarding the dominant teaching style(s) affecting the learning success of adult education programs. Existing literature has addressed the matter of teaching style and high school equivalence attainment (Wolf, 1987; Ziegler & Ebert, 2003). Reaching equivalency is the objective of the students who enroll in adult education classes in most cases but for many, the goal is not achieved (Comings, Parrella, & Soricone, 1999). Lack of persistence, infrequent attendance, inability to perform additional home study and poor motivation often combine to prevent completion of a program of study and acquisition of an equivalence certificate (Comings, Parrella, & Soricone, 1999). Nonetheless, as noted earlier, the first and core measure in the NRS evaluation system and the single measure within the significant influence of the adult learning program is educational gain and not a diploma or certificate (Implementation Guidelines, 2013). This suggests that inquiry into the dynamics of achieving educational gain is valid as an independent area of study.

As educational gain is the most relevant measure pertaining to the adult education teaching-learning transaction, factors which affect educational gain in the adult classroom are highly significant as to the ability of the program to meet its goals and maintain funding from year to year. Therefore, research into instructional practices that can affect student outcomes such as educational gain, specifically in NRS terms, is needed. It is also significant that

"successful completion of the GED test cannot be used to validate educational gain and subsequent level completion because these tests are credentialing tests, not explicitly tied to NRS levels" (Implementation Guidelines, 2013, p. 6). Research into teaching style and educational gain is not available at this time and therefore an opportunity is presented to explore teaching styles in use in adult education classes in Missouri for purposes of identifying which styles are dominant, if any, as well as the relationship that may exist between the prevalence of a particular style or degree of style practiced and learner outcomes, reported as educational gain.

Purpose of the Study

This research project was intended to identify the degree of collaborative teaching style employed by AEL teachers in the State of Missouri's adult education program and to determine if there is a relationship between the degree of collaboration and learner outcomes measured as educational gain. The purpose was to isolate what can be practiced in terms of collaborative instruction that positively influenced learner outcomes as defined in NRS terms.

Research Question and Hypothesis

There is one primary research question for the study: "Is there a relationship between teacher-centered or learner-centered instructional styles and learner outcomes in Missouri AEL classes?" A secondary question is: "Can the instructional style be isolated in terms of the highest levels of learner outcomes as characterized in NRS literature as educational gain?"

The hypothesis is: There is a relationship between teaching styles and learner outcomes in AEL classes in Missouri.

The dependent variable in the study is the Educational Gain outcome, expressed in the number of students, as a percent of the total students in a site, who progress one educational level on the NRS scale. The independent variable is the teacher score on the PALS survey for that same site.

Significance of the Study

Identifying the existence of learner-centered or teacher-centered practices among adult education programs which are consistently associated with increases in student progression, on the NRS reporting scale, may benefit programs by providing a pedagogical orientation that has shown itself to be effective and could be employed to benefit in situations where progression rates are lower than targeted.

A key aspect of the significance of the study is the creation of an evidence-based relationship between teaching style and educational gain in ABE/ASE programs in Missouri and the impact of each of these two dominant orientations on learner outcomes and measured educational gain (Comings, Beder, Bingman, Reder, & Smith 2003). As Comings, et al. (2003) suggest, evidence-based research contributes significantly by integrating wisdom with empirical evidence in decisions about how instruction can be affected.

An additional consequence of identifying instructional styles that produce improvement in desired measures is the fact that a program's longevity and very vitality can be enhanced by continually meeting the goals of the annual state plan. In the case of this federally grant-funded program, positive outcomes are required to maintain program growth and resources. As noted earlier in the introduction, financial penalties of as much as 10% of the program budget can be assessed for non-achievement of goals - primarily the goal of educational gain (Missouri State

AEL Plan, 2013). This study may provide insight into the means by which adult education instructors may modify their instructional approaches to improve outcome measures. While focusing on educational gain in NRS level terms, the study may provide additional insights into the role of teacher style in other dimensions of learner outcome. Where a particular style can be identified as an independent variable, additional comparisons and conclusions may be drawn regarding the relationship of the teaching style to learner outcomes, attendance behaviors, educational gain and other points of relevance. Finally, the findings may contribute to the adult education literature knowledge base.

Assumptions

The researcher has combined the idea of a learner-centered inclination in instruction with the concept of andragogy and andragogical instruction. The characteristics of an andragogical awareness (Knowles, Holton, & Swanson, 2005) are very similar to and aligned with the researcher's concept of a learner-centered awareness (Brookfield, 1986). Mackeracher (2009) has used the terms of facilitating, enabling and collaborating to describe instructional characteristics that also align with andragogical principles which are not quantifiable and do lend themselves to broad application. Knowles (1980) reminds us that his description of the andragogical learner is not an empirically based concept but a set of assumptions that may be considered more as reference points rather than as rules. This view of andragogy further strengthens its alignment with other, indefinitely defined learning concepts such as seen in Mackeracher and Brookfield (Brookfield, 1986; Mackeracher, 2009).

Regardless of the term employed, the concept of a learner-centered approach to instruction places the learner at the center of the learning proposition. The needs, motivation and

goals of the learner, in a learner-centered instructional model, serve as the basis of the instructional plan; while a teacher-centered approach puts the instructor in the primary and dominant position in the teacher-student relationship. It is the position of the surveyed learning styles and where they lie between these two points of difference that is identified in the survey.

If teachers are important in the quest for educational success (Marzano, 2003), it is reasonable to presume that what teachers do in actual practice is the central point of that importance. Having established the concept of a continuum of teaching style that exists between the two poles of teacher-centered and learner-centered instruction, it can be further presumed that different styles of instruction – demonstrating varying degrees of teacher- and learner-centered practices – may result in varying degrees of learner success (Brookfield, 1986; Marzano, 2003). Success, in this case, is considered to be an objective measure resulting from test scores. In other words, one dominant practice or some combination of practices may result in greater outcome success than some other dominant practice or combination of practices.

Delimitations of the Study

A number of delimitations exist affecting this study's ability to be generalized to larger populations. The research was conducted in the state of Missouri and the sample is therefore be representative of only a Midwestern orientation, and not necessarily representative of a national character. Also, the study concerned itself only with two dominant characteristics in the spectrum of teaching style – teacher- and learner-centeredness. As earlier noted by Conti (1985), teaching style maintains its teacher/learner-centered style regardless of content or student character even while there are numerous other influences that may exert themselves upon learner outcomes, extraneous to instructor influences, that affect outcomes. Nonetheless, this study

focused only on the existence of teacher- or learner-centeredness and its relationship to a specific objective outcome.

Testing Measures

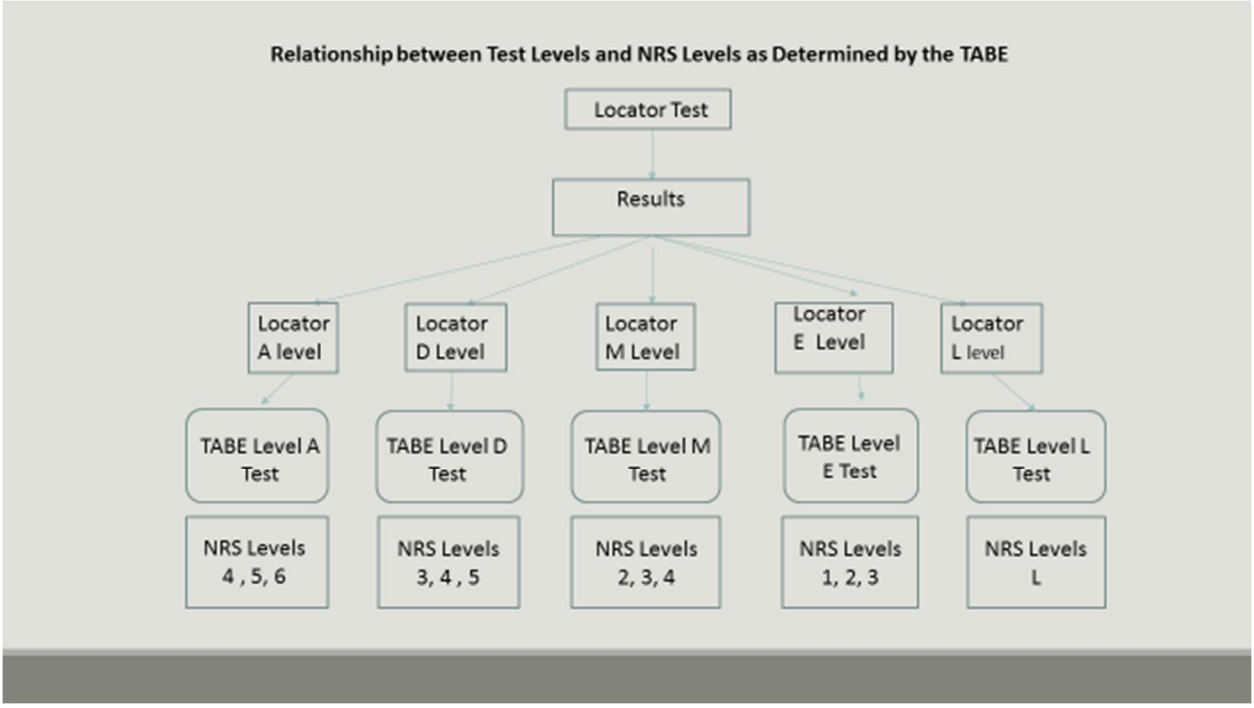
As with professional licensing requirements, adult basic education programs are required to meet certain assessment standards. "States are required to have their local programs use a standardized assessment approved by OVAE for placement into NRS educational functioning levels and measuring educational gain" (Implementation Guidelines, 2013, p. 5). This statement provides the mandate under which the State of Missouri selected the CTB/McGraw-Hill Test of Adult Basic Education (TABE) as the OVAE approved standardized assessment. The TABE is used uniformly throughout the state as the diagnostic tool for all adult education classes. The TABE was approved by the ED, and OVAE in 2013 for a period of 4 years (www.ctb.com/ctb.com).

Testing measures in Missouri.

The pre- and post-test system used in Missouri is the McGraw Hill TABE, versions 9 and 10 in all three test areas; reading, language and math. Each of the three content exams is written in four levels of difficulty. The student's level of difficulty is determined by the administration of a pre-test identified as the Locator Test (See Figure 1).

Figure 1

Relationship between Locator Test Scores, TABE Tests and NRS Levels



Note. Constructed from information in the Missouri AEL State Plan (2013) and the NRS Implementation guidelines (2013). This Locator process is completed for each of the three basic content areas in AEL, reading, math and language.

The Locator is a structured part of the TABE process and is designed to provide a rapid (30 minutes total for three content areas) look into a student's skill level. Each Locator content area test results in an evaluation that is correlated to the five difficulty levels of the TABE itself. The levels are denoted as L, E, M, D and A, letter L represents the lowest skill level and A the highest. The letter designations correlate to grade levels, and NRS equivalents (See Tables 2 and 3).

Table 2

Item and Testing Time Relationships on the Three TABE Content Assessments

TABE Content Test	Number of Items	Testing Time (min)
Reading	50	50
Math (Applied and Composition)	90	74
Language	55	55

Note. Adapted from CTB/McGraw-Hill.

Table 3

Alignment between TABE Difficulty Levels and School Grade and NRS Equivalents

TABE Level	Grade Equivalent	NRS Equivalent	Description
L	0 – 3.9	1, 2	Beginning ABE Literacy
E	0 – 5.9	1, 2, 3	Beginning Basic Education
M	2 – 7.9	2, 3, 4	Low Intermediate Basic Education
D	4 – 10.8	3, 4, 5	High Intermediate Basic Education
A	7.0 – 12.9+	4, 5, 6	Low Adult and High Adult Secondary Education

Note. Adapted from Implementation Guidelines (2013).

Results from the reading, math, and language tests are reported in four ways: raw score (the number of correct answers), grade equivalent (0-12 range), scaled score and NRS level. This four-part array of scores provides a comprehensive view of the student's status in mastery of each of the three key areas. Grade equivalents are important in understanding the current difficulty level in relation to the student's hypothetical standing as if she were a student in traditional education. The scaled score number provides a comparison of ability across the three tests and the NRS score is a number from 1 to 6, used by the federal government to rank students in each of the three areas. In other words, a student may be an NRS 3 in math and a 5 in reading. Scaled scores and grade equivalents would also tend to reflect the same NRS results.

The current educational gain requirement for adult education programs is to achieve a one NRS level increase in the lowest NRS score per student resulting from the TABE post-test measure (Implementation Guidelines, 2013). In the 2013/2014 year, the goal for Missouri AEL sites was that 63% of all enrolled students achieve at least one progression increment in NRS levels (Missouri AEL State Plan, 2013). For example, if a student has the following scores on three pretests – NRS 3 in math, NRS 5 in reading and NRS 4 in language, the program would be required to increase the math score (the lowest score must be selected for gain) by one NRS level to at least an NRS 4. This would be evidenced by the pretest and posttest scores given on the math TABE. It is required that the pre and posttests be of differing versions, while in the same subject area. The versions are denoted as version 9 and version 10. Whichever version was used for the pretest, the other version must be used for the posttest. While the versions are of the same level of difficulty, they consist of different questions. Therefore, using a different version assures that the level of difficulty remains the same but the test questions themselves are different, eliminating the student's ability to remember questions from one test to another.

A key element in all instructional transactions is the instructor and her disposition and style of instruction. Following is a brief discussion regarding teaching styles and their potential relevance to learner outcomes is reviewed.

Adult Education Teachers

Adult basic education programs in the United States primarily rely on part-time, paid instructors to meet the needs of thousands of adults seeking to improve their socioeconomic status or desiring personal development. The qualifications for AEL instructors in Missouri stipulate that each hold a college degree though it does not have to be in the field of education (Missouri AEL Plan, 2013). Nor is there a requirement that AEL teachers possess teaching credentials or experience. Each is required to attend a two-day Pre-Certification Workshop introducing them to the AEL system; TABE testing, NRS scoring processes and other reporting aspects required by the state. During the first year of teaching, the instructor is required to also attend a one-day workshop named the Beginning Teacher Assistance Program (BTAP). The BTAP serves to air questions, confirm understandings and provide a forum for new teachers and to provide a collaborative experience (Missouri AEL Plan, 2013). In addition, the state requires each new teacher to be assigned a mentor. Mentors are teachers within the program who have served for four or more years and are required to act as resource and support during a new teacher's first year.

Definition of Terms

- AEL Teacher or Instructor: A person employed, full or part time, possessed of a bachelor's degree at minimum, who has attended a two day pre-certification workshop, and is licensed by the state to teach in AEL classes. It is not required that the AEL teacher be a certified K-12 teacher prior to AEL certification.
- Adult Basic Education/Adult Secondary Education Population: Individuals aged 17 years of age or older, who have not attained a high school diploma or equivalent and are not currently enrolled in school (Division of Adult Education and Literacy, US Department of Education, 2005). These terms are used interchangeably in this study.
- Andragogy: A philosophy which describes the adult person in terms differentiated from children and adolescents as relates to learning. The philosophy also impacts instruction by suggesting approaches to curriculum design, teacher-student relationships, content selection and assessment (Knowles, 1990).
- Core outcomes: Five objective measures used to evaluate student success as a consequence of adult education. The measures are: educational gain, obtained employment, retained employment, received high school credential and obtained admittance to post-secondary school or training (Implementation Guidelines, 2013).
- Educational Gain – The first of the five measures used to evaluate student outcomes within the NRS system of accountability. Gain refers to the percentage of students who progress from one NRS level of competence to a higher level as a result of AEL instruction. The gain can be recorded in any of the three AEL content areas; language arts, reading and mathematics as evidenced by pre and post-test measures on the TABE (Implementation Guidelines, 2013).

- Learner-centered Instruction: Describes the practice of an instructional technique which is focused on learner needs and circumstances. Synonymous with other instructional terms such as collaborative, andragogical, and responsive. Differentiated from its opposite teacher-centered instruction (Brookfield, 1986; Conti, 1989).
- National Reporting System (NRS): This system was created in 1990 and reauthorized several times to serve as the accountability system for adult education programs and to report on student outcomes. The NRS correlates to the Test of Adult Basic Education which is used as the pre and post-test measure evaluating all enrolled ABE/ASE students. The scale consists of six numerical levels from 1 to 6 (Implementation Guidelines, 2013).
- Teacher-centered Instruction - Describes the practice of an instructional technique which is focused on teacher preferences. This approach is characterized by teacher-designed curricula, and assessment and use of lecture as the dominant instructional mode (Brookfield, 1986; Conti, 1989).
- Test of Adult Basic Education (TABE). This test, published by CTB McGraw-Hill, is the sanctioned instrument in Missouri AEL programs for use as a pre and post-test measure in the three basic areas of adult education literacy; language arts, reading and mathematics and is approved for use by the Department of Education through 2017 (CTB/McGraw-Hill, 2010).
- Workforce Investment Act of 1998, Public Law 105-220 (WIA): The legislation that funds and provides for the implementation of the national adult education and literacy program in the U.S. Includes Title II, the Adult Education and Family Literacy Act.
- Workforce Investment Opportunity Act of 2014: A reauthorization of the original WIA and the Adult Education and Family Literacy Act.

Summary of Chapter One

There is a need to provide adult education and learning programs to individuals in Missouri who have not completed a high school credential program. Addressing the need is a federally funded program of adult education and literacy administered by the state. Missouri is currently operating adult education sites across the state designed to prepare learners for success when taking the prescribed high school equivalency examination.

Instructional practices which range between teacher-directed and learner-directed are used by AEL teachers. It is not known which type of practice or combination of practice results in the highest level of student success as determined by the TABE pre- and post-tests and their correlation to NRS scores. This study surveyed AEL instructors for the purpose of quantifying the degree of teacher- and learner-centered practices among responding teachers in Missouri and then sought to associate those practices with the learner outcome of educational gain for each teaching site in the state, thereby identifying the most efficacious instructional methodologies relative to student outcomes in adult education classes.

In Chapter Two, a review of the literature addressed the concept of the unique character of adults as learners and the various characteristics adults exhibit when seeking learning. The literature discussed the concepts of learner-centered and teacher-centered instruction and the appropriateness of each approach in the adult education context. Also in Chapter Two the instrument used in AEL classes to establish pre and posttest scores and educational gain is fully described. Chapter Three describes the methodology by which the research was conducted to include, a description of the survey instrument, the population, the process by which the survey was distributed and how the results would be tabulated. Chapter Four presents the results of the

survey and any implications that may be drawn. The actual usable sample of returned surveys was not sufficient to formulate inferences as to a larger population, consequently statistical analysis beyond descriptive procedures of the sample itself was not possible. In Chapter Five, the recommendations for further study and suggestions as for improving response and the quality of the responses is discussed.

Chapter Two

Literature Review

The theoretical framework for the research is founded in the belief that teaching behaviors have significant influence on learner development and on learner outcomes. Within that influence is a broad and diverse range of factors which inform what teachers believe and determine the methods or styles they employ in their teaching practice.

The literature review begins with an examination of teaching. It is followed by a discussion of the styles of teaching with emphasis upon the two characteristics of teacher-centered and learner-centered instructional behaviors. The Chapter reviewed theories of adult teaching and andragogy and summarize the essential elements of adult teaching.

Teaching

The practice of teaching, from the organized twenty-first century school to the instruction given a young child in a remote village about how to build a fire, has been an essential element of human existence and society for all time. Organized society has found it optimal to segment the process of cultural transmission, or teaching, into organized age groups and subject areas (Tyack and Cuban, 1996). One such group is those adults, individuals who were unable to complete the requirements for traditional adolescent school, who seek and need education to support their quest for employment or advancement in the workforce. The ABE/ASE and other instructional and learning systems have been established to address this need.

The teaching and learning transaction is always a process of human interaction and, therefore, unique and different for every teacher and every student (Brookfield, 2006). A teacher-student relationship is essentially a human relationship and subject to the individuality of

all human behavior. Teachers are trained but they cannot be molded into uniform units of output with highly predictable behavior and belief. Although ABE/ASE instructors complete certification training, their teaching styles may vary but the purpose remains consistent in terms of the need to achieve student learning and to demonstrate that learning progress in terms acceptable to the ED. Galbraith (2004) offered a succinct description of the purpose of teaching. "The purpose of teaching is to facilitate personal growth and development that impact the professional, social, and political aspects of learners" (p. 3). Further, Heimlich and Norland (2002) defined teaching's purpose as to

> enhance learning, and everything an educator does to enhance learning is of value. Most educators understand that all learners have different preferences and styles of learning and believe that it is important to teach using techniques and strategies that will satisfy the variety of learning styles in the learning event. (p. 18)

Brookfield (2006) contended that there are no numbered habits of effective teaching. Nor are there set "rules for pedagogic success" (p. 1). Cambron-McCabe (2000) characterized teaching as "moral undertaking" (p. 276). She further states that teaching "is not simply a set of technical skills for imparting knowledge to waiting students" (p.276).

The variations between philosophies of teaching and those of learning can be challenging to differentiate (Knowles, 1990). Teaching requires someone to be taught while learning can be obtained from many sources, human, experiential, observation and independently of others. Philosophies of education are therefore never divorced completely from their two dimensions of teaching and learning. Whether based in the classical tradition of Plato, the Realism of Locke, the Pragmatism of Dewey, the Critical approach of Freire, or the permissiveness of Chomsky,

teaching and the concept of what type of teaching is most successful in achieving learning in those taught, is a debate continuing well into the current period (Chomsky, 2014; Frankena, Raybeck, & Burbules, 2002;).

Whether innate or unintentional, educators teach with a particular philosophy or belief in an orientation to learning and teaching. In adult education, the most common orientations to teaching are cognitivist, social cognitive, constructivist, behaviorist, and humanist (Merriam, Caffarella, & Baumgartner, 2007). The educator with a cognitivist mindset views the process of learning as information processing and seeks to develop capacity and skills to help adults learn better (Merriam, Caffarella, & Baumgartner , 2007). The social cognitivist, on the other hand, espouses the interaction with others and assumes the role of a model to demonstrate new behaviors. A constructivist facilitates and negotiates meaning-making with learners (Merriam, Caffarella, & Baumgartner (2007). He or she uses experiential and/or transformational learning as well as reflective practice. Of particular focus for the current study are the behaviorist and humanist orientations. In general, the educator who assumes the behaviorist mindset plays the role of a controller and seeks a certain response from learners (Conti, 2004; Merriam, Caffarella, & Baumgartner, 2007). The behaviorist assumes the teacher-centered orientation to teaching. On the other hand, the humanist is more interested in the learner than the process and is seen as a facilitator and is interested in the whole person (Conti, 2004; Merriam, Caffarella, & Baumgartner, 2007). The humanist often subscribes to a learner-centered approach to teaching. These two orientations are discussed further.

Teaching styles.

From the realization that teachers are as diverse in personality and outlook as all humans, it is nonetheless possible to identify trends and similarities in the behavior of teachers as they approach the teaching process (Merriam, 2009). Such groupings are referred to in this research as styles of teaching. Notwithstanding the numerous variables influencing any teaching/learning transaction, among them teaching style, a simple focus continues be that by which all teaching is finally judged – learner outcomes. Did the teaching in fact facilitate the diverse development of the learner? Consequently, while style is significant in any consideration of teaching effectiveness, it matters less how one successfully impacts learner development than that it is done in a positive manner. Recalling the concept of the continuum, containing all teaching styles between the two poles of teacher-directed and learner-directed, the exact position of a given instructor on the continuum may be irrelevant (Conti, 2004). For this study, there is no inclination to support one teaching style over another. The inclination is to identify which style is most successful in producing improvements in educational gain in adult education classes.

Behaviorist.

Behaviorist educators are seen as the opposite of the humanists. They assume a teacher-centered approach (Conti, 2004; Cross, Merriam, Caffarella, & Baumgartner (2007). These educators assume that mastery learning, trial and error, and competency-based structures work best for learners. They have been described as managers and controllers (Conti, 2004). They want to change adults' behavior. Paulo Freire (1970), a Marxist adult educator active in Brazilian and South American culture, devised a method of describing traditional, teacher-centered instruction as the act of "banking" (p. 72). In banking, the instructor deposits knowledge, knowledge selected by the instructor without any input from the learner, and expects

to find the deposited learning there, in the mind of the learner, for withdrawal at appropriate times in the future. To Freire, the teacher-centered or behaviorist instructor is antithetical to andragogy, antithetical to the concept of student-initiated learning, and is essentially a tool in the hands of the dominant culture used to keep learners confined within the dominant beliefs and realities of the ruling elite. In a further illustration of the anti-behaviorist position, Rogers (1969) offers the following: "I have no wish to make anyone know something. 'To show, guide, direct.' As I see it, too many people have been shown, guided, directed" (p.77).

Humanist.

A humanist instructor is characterized by warmth and recognition of her learners' contribution and experience. The humanist is associated with learner-centered instruction. This type of instruction, learner-centered, is believed by humanists as most productive (Brookfield, 1980; Freire, 1970; Galbraith, 2004; Knowles, 1980; Mackeracher, 2004; Quigley, 1985; Rogers, 2002; Wlodkowski, 2004) for adult learners.

Principles of Adult Learning Scale

One of the ways to determine instructor behavior or teaching style is through the use of the Principles of Adult Learning Scale (PALS), developed by Gary B. Conti in 1978. Evaluating the environment within which the instrument was conceived, Conti (1982) observed a "growing accumulation in the field of adult education of a unique body of theory and knowledge (p.136). He further stated,

> A large volume of this accumulated body of theory and knowledge subjectively advocates the collaborative mode as generally the most appropriate method for facilitating adult learning. In order to test this belief, it was assumed that this method must be identified by an instrument which had been substantiated by

> actual in-class observations. Since the collaborative mode is a learner-centered approach which strives to encourage the learner to seek the maximum amount of trust, self-direction, and responsibility, it is similar to the teacher behaviors which Flanders (1970, p. 35) describes as encouraging student initiating actions. Therefore, the items developed for the instrument linked theoretically to the Flanders Interaction Analysis Categories (FIAC) as an external criterion for systematically assessing practitioner behavior. (p. 136)

The PALS survey is intended to identify instructor behaviors that are associated with either a learner-centered or teacher-centered style. It consists of 44 questions. Scores on the PALS range from 0-220. A total score ranging between 0–145 is indicative of a teacher-centered style. A score of 146-220 indicates a style that is more learner-centered.

Conti's (1982) survey, in addition to the overall calculation of total points indicating the dominant teaching style of the respondent, also provides for responses to be grouped into seven factors intended to reveal more specific inclinations on the part of the teacher. A factor analysis of the seven items in the survey groupings has determined that "factors produced by this analysis support the construct validity of PALS. These seven factors, which were statistically derived, are similar to the general principles found in a review of the adult education literature supporting the collaborative mode" (Conti, n.d., p. 67).

The structure of the response instrument is a multi-response list of questions (See Appendix A) that allow for the use of a word response as indicated above. In the case of a positive question, the selection of the response "always" generated a value of 5. A response of

"seldom" generated a value of 2. In calculating the total of all values for a survey, the numerical values of the responses are added together. A response left blank is given a score of 2.5.

Each of the questions offer a range of responses reflecting the degree of agreement or disagreement pertaining to the question. The responses seek answers not in terms of agreement but as behaviors. Yes/no options are not available. All responses require a statement as to the degree of the behavior practiced. The design of each question is intended to reflect either a positive or negative inclination toward learner-centered or teacher-centered practice (Conti, 2004).

Each response is represented by a number value from one of six integers, numbered in ascending order from zero to 5. The scale of word responses ranges as follows:

- Always
- Almost Always
- Often
- Seldom
- Almost Never
- Never

Items on the instrument are considered positive or negative. The following 24 items of the total 44 have been identified as positive (Conti, 2004) in relation to being learner-centered in the adult learning environment: 1, 3, 5, 8, 10, 14,15, 17, 18, 20, 22, 23, 24, 25 ,28, 31, 32, 34, 35, 36, 39, 42, 43 and 44. The negatively-oriented questions - 2, 4, 6, 7, 9, 11, 12, 13, 16, 19, 21, 26, 27, 29, 30, 33, 37, 38, 40 and 41 - support the techniques of teacher-centered instruction. A strong response on a positively-oriented question indicates that the respondent is instructing in accord with a learning-centered

principal. Six specific values from five to zero are given for each of the positive responses, reflecting the degree of agreement. The higher the number totals for positive questions the greater the degree of learning-centered practice by the respondent. The higher the total score on negative responses, the greater the rejection of teacher-centered practices. Therefore, high scores on either positive or negative questions indicate learner-centered inclinations, low scores indicate teacher-centered inclinations.

In addition to all responses being either positive or negative regarding learner-centeredness, groups of responses reveal the instructors inclination to support more specific behaviors. The seven groups, with their associated questions used in Conti's (2004) survey are as follows:

1. Learner-Centered Activities – 2, 4, 11, 12, 13, 15, 19, 21, 29, 30, 38 and 40. All items in this group are negative or antithetic to learner-centered activities. These items relate to the concept of student evaluation by formal tests and the practice of comparing students to standards set outside of the classroom or by non-associated authorities. Teachers who respond affirmatively to these questions favor formal testing over informal evaluations and use standardized tests when possible. Overall, these teachers practice "one basic teaching method and support the conviction that most adults have a similar style of learning" (Conti, 1985, p. 9).
2. Personalizing Instruction – 3, 9, 17, 24, 32, 35, 37, 41 and 42. The second factor is titled Personalizing Instruction and lists six positive and three negative items. Instructors who score high in response to these questions tend to vary their instructional tactics and personalize learning to accommodate the differences in their learner population.

Evaluation is individualized and highly influenced by the learner himself. The environment is more cooperative and competitive (Conti, 1985).

3. Relating to Experience – 14, 31, 34, 39, 43 and 44. Relating to experience is the subject of the third group and consists of all positive items. Teachers who favor these questions plan their lessons and activities based in their knowledge of the students' totality of experience. They also encourage students to associate their current learning to past experience. Learners are encouraged to challenge basic societal assumptions and inquire about the validity of norms and routines in their lives. Conti (1985) has suggested that "When it is screened through experience, such consciousness-raising questioning can foster a student's growth from dependence on others to greater independence" (p. 10).
4. Assessing Student Needs – 5, 8, 23 and 25. This grouping contains four items, all positive in tone. As the factor title implies, a teacher who scores above the mean in this group of questions in interested identifying what the student, as an adult, wants and needs to learn. This teacher uses counseling and formal as well as informal counseling to determine and help the student clarify their intention for the learning experience. It is important for the teacher to identify gaps between the student's current skill levels and those required for the student-desired outcome. The curriculum is built closely around the content and skills needed to close the gaps between what is actually exhibited by the student and what is required by the goal.
5. Climate Building – 18, 20, 22 and 28. This group is also composed of all positive items. The category speaks somewhat directly to Knowles idea of the warm and welcoming environment (Knowles, 2004) and is consistent with the andragogical model. Key factors in the learner-centered climate include; dialogue with other students, periodic

breaks, encouragement of risk taking, and acceptance of errors. Such a climate encourages student experimentation and exploration into the self-concept, builds skill in problem solving and, due to the persistent practice of dialogue, can help enhance interpersonal skills (Conti, 1985).

6. Participation in the Learning Process – 1, 10, 15 and 36. The sixth grouping contains four items, all positive as to learner-centered practice. Facilitators practicing the learner-centered tactics in this context are inclined to have learners identify and select the problems to be solved. Learners are also allowed input into the nature and evaluation of the content material. Teachers scoring above the mean in this category also, as in factor five, above, allow students to identify the problems they wish to solve and encourage them to participate in the selection of assessment strategy that is used to measure their progress.
7. Flexibility for Personal Development – 6, 7, 26, 27 and 33. The five questions making up factor seven are all negative – they do not encourage flexibility for personal development. Scoring high in this category indicates that the teacher rejects the non-andragogical, teacher-centered practices queried. Scores below the mean identify an instructor who likely believes that they, the instructor, is the best person in the class to determine what should be learned as well as how it should be learned and when. The goal of education in a class led by a low scoring teacher on this factor is to convey a fixed amount of knowledge and do so in a measured way and on a specific schedule that is not altered during the semester or class.

Conti (2004) notes that the question of styles of instruction is problematic. "While several philosophical schools exist, they differ in the instructor having either a teacher-centered

or learner-centered teaching style" (p. 77). Nonetheless, one of these two dominant traits always characterizes the overall teaching approach. Styles can, therefore, appear to overlap and combine uniquely as practiced by individual instructors but reveal dominance in either teacher-centered or learner-centered practices. As teachers' style vary, so can their roles.

V**alidity and reliability.**

PALS was tested for validity and reliability through field research. Validity was tested before reliability to "elicit help in better sophisticating the items and to increase the discriminating power of the items" (Conti, 1982, p. 139). The validity test consisted of the testimony of adult education juries, composed of adult education professors. Comments and suggestions from the first jury of three professors were incorporated into the revisions. A second jury of 10 professors "with a high degree of visibility in the field of adult education, with geographic dispersion throughout the country and with philosophical heterogeneity" evaluated the construct validity in each item (p. 140). A test-retest method was used to establish reliability for PALS. The instrument was administered to a group of 23 adult basic education instructors on two occasions, seven days apart. The scores were compared for correlation. PALS findings revealed that 78% of the national jury ruled that each item was congruent with the collaborative-mode of adult education principles of learning (Conti, 1982).

In an unpublished paper, Conti (n.d.) reported that pilot tests given to diverse groups of adult educators indicated strong reliability in terms of the mean and standard deviations between groups. Among the groups were the original sample used in initial validation, another group of training directors, Texas adult educators and Illinois ABE teachers. The total tested was 534. Table 4 displays several descriptive statistics relating to these tested groups.

Table 4

Mean and Standard Deviation of Group Scores on PALS from the Four Field Tests

Group	Size	Mean	Standard Deviation
Original Sample	57	145.60	22.14
Training Directors	99	148.76	22.30
Texas Adult Educators	113	143.74	19.95
Illinois ABE Teachers	265	145.14	19.96
Total	534	145.57	20.65

Criterion-related validity for PALS was established by comparing PALS scores from the two standard deviations above and below the mean with the same instructors on the Flanders Interaction Analysis Categories (FIAC). Conti (1982) offers the following regarding the appropriate selection of FIAC for the external criterion measure in that it "is a validated system for measuring initiating and responsive classroom actions and because the actions described in Flanders' definition of initiating are highly congruent with the characteristics of the collaborative mode." (p. 140).

PALS results from the content validity exercise using 57 adult education practitioners revealed:

> The Pearson correlations calculated to evaluate the relationship between each individual item and the criterion measure of total score indicated that 25 items were significant at the .001 level, eight at the .01 level, seven at the .05 level and

four at the .10 level. Of these 44 acceptable items, 24 were positive and 20 were negative. (Conti, 1982, p. 141)

The negative items refer to characteristics that are teacher-centered and the positive items relate to learner-centered items. Those surveyed are then able to select responses on the basis of their identification with the teacher- or learner-centered practice.

The PALS survey is well established in the research as a reliable instrument. Brookfield (1986) cited the PALS in three instances and cited three dissertations where it was used. Conti (n.d.) refers to the following statistics in an unpublished paper: of 778 cases where PALS was used found the descriptive statistics to be stable across all cases. Consequently, 146 is an accurate mean with a standard deviation of 20. The analysis of variance also provided support for the generalizability of the survey with no significant differences among various groups. Further, the factors studied with Statistical Package for the Social Sciences (SPSS) Factor Analysis program also gave credibility to the survey's construct validity.

PALS has been used in dissertation studies exploring teaching styles. Peters (2009) surveyed 15 undergraduate mathematics instructors using PALS to assess instructional preference and correlate results with self-efficacy. Results showed that teacher-centered classroom environments resulted in higher self-efficacy. Pearson (1980) used PALS to investigate the relationship between management style and collaborative facilitation methods among 99 Midwestern training directors and found significant relationships between management styles and the acceptance and practice of adult learning principles. Edwards (2013) studied the relationship between teaching style in two contexts, face-to-face and online environments. The research determined that the

convenience sample of educators (n = 107) were not committed to a learner-centered teaching style, as determined by a PALS survey, in either an online or face-to-face context.

In other studies, Yoshida (2014), using a translated form of PALS in his study of over 1,000 Japanese teachers, found items on the instrument correlated at least at the .2 level with the total score. Furthermore, he found "strong internal consistency reliability" (p. 16) with an alpha of .86. His standardized item alpha was .87. Fries (2012) used PALS to determine the teaching style preferences of faculty at a state university. The study associated educational philosophy with teaching style and determined that the dominant attitude of the sample of 122 faculty was of a progressive philosophy and a learner-centered preference in teaching style. Swetnam (2011) used PALS to study the attitudes of three professors toward the haptic tendencies of their students and the degrees to which such students were accommodated. The existence of accommodation was determined by observation in class and the observations were then associated with other metrics from PALS. Each professor was determined to highly accommodate haptic learners who constituted 42% of the class population, and to also correlate with a learner-centered preference in teaching style. Floyd (2010) used the PALS survey to explore the teaching styles of Georgia Workforce educators as compared to entrepreneurship instructors. The results of the survey determined that workforce educators were more teacher-centered, falling below the PALS' mean while entrepreneurial educators tended to score above the mean, being more learner-centered in style.

PALS has been used consistently over the last 30 years as a reliable instrument to measure instructor attitudes on a continuum between teacher-centered and learner-centered styles. No evidence has been identified to dispute the accuracy of PALS in determining the

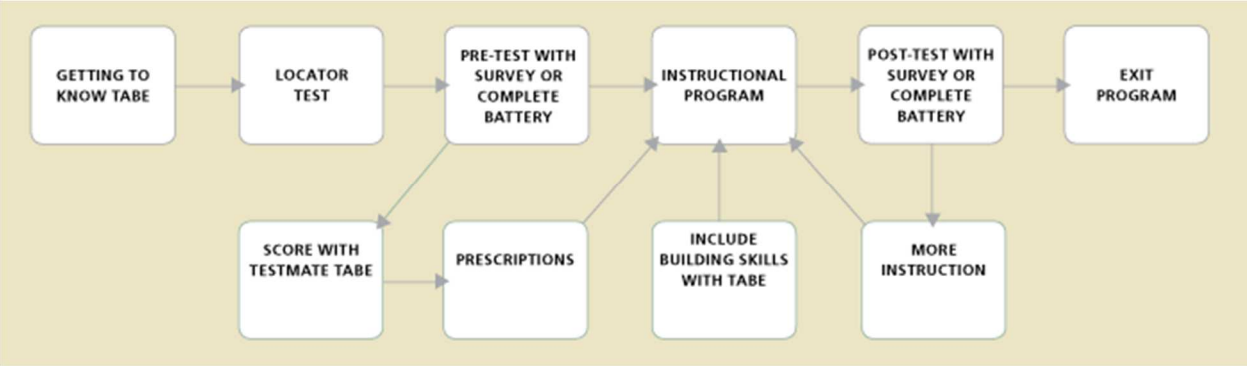
styles of instructors and the survey is appropriate for the collection of style differences for this research. In that the validity of PALS was established by several juries of highly published adult educators from across the U.S. (Conti, n.d.), the researcher feels that its appropriateness as an instrument for this research is well founded. As noted earlier, PALS was also tested in adult education environments similar to those in which this research is conducted. This aspect of the reliability regime provides further assurance that the survey instrument is a proper selection for this research into adult education classes, in that its constancy was established over a number of teaching environments (See Table 4).

Pre and Posttest Process with TABE

Figure 2 displays the pre and posttest process for adult education students being evaluated by the TABE program. The first two boxes in the diagram, Getting to Know TABE and the Locator Test are precursors to the actual pretest battery in all three content areas, reading, language and mathematics. The Locator Test is a short diagnostic attempt to place the student at an appropriate level as to content skills. The Locator consists of 12 reading, 16 math and 12 language questions; total time allotted is 37 minutes. Given that there are five levels of difficulty for each TABE content test – L, E, M, D, A - the Locator helps the instructor establish a quick view of the learner's skill levels and provide the proper level of test for the pretest battery to follow. Locator scores are not reported to the ACES system and are not collected by the state.

Figure 2

Pre and Posttest Evaluation Process for the TABE Tests Used in AEL classes.



Note. Retrieved from CTB/McGraw-Hill, Product Quick Facts. www.ctb.com/ctb.com. The "survey" described in several of the steps is not applicable to the Missouri AEL process. Only the complete battery is used to establish pre and posttest scores.

The reporting system in use in Missouri adult basic education does not codify or collect data regarding the amount of time instructors spend in group presentation, type of presentation, individual instruction, employment of manipulatives, use of homework or practice. Consequently, relationships between those factors and the degree of educational gain achieved is not correlated. The ACES system in Missouri does collect the number of hours reported for attendance for individual students, the number of attempts to pass the high school equivalency test and the scores on each of the five tests together with demographics and a statement as to what the student is seeking to accomplish; new employment, retained employment, advanced training or post-secondary education, per the measured outcomes specified by the NRS (Implementation Guidelines, 2013). The ED database system, into which the ACES data is uploaded, also continues to track an individual's school attendance or work activity through their social security number and compares their post adult education activity with their stated intentions upon entering the program ((Missouri AEL State Plan, 2013). As has been noted

earlier, while significant data is collected regarding the items discussed above, the actual types and methods of instruction, from a pedagogical perspective, are not queried. Lessons, in group presentation format, are strongly encouraged by individual programs but no account of methodology or teacher-centered learner-centered approach is captured.

In Missouri in 2011, there were 37 adult education programs reporting results to the state data repository (Missouri AEL Performance, FY 2011). These 37 programs and the individual learning sites under which they conduct instruction, serve as the population source for this research. Records from the depository to which all adult education programs report attendance, pre and posttest data with other demographic information regarding adult education students, demonstrate that the actual rates of progression among programs varies (Missouri AEL Performance FY 2011).

Teacher Roles

The diverse epistemologies extant in the concept of teaching and learning include varying styles of teaching (Knowles, 1990). Such styles are actuated in the manner with which the teaching is conducted. The teacher can be a mentor, expert, reformer, or even a co-learner, to name a few. In the discussion of the continuum above (Conti, 1985), it was implied that there are many stopping points on both sides of the middle. Teachers vary greatly in terms of their approach, belief and relationship with learners, but there are two predominant aspects including all teacher styles: that of the teacher-centered instructor and the learner-centered instructor (Conti, 2004). Learner-centered teachers tend to exhibit humanist characteristics while teacher-centered teachers can be identified by their bias toward the behaviorist model. There are several instructional descriptions that fit underneath the two major style divisions. The acts of mentoring, helping students to become self-directed, avoiding rigid curricula, allowing the

learner to participate in the structure of assessment and the practice of facilitation are all characteristics of the humanist and learner-centered teacher. As a mentor, the educator advises and supports learners. As a facilitator the teacher acts in support of the learner's goals and desires to learn. The facilitating teacher assumes a more passive role in the teaching-learning transaction and acts as resource, guide and mentor in a process of self-directed learning (Brookfield, 1986, Grow, 1986). The concept of facilitation appears consistently in the literature as synonymous with learner-centered characteristics. Brookfield (1986) has described facilitation as "assisting adults to free themselves from externally imposed direction in their learning and with encouraging them to become proactive, initiating individuals in reshaping their personal, work, political, and recreational lives" (p.60).

Rogers (1969) included in the definition of the teacher as one who is a "facilitator of learning" (pp. 104-105). Rogers (1969) further stated:

> The critical element in performing this role is the personal relationship between the facilitator and the learner, which in turn is dependent of the facilitator's possessing three attitudinal qualities: (1) realness or genuineness, (2) non-possessive caring, prizing, trust, and respect, and (3) empathetic understanding and sensitive and accurate listening. (pp. 106-126).

Rogers (1969) described several key elements of learner-centered behavior of teachers. Foremost among them, is the role of the facilitator as the primary factor in setting the climate for the classroom. He/she also helps elicit and clarify the intentions of the learners as individuals as well as the larger general purpose of the class. The learner brings the motivational force for learning to the experience and the facilitator relies on the learner's judgment to properly value his own motivation. The facilitator endeavors to organize and make easily available the widest

possible range of resources for learning and regards himself as a resource to be utilized by the group as well. When responding to expressions in the classroom group, the facilitator accepts both intellectual content and emotionalized attitudes.

As the acceptant classroom climate becomes established, learner-centered teachers may become participant learners themselves, members of the group, expressing their views as those of one individual only (Grow, 1986). Such teachers take the initiative in sharing themselves with the groups' feelings and thoughts in ways which do not demand or impose. Most importantly, the facilitators of learning endeavor to recognize and accept their own limitations.

While stated in his own terms and delineated somewhat differently from Rogers (1969), Knowles' (1990) concept of the facilitator's role and the means by which a facilitator can affect a learning environment is consistent with the ideas proposed by other adult learning theorists and researchers (Brookfield, 1985; Freire, 1970; Galbraith, 2004; Mackeracher, 2004).

The themes of learner-centered instruction, adult choice, and instructor as facilitator and participant as opposed to teacher or leader, continually appear in the description of an adult learning environment that is non-punitive, non-hierarchic and humanist (Brookfield, 1986; Conti, 1985; Knowles, 1990; Mackeracker, 2004). It is an environment where the teacher becomes one whose main purpose is to assist learners in their quest for new knowledge and in no way to direct, influence or require certain content to be learned or even considered. The learner-centered teacher looks to the learner as the true and accurate source of what is to be learned and why, believing that the motivation driving the quest for knowledge comes most directly from the unique desires of the learner (Knowles, 1990; Conti, 1985).

Other characteristics of the successful adult teacher and learner-centered instructor involve a number of professional behaviors and attitudes. Spicer (2008) identified 31 specific

competencies, organized under six categories present in the practice and planning of successful instructors. The six categories are:

- professional development is regularly utilized.
- teachers are adept at instructional delivery and master content,
- management of instructional resources is appropriate to the class,
- assessment and monitoring of learning is constant and relevant,
- management of program responsibilities and program organization, and
- provide learner guidance and referral beyond the immediate scope of the class and content where needed.

Spicer's (2008) research served to establish a relationship between broad instructor competencies and student success, helping to support a rationale for identifying such competencies in adult educators and the potential for their direct correlation to adult learner advancement.

Teachers have also been shown to affect learner outcomes in particular content areas. Studies in mathematics and algebra education have identified particular instructor behaviors which have been predicted to improve mathematics learning in the adult basic education environment. For example, Manly and Ginsburg (2010) have determined that integrating algebraic thinking into adult arithmetic instruction and relating algebra to realistic adult applications that have relevance to the learner throughout the process of all mathematics education will enhance understanding in adults and reduce the anxiety associated with learning higher arithmetic and algebra. "In adult education, algebraic thinking can be a sense-making tool that introduces coherence among mathematical concepts for those who previously have had trouble learning math" (Manly & Ginsburg, 2010, p. 13). Also appropriate to the adult math student is the topic of overcoming previously learned obstacles and negative experiences as

addressed by Quigley (1995) in a study that explored the ability of adult basic education programs to retain students and keep them active in programs. Quigley suggests that course design include a regular component on unlearning designed to isolate and identify previous negative associations (Quigley, 1995).

Instruction, therefore, in a learner-centered context, requires a teacher to become a facilitator and resource, a guide and companion in a learning experience. This does not deny the importance of traditional teaching, only that traditional teaching is applied in situations where it is the best process of communicating learner-desired content and skills. The learner-centered teacher responds to the educational requirements and requests of the learners, rather than requiring the learners to respond to the teacher-centered instructor's predetermined curriculum.

Learner Characteristics

Learning styles may be as unique as personality when considered individually. Nonetheless, grouping learning behavior into larger categories of characteristics is strongly supported in the literature (Beder & Darkenwald, 1982; Brookfield, 1986; Conti, 1985; Knowles, 1982; Lindeman, 1926; Rogers, 2002). Initial research focused on a confirmation of the adults' ability to learn and respond to new information and the introduction of a concept of andragogical philosophy early in the Twentieth Century (Lindeman, 1926). Further study conducted in the 1960s reactivated an interest in the andragogical concept (Knowles, 1968) and certain assumptions and factors, unique to the adult experience, began to emerge as significant in the way adults react to the acquisition of new knowledge and their preferences in acquiring it (Kidd, 1976).

Overall, the literature is strongly in favor of identifying adults, in terms of their learning behavior and attitudes, and approaching adult learning from a different perspective as opposed to

adolescents. In identifying these adult behaviors and differences the following discussion provides a review of the literature details which characterized adult learning behavior. It begins with an examination of andragogy.

Andragogical characteristics.

Knowles (1980) is known to have popularized the concept of a andragogy and offered several "assumptions" (p. 43) regarding a philosophy of andragogy. Knowles' assumptions have included, perhaps even primarily, the maturity achieved by adults which in turn leads them to be somewhat self-directed in choosing their learning direction and goals and the act of collaboration in determining assessment strategies. He also suggested that adults possess an internal motivation which is focused and may be intolerant of teaching that is not relevant to that motivation. Adults also possess, in Knowles' assumptions, an ever increasing body of experience with which to both evaluate and filter new information into meaningful knowledge. A fuller discussion regarding Knowles' (1990) six assumptions about the adult learner is summarized below:

1. A need to know. Adults are entirely focused on the utility of their learning and wish to learn only that which they determine to be of use in the most immediate future.
2. The learner's self-concept. The idea of a learning self-concept, as Knowles, et al (Knowles, Holton, & Swanson, 2005) describe it, is one of increasing intellectual independence starting in early adolescence and maturing at adulthood. This aspect of the adult self presents and supports the learners' desire to be self-directing in their learning and to confine the learning effort to that which is deemed worthy of the investment of effort and time. Knowles (1990) further notes that much of education

design may not take this aspect of the learner's psychology into sufficient account, opting instead for a more pedagogical and teacher-directed experience, thereby creating a dissonance in learning efficiency in the adult context.

3. The role of experience. Knowles (as cited in Knowles, Holton, & Swanson, 2005) argues that the simple act of living beyond the adolescent stage of life and accumulating more years in time allows the teaching of adults to take on another adult-only characteristic. Experience, according to Knowles, is, in itself, both a quantitative and qualitative difference for adults that has "several consequences for adult education" (p.66). The first is that the diversity of experience evident in any group of adults brings with it a broader range of background and style of learning than a group of youths. "Hence, greater emphasis in adult education is placed upon individualization of teaching and learning strategies" (p. 66). Learners in adult education also bring a rich resource for learning, residing within themselves. This, in turn, implies a fertile opportunity for experiential instruction techniques such as discussion, simulation, and lab methods. Using the learners' experience as a teaching resource is not only possible in the adult environment but appropriate as an effective tool in the transmission of learning between learners. Knowles (2005), also notes that along with life experience can come prejudice, arbitrariness and presuppositions that the adult facilitator must respond to as well.
4. As noted in characteristic one above, the need to know exists as a strong motivation in adult learning. Along with the need to learn something, to solve a problem, to fulfill a requirement, comes the fourth characteristic in Knowles' andragogical model

(Knowles, Holton, Swanson, 2005). The readiness to learn supports and provides the means by which the adult learner fulfills the perceived need to learn.

5. The context of an adult orientation involves both the need to learn and the readiness to learn. A felt need and emotional readiness produce an orientation that allows learners to correlate education with real life needs and circumstances. In other words, an adult sees learning as a highly practical, real life tool that can impact one's life directly and immediately (Knowles, Holton, Swanson. 2005).
6. The final block in the foundation of andragogical learning is the adult form of motivation. Knowles, Holton and Swanson (2005) argue that adults are most highly motivated by internal pressures to realize "increased job satisfaction, self-esteem, quality of life, and the like" (p. 68).

Learner-centered characteristics.

Merriam (2009) noted that theories in adult education literature describe adults as self-directed and participatory in the planning of their learning. She further notes, "however, data-based studies of adult learners have revealed that some do not want or know how to take control of their own learning" (p. 57)

Brookfield (1985) has offered, with different terminology, a set of six principles designed to identify and help explain the nature of the adult education process;

- voluntary participation,
- respect for individual worth
- acknowledgement of the learner's experience and perception,
- collaboration as adult education, a process of
- critical reflection and the

- development of self-directed adults.

There appear to be significant similarities between the assumptions and principles of Knowles (1990) and Brookfield (1985) and that conflating the two approaches adds strength to the idea that some aspects of Knowles' andragogy can be evidenced in a number of varying philosophies. Brookfield's descriptions are distinct from Knowles', in that they use different characterizations to portray their vision of the adult learner, but their intent to describe a condition or circumstance of adult learning, seem to be derived from the same understanding of adult learning.

Mackeracher (2004) has offered seven assumptions about adult learning that, as well, support the same descriptions noted from other authors; adults can and do learn, adults are not mature children, adults change with time, adults accumulate experience and prior learning, the role of time is a significant element in adult life and impacts the learning process. Adults bring to learning an established sense of self and an "inclination to protect this self from perceived threats that might arise in learning interactions" (p. 25); and last, the inclination to self-directedness and relatedness to the group influence how the adult chooses to learn. In terms of how Mackeracher sees adults as a discreet population as well as one that has and is affected by life experience, it can be seen that she aligns herself with Brookfield and Knowles in their assumptions regarding the difference between adults and adolescents that brings real world experience to learning transaction–

Being disinclined to accept the discrete differences between adults and adolescents as delineated by Knowles, Brookfield and Mackeracher above (Brookfield, 1986; Knowles, 1980, Mackeracher, 2004), Rogers (2002) suggested that the characteristics of learning contained in

Knowles and others' assumptions are not unique to adults but actually more elaborate and larger manifestations of the same tendencies in learning. Rogers (2002) offers the following conclusion:

> Thus it may be that the difference between adult experiential learning and children's experiential learning is a matter of degree. That adults have a greater range of experience (their own and other's) to draw upon than children is self-apparent, but this does not necessarily mean that the processes of adult learning are any different from those of children, only that the mixture of processes may be different. (p. 132)

While Rogers (2002) appears to be less inclined to separate learning characteristics between children and adults as being unique to each group, he does not dispute the existence and relevance of the types of learning characteristics suggested by Knowles and others, only that they differ in adults as a matter of degree. Rogers (2002) therefore concurs with Brookfield (1986), Knowles (1980) and Mackeracher (2004) in terms of their assumptions about the learning characteristics of adults but believes that these characteristics are applicable to both adults and children.

Other authors have noted the overlap of several of the assumptions and their possible applicability to both children and adults, while still recognizing the singular most distinctive difference between the learning adult and child – that of experience. Mullinix and Comings (1994) concluded that:

> Adults are a distinct and discrete learning population whose differences as learners have been explored by many in the field of adult education. While some

> educators are of the opinion that andragogy is little more than good pedagogy, the differences in experience and orientation between adults and children remain. (p.6)

The Confluence of Learning Styles and Teaching Styles

It is necessary to recall that teaching and learning is a symbiotic transaction where learner and teacher must be aligned between learner needs and instructor facilitation (Knowles, 1990). The learner-centered teaching style dictates that the learner is the center of the learning experience and the instructor a facilitator, resource and guide. The learner-centered teacher is therefore primarily concerned with the learner's situation and their motivation, the reason for seeking learning, degree of self-direction, depth of life and learning experience because it is upon these considerations that the instructional plan is built. It is apparent that the teacher-centered instructor is less influenced by these factors and less inclined to modify the instructional plan according to learner inclinations.

When evaluating the question of learner outcomes as a consequence of instructor effectiveness, it is necessary to include the fact that there are two relevant variables at work affecting outcomes. The actions of the instructor/facilitator/collaborationist are but one of the two key elements in the teaching and learning transaction. The second is the disposition of the learner and their readiness to be affected by the learning experience.

It is difficult, if not impossible, to study learner outcomes without taking cognizance of both influences, that of the teacher and the learner, and it's compounded result. Learners bring a particular set of circumstances and conditions to the learning opportunity. One body of research in the area of learner readiness has been characterized as Cognitive Load Theory (Van Gog and

Paas, 2008). The theory addresses the complex of issues and dispositions learners bring to the classroom and which in turn influence their ability to respond to teaching styles of any kind. Cognitive load also contemplates the idea of a volume of cognitive capacity available in a learner's mind and the residual capacity that may be available that can be dedicated to new learning.

Teachers as well bring their cognitive dispositions to the teacher-learner transaction and the nature of these dispositions have varying influence upon specific learners. Beder and Darkenwald (1982) surveyed 173 public school and college teachers who were experienced in the instruction of adults and adolescents. Their findings indicated that when adults were present in the classroom as learners the teachers began to exhibit behaviors that were more learner-centered and less controlling than when children only were present. In this case, it appears that the mere presence of adults precipitated a modification in the teachers' style from being teacher-directed to more of a learner-directed style, responding automatically to the perception of the age of the learners. While it is reasonable to presume that the teaching-learning transaction is symbiotic between teacher and learner, the scope of this research is focused on the effect that two specific teaching styles have upon learner outcomes, while not controlling for other influences or variables.

Teaching strategies are based upon philosophical underpinnings and emanate as logical applications of a particular epistemology (Brookfield, 1986). For example, the belief that adults respond to a warm and welcoming environment (Knowles, 1975) leads, therefore, to the action that greeting students at the door by name, recalling their situation in the class, and being ready to discuss their status with clarity improves the effectiveness of the learning environment.

The basis for this study is founded on two concepts of teaching and learning. The first is that the teacher and in particular the specific techniques and methods used by the teacher do impact the learning of students (Marzano, 2001). Marzano's (2003) analysis of the key factors affecting student learning clearly determines that "a teacher level factor that affects student achievement is 'instructional strategies'" (p. 78).

A second concept is that there are particular instructional techniques and methods that may be appropriate to certain groups of learners and that adults are one of the groups who benefit by the use of adult-specific techniques and strategies (Brookfield, 1986, Knowles, Holton, Swanson, 2005, Knowles, 1990, Lindeman, 1926, Long, 2004, Marzano, 2003). In referring to research comparing teacher-centered and learner-centered instruction in adult ABE classes, Conti (1989) has suggested the following;

> These two styles of teaching [teacher-centered and learner-centered] are drastically different. Are they equally effective for all learners in ABE, or does teaching style make a difference in student achievement….Initial research evidence seems to indicate that teaching style does make a difference in how well students learn. (p. 311)

Wubbles, Brekelmans, van Tartwijk and Admiral (as cited in Marzano, 2003), have characterized the teacher-centered and learner-centered continuum in different terms. They offer a set of two continuums representing, in one case, high dominance versus high submission and in the second, high cooperation versus high opposition. "High dominance is characterized by clarity of purpose and strong guidance. That is, the teacher is clear about his purposes and provides strong academic and behavioral guidance" (Marzano, 2003, p. 92). Wubbles, et al. (as cited in Marzano, 2003), go on to say that "these are certainly positive characteristics, but high

dominance is also characterized by lack of concern for the opinion or needs of the students" (p. 92). Therefore a high dominance characteristic in teaching would align with a strong teacher-centered orientation. "High cooperation is characterized by a concern for the needs and opinions of others and a desire to function as a member of the team" (p .93). Marzano (2003) goes on to describe the Wubbles, et al. findings as indicating that "The right combination of moderate dominance, as opposed to high dominance, and moderate cooperation, as opposed to high cooperation, provides the optimal teacher and student relationship for learning" (p.93). The relationship between teaching approaches that are high dominant and cooperative, compared with those that are teacher-centered and learner-centered respectively, is strong. The place of andragogic practices, as Knowles, et al (2005) described them, and which can be characterized as cooperative as in Wubbles, et al (as cited in Marzano, 2003), and learner-centered as in Conti's (1989) terms are all closely related.

The close relationship between Conti's (1982) use of learner-centered and collaborative concepts of the teaching-learning transaction and Knowles description of andragogy is confirmed in the 1982 article referenced herein:

> In proposing the use of the term andragogy (sic), Knowles (1970) argues that adult learning activities should be based upon the realization that individual maturation steadily increases a person's need and capacity to be self-directing, to utilize experience, to learn for evolving social roles, and to organize learning around life problems. Because of these characteristics, the teacher's role focuses on providing a climate, procedures, and resources for participation and for the acquisition of information and skills. (Conti, 1982, p. 138)

Therefore it is strongly indicated that teachers matter, to a significant degree, and that the way teachers approach their tasks and view their role is important.

Purcell-Gates, Jacobson and Degener (as cited in Beder, Lipnevich, & Robinson-Geller, 2007) developed a scale which measured the extent to which instruction was either teacher directed or collaborative. The scale further divided the directedness of teachers into two additional levels for each instructional style; highly collaborative, somewhat collaborative, and somewhat teacher directed and highly teacher directed. The researcher believes the collaborative and teacher-directed descriptions of instructional behavior detailed in the Purcell-Gates, et al (as cited in Beder, et al) is consistent with the teacher-directed and learner-directed concepts discussed earlier.

> Purcell-Gates, et al. (as referenced in Beder, et al., 2007) described their concept of the two teaching styles as follows:
>
> *Highly collaborative* programs where students work with teachers to create the course, choose the materials and activities as well as the assessment procedures, participating in their own assessments.
>
> *Highly teacher directed* programs where students have little or no input into course content, activities or materials. (p. 64)

Summary of Chapter Two

This chapter reviewed the literature that established a theoretical framework for adult teaching; adults are different than children, they bring certain characteristics to the learning experience that are unique to adults – primarily experience - and they seek very delimited and

specific things from education. It was also established that there is a relationship between how adults learn and the styles of teaching that may be practiced by adult education instructors.

Two extremes of teaching style were discussed in the literature; teacher-centered and learner-centered. The literature addressed the appropriateness of each style, its primary characteristics and prevalence of use. Teaching style was also present in the literature as facilitation and collaboration and the alignment of the facilitation style with the learner-centered concept was discussed. The literature revealed a strong presence for the idea that adults can and do learn. Also that adults and teachers interact in a teaching/learning symbiosis which can be facilitated by learner-centered, collaborative, styles of instruction. The instrument used to pre and posttest adults in adult education classes in Missouri was described in detail from information available from the Department of Education and the test publisher.

Chapter Three describes the instrument that is used to survey the AEL teachers in Missouri as well as the validation and reliability processes used in its development. It further explains the research process, its parameters, and distribution. Chapter Three details the method of data collection, analysis and how the various elements of data are compared.

Chapter Three

Methodology

In this chapter, the research methodology is outlined. As such, the sample, data collection method, including a discussion of the survey instrument, and data analyses are addressed. Some of the data, particularly regarding the specifics of Adult Education and Literacy (AEL) classroom management and processes are derived from the researcher's personal experience. The researcher is a certified AEL teacher currently teaching at two sites, one morning and one evening. He is in his fifth year of AEL teaching. In addition, the researcher is a certified teacher for grades 7-12 and a certified school principal. He has extensive personal experience as both a teacher and school administrator. The researcher's AEL experience has both informed and prompted the research study and some elements of the background information contained herein.

The design for this study was quantitative in nature. A quantitative methodology was selected due to the objective and numerical nature of the data to be evaluated. This research activity was designed to identify the attitudes of adult education teachers in Missouri with regard to their preference for teacher-centered or learner-centered instruction and the effect of those preferences upon measured learner outcomes. Both of these measures are numeric and lend their comparison and evaluation to quantitative methods. The primary research question for the study was:

> Is there a relationship between teacher-centered or learner-centered instructional styles and learner outcomes in Missouri AEL classes?

A secondary question was:

Can the instructional style be isolated in terms of the highest levels of learner outcomes as characterized in NRS literature as education gain?

Finally, the research hypothesis was:

There is a relationship between teaching styles and learner outcomes in AEL classes in Missouri.

The research consisted of a survey contained as an attachment to an email, sent to each program director in Missouri with the request that the director forward the survey to each of the AEL teachers in their program for completion. The second objective of the research, the correlation with educational gain, was accomplished by obtaining the percentage-of-gain data of each of the learning sites in the state from the Department of Elementary and Secondary Education (DESE), State of Missouri, Division of Adult Education and Literacy.

The consequence of gathering the survey and educational gain data resulted in a comparison of the two – percentage of gain and AEL teacher instructional style. Such a comparison revealed the existence of any instructional style associated with an above average percentage of educational gain. From that correlation, generalizations may be drawn as to the particular effectiveness of certain instructional styles with above average results in educational gain.

The research design was composed of three elements. The first was the stylistic inclination, in terms of teacher-centered or learner-centered collaboration, of the teacher or teachers at a site. The second was the instrument used to measure the teaching style of the teacher(s) as practiced at the site. The third was the educational gain percentage reported by the site to the ACES database system maintained by DESE.

Sample

The sample for the study consisted of AEL teachers at learning sites in the State of Missouri. A learning site is a specific class location containing one or more teachers in co-teaching activity. Co-teaching, in the AEL context, implies perhaps two teachers, rarely more, working together in one classroom with one set of students. Any teacher may teach any aspect of the curriculum, or teachers may agree among themselves to divide teaching duties by content or function as is most appropriate. Such arrangements are generally left to the discretion of the teachers at a site.

The terms site and class are interchangeable. Each class is assigned a number, denoting its program and location. One number from the Parkway School District AEL program, for example, is 096-826-0056 (See Appendix G for a complete list of the 2014/2015 AEL programs). The middle three numbers identify the program and the last four the specific site. Educational gain statistics are reported to the state monthly, by program and site number, and are available through the State of Missouri's Adult Computer Education System (ACES).

The teachers in Missouri who are certified as AEL qualified, must have at least a college degree. No prior teacher certification is required. New teachers, prior to their assignment to a class, must attend a two day Pre-Certification Workshop (PCW) which is conducted by the Missouri Training Institute, an affiliate of the University of Missouri. During the first year of teaching, an additional workshop titled the Beginning Teacher Assistance Program (BTAP), conducted over one full day, must also be completed. First year and second year teachers are also assigned a mentor, another teacher who has at least four years of experience, to assist and support the new teacher as a resource for collaboration and guidance. In addition, for each of the

first four years of instruction, the teacher must complete at least 15 hours of professional development in order to maintain their certification for another year. Professional development is conducted by the Missouri Training Institute. Once a teacher completes the first four years of instruction and all professional development requirements, she is eligible for "Continuing" certification for 99 years. Although professional development is still required each year thereafter.

Of the programs managed by the State of Missouri and included in this research pool, 37 are currently in operation with approximately 310 individual learning sites teaching students in adult education, inclusive of both ESL and ABE/ASE (T. Robbins, personal communication October 28, 2014). Of the 310 learning sites, approximately 79% (245) are ABE/ASE, and 21% ESL. Only ABE/ASE teachers are included in this survey population. There are 691 part-time teachers in the system and 65 full-time. Part-time teachers are thereby 91.4 % of the survey population. Of all part-time teachers, 53 % (366) have K-12 or special education certification in addition to adult education certification. Sixty-nine percent of all teachers have more than 3 years of AEL teaching experience. Administrative personnel in the system consist of 71 part-time and 46 full-time employees including directors, clerks, registrars, and coordinators (OCATE-NRS, 2013).

Survey Instrument

The instrument used in the research is the Principles of Adult Learning Scale (PALS) developed by Gary J. Conti in 1978 and is used with permission.

Data Collection

The researcher collected, by survey, data regarding the character of instruction in learner- and teacher-centered terms, as derived from responses to the PALS surveys, at each responding site in the Missouri AEL program. Additional data regarding each site's educational gain percentage was also collected from DESE.

Data collection process.

The PALS survey was first distributed on November 20, 2014 and sent to all 37 program directors in the Missouri AEL system. Table 5 Survey Mailing Schedule provides the dates and response to each of the emails.

Table 5

Survey Mailing Schedule

E mailing	Period	Response	Running Total
Initial Survey	11/20/2015		
Parkway Director Email to Directors	11/20/2015 12/01/2015	33	33
First Reminder	12/02/2015 12/11/2015	31	64
Second Reminder	12/11/2015 12/17/2015	25	89
Survey Closed	12/20/2015		89 Total Responses

Note: No surveys were received after December 17, 2014.

Each site's survey response was compared with its educational gain percentage. Gain is defined as any student achieving adequate success on a TABE posttest that is sufficient to move up at least one NRS level. Classes wherein the percentage of students achieving gain is greater than the mandated gain for all classes in the state was compared with the dominant teaching pattern for that class.

Data regarding the educational gain percentage of learning sites is reported monthly to DESE and compiled in a central state-managed database. The data is not published but is available from DESE and was obtained for this study. This DESE database provide the educational gain data that is compared to the site's teaching style preferences as reported in the survey.

Learning site data.

To qualify for post-testing with the TABE the student must be enrolled into the program. Enrollment is completed when the students have finished a three-day orientation process during which they are pre-tested, advised of the program's requirements and procedures, and have furnished a valid social security number on the enrollment form. In addition, students must log no less than 12 hours of class time to be considered enrolled. In order to be post-tested, students must have attended at least 40 hours of instruction if pretested at NRS levels 1, 2, 3 and 30 hours of instruction if pretested at levels 4, 5, 6. Upon the completion of the requirements students are entered into the program database, their attendance and post test scores are tracked and reported by the learning site to the program office. This data is then forwarded via the ACES website to the state for inclusion in its state-wide database (Missouri AEL State Plan, 2013).

Teacher data.

A letter explaining the study along with a link to the survey was sent to the 36 program directors (See Appendix E) and then forwarded on to all teachers in the program which by default covered all learning sites. The instructors were asked to complete the survey and were informed that completing the survey constitutes consent to participate in the study (Appendix E). Two weeks from initial distribution, a follow up email (See Appendix F) to the program director was sent by the researcher encouraging a reminder email to all teachers. If the survey was not returned in one additional week the survey was closed and no additional surveys were included.

There were 36 directors' emails available through the DESE online directory. Each program director was asked to forward the survey email to each of their instructors and to request the instructors' cooperation in completing the questions and returning the survey via return

email. The distribution of surveys was made in the first week of December and final returns were received by December 23. During this period, two additional emails were sent to the directors reminding them of the survey and seeking their support in encouraging teachers to fill it out. It is not known how many program directors actually forwarded the emails as requested. Of the 36 directors emailed, responses were received from 16 programs and 89 individual surveys were returned from those 16 programs.

In addition to the survey questions relating to teaching style, respondents were asked to provide information on five demographic questions: age range, number of years teaching at the current site, number of years teaching adult education, education level and gender.

Data Analysis

Reports resulting from the survey aggregate the number of respondents, number of questions answered in total, and total of each of the six choices per question. Further granularity in reporting, given sufficient numbers and geographic distribution of responses, could have been achieved by isolating responses into four geographic areas; St. Louis Metro, Kansas City Metro, out-state south and out-state north. Such a division in the data could enable the analysis to identify any differences in dominant teaching strategies among Missouri's geo-cultural areas; metropolitan, small farm and town south, and small farm and town north. This was not the case as only 34 usable surveys were received. Instructors were also asked to provide information regarding their age range, gender, years in adult education instruction, highest academic degree, and years teaching at their current site. If less than 50% of the questions are answered on any survey that survey was not counted in the calculations and analysis.

The aggregate set of responses from each instructor revealed a dominant orientation together with a view of the practiced style or combination of styles. This data was pared with the

instructor/learning site and test outcome data in order to reveal relationships between certain orientations, styles and outcomes. The site number, reported with each survey, was used to identify the responses as to their programs and also to correspond with the educational outcome data.

After the surveys were returned, data was obtained from the DESE database, permission having been obtained through the State Director of AEL, regarding the average educational gain percentages from all learning sites. All data was then pared according to site number, associating the gain percentage with the PALS score from the site. This comparison yielded a degree of correlation between certain instructional practices and scores, suggesting that particular instructional styles may yield higher than required results. Comparisons were made manually by comparing site teacher survey data with the educational gain data provided by the state.

Using the mean PALS score of 146, AEL sites with scores of 146 or higher were considered as learner-centered in style. Sites lower than 146 in PALS score were considered teacher-centered. The average educational gain outcome for those sites was calculated and a determination was made that learner-centered sites have higher, or lower, average outcome scores than those sites that are teacher-centered in style.

Additional associations were made for each site's factor scores with their educational gain score. A mean is established for each factor score (See Appendix C). The PALS Score reflects the aggregate of all seven factor scores.

Threats to Data

Threats to the integrity of the data are not believed to be significant beyond the following issues. One threat lies in the fact the comparison data; the teachers' descriptions and declarations

of teaching method with extent of use, is collected by response to a voluntary survey form. It is reasonable to assume that some percentage of the responses were inaccurate, insincere or incomplete. Given the professional nature of the individuals surveyed and the endorsement from the Director of Adult Education in Missouri, as well as the program directors in each AEL program, it is anticipated that responses were substantially complete and correct.

A further aspect of potential corruption in the data lies in the collection and aggregation process. In that all surveys were completed in an objective "to what degree" response scenario (Conti, 1998), calculating totals was objective. The use of an electronic survey tool was employed to assist in the calculation and aggregation of data.

The last threat to data resides in the quality of data aggregation and distribution as conducted by DESE. The researcher is not aware of any previously voiced concerns or complaints regarding the quality of DESE data and has no particular reason to consider the educational gain data that is used as anything but accurate and properly aggregated.

Summary of Methodology

The tabulation of responses revealed how each learning site surveyed considers itself as being learner- or teacher-centered. The total list of statements is divided into 24 positive statements and 20 negative statements as they relate to learner-centered instruction. Positive responses are learner-centered, negative responses are teacher-centered. The scoring method for positive questions and negative statements is reversed – meaning that a high score reflects significant acceptance of positive statements and significant rejection of negative statements. In summary, if one consistently does learner-centered things, they would receive a high raw score, and if one consistently responds with teacher-centered values, they would receive a lower raw

score. Therefore, the higher the score, the more accepting of learner-centered principals in so far as one sees their own individual teaching style.

Each teaching site was evaluated on two bases; the degree of overall inclination to practice learner-centered or teacher-centered instructional strategies expressed as a PALS score and the overall progression average for the site. There were situations wherein several teachers may operate at a single site and respond to the survey individually. Each responding teacher was treated with equal weight as a unique set of responses. While individual respondents are not identified, learning site identification numbers are related to responses (this is required to accurately associate the learning site with the progression score averages for that site).

Ethics and Human Relations

This study is entirely anonymous and at no time possessed the names of teachers who participated in the survey, nor the students whose scores are aggregated by the learning site. The researcher asked each program director, with the endorsement of the state director as noted above, to encourage each of their instructors to complete the form and assist the research process as potentially beneficial to all concerned. We intend to provide the results of the survey to each director for ultimate distribution to the population of all adult education instructors in the Missouri AEL program.

Research Timeline

Project Preparation.

The Principals of Adult Learning Scale (Conti, 2004) was adopted to measure instructor style as the most accurate form of determining the degree of learner-centered and teacher-centered instructional behavior.

- The endorsement of the Parkway School District director of adult education and literacy has been obtained by the researcher. The Director has agreed to send a pre survey email to all directors in the state, advising of the coming survey and encouraging each program's participation. The researcher worked with the Director to craft the initial pre survey email. Contacted the Missouri State Director of Adult Education and Literacy and requested endorsement.
- Prepared survey and instructions

Project Execution.

- Initial Email distribution to all program directors no later than first week of December 2014.
- Email follow up and reminder email to all program directors asking to remind all teachers to please complete if willing to participate. No later than Second week of December, 2014.
- Survey is closed on December 23, 2014. Audit surveys and exclude those with incomplete or inappropriate data.
- Manually calculate the responses and enter into the scoring matrix (See Appendix I). Consider the responses by class site and organize the class data numerically based upon class identifier given with each survey.
- Align the progression percentage with the extent of teacher- or learner-centered orientation used at the site. Determine appropriate correlations between types of instruction in use and success or lack thereof as to progression and improvement in NRS level scores.

- Analyze and report on data as related to hypothesis and objective. Identify recommended actions.

Summary of Chapter Three

Chapter Three described the organization of the research. Surveys were mailed to all program directors with a request that they be forwarded to individual instructors. Scores for all responses – those with a PALS score 146 and above are representative of learner-centered responses and those with a PALS score below 146 are representative of teacher-centered responses

The methods used to establish the validity and reliability of the survey were presented along with a summary of other dissertations and research that have used the PALS survey in their studies. Additional information, supplemental to that presented in Chapter Two, regarding the TABE and its process for establishing an educational gain score was developed.

Chapter Four

Results

The purpose of the research was to determine the effect of certain teaching behaviors upon the success of adult education students in adult education classes in Missouri during 2014. The teaching behaviors in question are the tendency of instructors in ABE/ASE classes to teach in certain learner- centered or teacher-centered styles (Conti, 2004, 1989, 1985; Brookfield, 1985). The success of students is measured in the amount of educational gain achieved according to the NRS scale in a pre-test and post-test context (Implementation Guidelines, 2013).

The teaching style of instructors is ascertained by administering the Principles of Adult Learning Scale (PALS) survey (Conti, 1989) and using it as a measure to determine the degree of teacher- or learner-centeredness of individual teachers. Teaching style is identified as being inclined toward learner-centered or teacher-centered by the respondents' score on the PALS survey. By identifying the degree of educational gain evidenced by students in the surveyed programs, and comparing the teaching style of the teachers in those programs with the average educational gain of the students in that teacher's class, the research may identify one of the two teaching styles as producing higher learner outcomes than the other style. From such a comparison, the research would identify which inclination in teaching style is more effective in the AEL context as to educational gain.

With a mean of 145.5, the PALS data is interpreted to mean that scores above the mean are to some degree learner-centered and scores below the mean are inclined toward teacher-centeredness, increasing in each inclination the higher or lower the score is from the mean (Conti, 1989). Variations in the degree of centeredness, either above or below the mean, are evident in the data (Appendix I). Each teacher's score on the PALS survey is associated with

that teacher's learning site's educational outcome. This association allows the research to determine if there are significant relationships between style and outcome.

A significant factor in the development of this research is the fact that the grant under which Missouri adult education is funded evaluates programs in terms of the percentage of learners who "progress". Progress is defined as the percentage of learners who score higher on post-tests than on pretests, according to NRS scale measures (Implementation Guidelines, 2013). Consequently, programs must seek to find the most effective and efficient ways of teaching adult learners, resulting in the percentages of educational outcome required by the funding authorities.

Many factors affect the success of learners in any teaching/learning transaction; physical facilities, time of day, instructor empathy, quality of materials and resources, physical disposition of the adult learner and other variables may all impact the outcome of the learning transaction (Knowles, 2005). Among these factors is the teaching style of the instructor (Brookfield, 1986). This research selected teaching style as a significant factor and worthy of analysis according to the earlier stated hypothesis. Other factors may well impact educational outcomes but it is proposed that the style-to-outcome question could be effectively isolated and measured using the PALS instrument with a direct comparison to the objective NRS scale for learner outcomes.

To the extent that the data on the 34 surveys is representative, demographic data illustrate several factors regarding the surveyed AEL teachers in Missouri. They are primarily female at 60% of the total. Of all teachers, 85% are older than 40 years of age, with over half of the total percentage (42.37%) over the age of 60. Consequently, it is clear that this sample population of AEL teachers is mostly made up of females older than 40 and almost half over the age of 60.

Responses regarding tenure in both the AEL program and the specific teaching site to which the teacher is currently assigned revealed that the sample group is highly experienced in adult education, with 66% having more than 5 years AEL experience, and 50% having more than ten years' time in the profession. Teacher stability at the teaching site is also high, with over 80% of teachers at one site for more than 5 years. The last demographic statistic obtained regards the level of education for the surveyed AEL teachers. Respondents were asked to indicate their highest degree level between Bachelors, Masters and Doctorate. AEL teachers are well prepared educationally. In addition to the specific adult educator certifications required by Missouri and described earlier in Chapter One, over 36% of the responding teachers possessed masters' degrees and over 13% had earned the doctorate.

Survey Results and Descriptive Statistics

Out of the 756 universe of all AEL teachers in Missouri, 89 surveys were returned. From those 89, it was determined that three had been opened but no data was entered. Seven responses were incomplete duplicates of other submissions, one had too many blank answers (more than five) and 44 of the returned surveys, though complete as to answers, had incomplete or improperly entered learning site numbers, making their use in the correlation with learning style impossible. The remaining 34 surveys were used to compare with the learning outcomes. This resulted in a net usable return rate, or response rate, of 4.7 %. The minimum response rate for the population of 756, with a .05 confidence level requires a sample of 250. The usable sample from this survey was 34, consequently, no inferences can be drawn from the results.

The data from the State of Missouri was provided by DESE, Department of Adult Education. The state data listed each program and its associated learning sites in Missouri, together with the number of students who were enrolled into the learning site, the number who

achieved progression and the resulting percentage. The program and learning site number was aligned with the same number as reported on the survey and the survey score. This allowed for a comparison of learning style to the percentage of educational gain as demonstrated in the following data. Hereafter, the PALS data was referred to as PALS and the data from the survey responses was referred to as Survey. The educational gain data was described as educational gain.

Using SPSS statistics software, version 22, the following descriptive statistics were obtained for the two continuous variables of survey scores and educational gain. The complete set of descriptive statistics is displayed in Tables 6 and 7.

Table 6

Descriptive Statistics for 34 Survey Responses

	N	Range	Min.	Max.	Mean	Variance	Skew	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error
Survey	34	64.00	115.00	179.00	2.44361	203.022	.972	.403
Valid N (list wise)	34							

Table 7

Descriptive Statistics with Means and Standard Deviation, Kurtosis

	N	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error
Survey	34	136.5882	14.24859	1.029	.788
Valid N (list wise)	34				

The descriptive statistics from the 34 completed surveys display a range of scores from 115 to 179. The high score of 179 is 2.9 standard deviations above the mean of 137, while the lowest score of 115 is 1.5 standard deviations below the mean. Range is 64 points. Among the responses, there is broad difference in the attitudes toward teaching style.

Other statistics further demonstrate the non-normal distribution of the survey data. Kurtosis is peaked and displays a narrow mean, indicating that the survey responses, in most cases, are closely clustered around the mean and skewed positively.

Figure 3 displays the dispersion of scores from the survey responses. The standard deviation of the survey data is 14.24, which is 6.26 points below the PALS standard deviation of 20.5. This indicates that the responses from the survey are more closely associated with the

mean of 136.59 than the PALS scores are with the mean of 145.5, suggesting less variation in the survey responses than is demonstrated by the PALS scores. Missouri AEL teachers who responded to this survey are more alike in their attitudes toward teaching style than the PALS subjects (Conti, 1989). As demonstrated in Figure 3, the overlaying curve of the data is leptokurtic, highly peaked, and the skew is positive indicating a concentration of scores toward the mean and a smaller number of occurrences at the high end of the distribution.

Figure 3.
Histogram of Score Dispersion with Overlay for Survey Responses

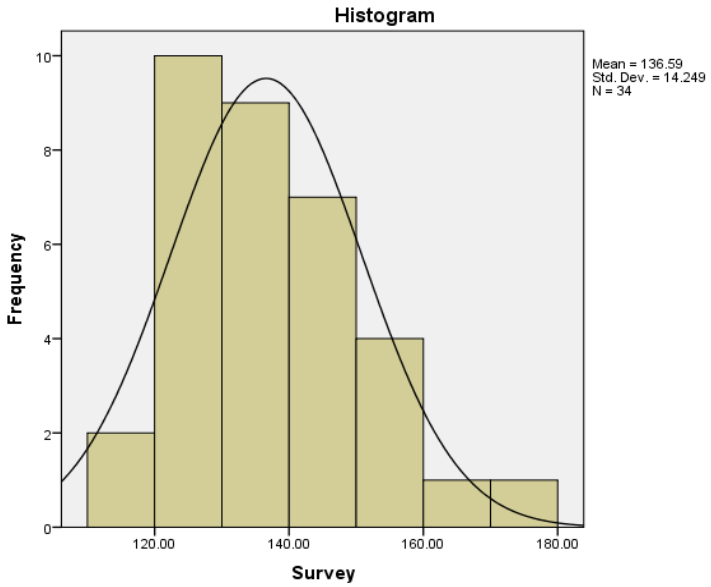
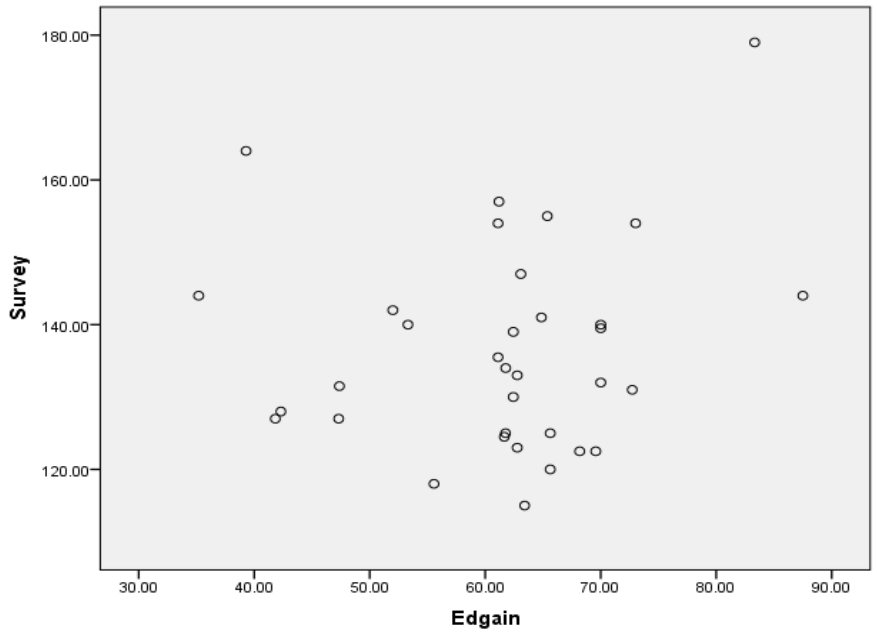


Figure 4, displays in scatterplot form the widely dispersed relationship between survey scores and educational gain, clearly demonstrating the lack of correlation between the two measures. The scatterplot indicates that both teacher-centered styles and learner-centered styles produced educational gain scores above the average of the state educational gain of 59% (DESE, 2015). The highly dispersed pattern of the data and the appearance of several potential outliers further demonstrates the broad variation in responses and outcomes.

Figure 4

Scatterplot Display of Survey Scores and Educational Gain Percentages for each Respondent

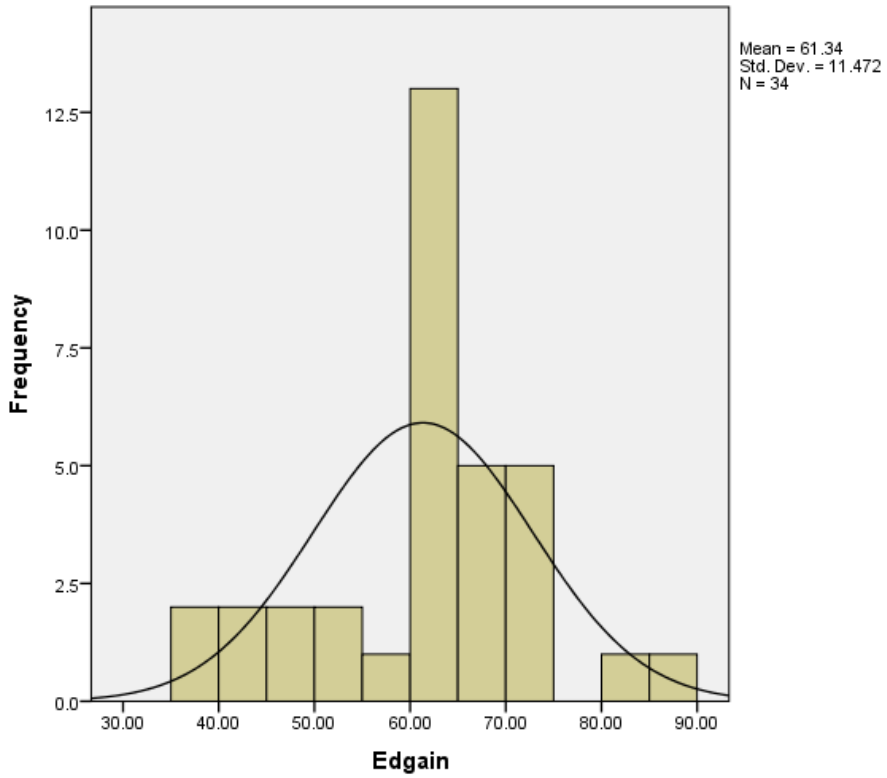


The lack of linearity in the relationship of the two data sets as displayed in the scatterplot (Figure 4) and the lack of normality in the distribution of the survey response data (Figure 3) preclude the application of correlation techniques attempting to find relationships between the two sets of data.

The distribution of scores for educational gain is highly concentrated at the mean of all educational gain at 61.34 (See Figure 5). This demonstrates that most learning sites achieved educational gain at the higher-than-state-average of 59% (DESE, 2015), while also being teacher-centered as to their dominant teaching style.

Figure 5

Histogram and Normal Curve Display for Educational Gain among Surveyed Learning Sites



The demographic data following represents 30 responses. Of the 34 surveys included in the results, 30 responses also included demographic data. Therefore, only those 30 are included in the demographics. Table 8 displays the demographic data and the percentages in each category for the 30 complete with demographic surveys.

Table 8

Demographic Data on 30 Survey Respondents

Demographic	Count	Percentage
Age		
<40	4	13.33
<60	7	23.33
>60	18	60.00
Gender		
Female	18	60.00
Male	11	40.00
Years Teaching Adult Ed		
<5	10	33.33
<10	5	16.67
>10	15	50.00
Years teaching at current Site		
<3	6	20.00
<5	8	26.67
>5	16	53.33
Degree		
BS	15	44.07
MS	11	49.15
Doc	4	6.78

Note. n = 30. One survey did not include data on age and gender. Those two categories total 29 responses.

Summary of Chapter 4

The purpose of the research is to determine if there is a quantifiable relationship between teaching style, as ascertained through the PALS survey, and the NRS measure of educational gain used to evaluate the success of adult basic education instruction. To achieve this, all ABE/ASE programs were sent the PALS survey to be forwarded to the instructors in that program. The returned surveys were scored according to the PALS system and the scores entered into the spreadsheet in Appendix I. The educational gain scores for all state learning sites and programs was provided to the researcher by the Department of Elementary and Secondary Education, Adult Education Division for the State of Missouri. The educational gain data for each responding site was entered into the spreadsheet alongside the survey scores for that site. This resulted in a direct comparison between the PALS survey scores on teaching style and the educational gain score for that learning site.

Descriptive statistics were derived on the two variables; the survey score and the educational gain percentage. In Chapter 5, the conclusions that can be drawn from the data are presented along with recommendations for further research into the effectiveness of the ABE/ASE teaching and learning transaction.

Chapter Five

Summary Discussion, Recommendations, and Conclusion

Instructors use a variety of styles which are often reflections of their philosophy of teaching (Conti, 1989, Knowles, 2005). The umbrella covering all styles can be divided into two broad categories described as teacher-centered and learner-centered (Conti, 1989). A teacher-centered instructor assumes a position of authority and leadership in the class, believing that students are there to learn what the teacher determines is to be taught. Teacher-centeredness is often associated with the behaviorist philosophy. Conversely, the learner-centered instructor sees the learner as the beginning point from which the learning experience and teaching experience develops. The learner is the source of all the educational impetus: what should be learned, how, and how assessed. The learner-centered instructor assumes a humanist philosophy of teaching. These styles of teaching can be found broadly in adult education such as in a college or university or within a less formal setting like a community center or the adult basic education (ABE) or adult secondary education (ASE) classroom.

This research study was an effort to determine if the particular teaching style of instructors in ABE/ASE classes in Missouri had an effect upon learner outcomes. Outcomes are measured as educational gain and as defined by the Department of Education, National Reporting Scale (NRS) in a pre and post-test process. Educational gain for all Missouri learning sites was provided by the Missouri Department of Elementary and Secondary Education.

To identify instructors' teaching style, the Principals of Adult Learning Scale (PALS) constructed by Conti (1986) was employed. PALS describes scores in the lower half of the distribution as being indicative of teacher-centered characteristics and those above the PALS mean of 145 as indicative of learner-centered characteristics. The PALS descriptions of learner-

centered and teacher-centered styles, earlier described as humanist and behaviorist respectively, are accepted as reasonable characterizations of the two inclinations. In this study, the survey results served as the independent variable. The dependent variable was the average measure of educational gain for each learning site in the state. By comparing the two measures, teaching style with outcome, it was hypothesized that any particular trend in teaching style, if associated with greater than average measures of educational gain, meaningful conclusions regarding how best to address AEL instruction could be ascertained.

An additional factor in the consideration of the value of determining teaching styles that are effective in improving learner outcomes, is the fact that AEL program success is measured by the Department of Education as educational gain. The federal enabling acts and subsequent reauthorizations that fund adult education in Missouri specify that funded programs require educational gain percentages in order to continue to receive funds without restriction. Therefore, identifying factors that could lead to improvements in educational gain are appropriate.

Results Regarding the Instructional Styles of a Sample of Missouri AEL Teachers

Of the PALS surveys that were distributed, 89 surveys were returned. Of that 89, 55 were incomplete and could not be used in the correlation with those teachers' learning sites' educational gain due to missing data. Thirty-four surveys had complete data were used to align with the educational gain scores obtained from the state.

The mean of the 34 surveys was 137 out of 220 possible points. The mean from the PALS data is 145. This indicates that Missouri AEL teachers are more inclined toward teacher-centered styles. Therefore survey respondents were an average of 8.9 points below the PALS mean of 145. Of the 34 surveys, 27 surveys' scores were below the 145 mean. Seven scores were above the 145 mean. This further indicates that there is an inclination among the surveyed

Missouri AEL teachers to be more teacher-centered in instructional style, according to Conti's Scale (Conti, 1989).

Kurtosis was determined to be peaked and not normal, implying that the distribution of the scores around the mean was more condensed than might have been the case with a larger response. Skew was not normal as well, further indicating a positive concentration of data. A scatterplot demonstrated that the data is not linear and is without a trend, indicating that while Missouri AEL teachers are more teacher-centered than the PALS data, they are highly varied in their individual differences.

Instructional Style and Educational Gains

Of the 27 survey scores below the PALS mean of 145, 19 demonstrated educational gain greater than the state average of 59%. In other words, of the responding sites that had teachers who were self-described as teacher-centered (scored below the PALS mean of 145) produced the majority of above average educational gain.

Theoretical Implications of the Sample Findings Relative to the Literature

While literature (Brookfield, 1985; Conti, 2004; Knowles, 1975, 1990) exists regarding the concept of teaching styles and the idea that certain styles could be more effective than others in terms of adult learning, the original literature search did not locate studies that sought to relate style to NRS outcome as was done in this study. Consequently, there is no direct congruence between the existing literature on the subject of teaching styles in AEL circumstances and the hypothesis or results found in this survey.

Some researchers (Merriam, 2009; Rogers, 2002) contend that some adults entering adult education are not self-directed and may seek greater guidance and support from instructors than the more learner-centered teacher is inclined to provide. In this regard, the findings of the majority of the 34 respondents are in substantial alignment with that aspect of the literature and support the idea that more, rather than less, guidance, leadership and control of learning by the teacher is best suited for some AEL learners.

Other researchers (Knowles, Holton, Swanson, 2005; Brookfield, 1986; Rogers, 2002) support a learner-centered approach to adult education instruction and believe it has a greater impact on adult learners. The findings from the survey results do not support that position at least as to the educational gain outcome measure. Adult education, by its nature, is open to anyone and its learners include a diverse range of people. Such differentiation in student preparedness may be a cause of the observation that less self-directed, more teacher-directed methods of instruction proved successful in terms of this research

Methodological Implications

The design of the study required two pieces of information; responses to the 44 PALS questions providing a range of styles and the educational gain data obtained from DESE for all

learning sites in Missouri. The link by which the PALS scores of individual respondents was associated with the educational gain data was the site number assigned by the state to each individual class or learning site. All surveys carried requests to provide the site number for the purpose of associating data with state outcome records. Of the 89 surveys returned only 34 contained the site number data needed for alignment with educational outcome. In most cases, incomplete numbers were recorded with insufficient data to allow the researcher to identify a site and compare the PALS score to the educational gain score.

To avoid this problem in any future similar research, putting the request for site number at the beginning of the survey, rather than at the end where it was located, and programming the survey such that one could only see the questions after the complete site number was entered would likely be more beneficial. This would assure that any returned surveys were usable and complete and could increase the total number of surveys for analysis.

The incomplete site numbers were not anticipated as a threat to the data as, in the researcher's experience, site numbers are used every day of class and in many reports. It is unclear why so many respondents either did not know or chose not to provide an accurate and complete site number.

The critical matter of the few number of responses - 89 in total, 34 usable – will be challenging for any future efforts seeking to survey AEL teachers in Missouri as was done in this case. In an effort to respect anonymity and ensure confidentiality, direct contact with teachers was not sought. Consequently, working through the 36 program directors and asking for their cooperation in eliciting teacher cooperation in the survey project seemed the only realistic option for obtaining response. Additional support from the state AEL director and area supervisors could have increased the degree of importance placed on the request as funneled through the

program directors. Any future research should seek to obtain specific recommendations and confirmation of the effort's importance from the state before distribution.

Limitations of the Study

The original concept and design of the study, to compare two variables and the resulting educational outcome associated with various correlations remains an appropriate research subject. The conclusion of the study in its specific form is limited in its achievement of the original concept. This results from the small number of complete surveys as a consequence of the lack of proper site numbers to be used in correlation with survey scores. A minimum of 250 responses were needed for generalization to the population. Unfortunately, the only method by which outcome NRS data can be identified in terms of specific groups of learners is by site number. Statistical analysis showed other than normal patterns in the distribution of the data thereby preventing the application of traditional tools of analysis and inference. As discussed in Chapter Four, the scatter plot of responses and educational gain data from the 34 complete surveys was highly random and without pattern. Both kurtosis and skew were also not normal. Consequently, the data is of limited applicability beyond the sample and should not be generalized.

Recommendations

Future attempts to explore the relationship between teaching styles and educational gain are appropriate. Incentives such as gift card drawings could be employed at the program or teacher level to increase response. Increased preparatory communications discussing the "upcoming" survey might improve returns. If possible, an overt recommendation from the state AEL authority encouraging participation for the benefit of increased knowledge could likely encourage program directors to exert greater effort in encouraging teachers to participate.

Additional research in other states would be an appropriate effort. Such attempts to identify differences and/or similarities in other locales would not only provide a point of contrast with this research but, by benefiting from a more effective survey design and preparatory communication with the target audience, provide more complete and effective data for analysis.

In addition to more applications of this research, other variables could be substituted for the independent variable in future investigations. Questions about teacher preparation, longevity, and background could all be compared with educational gain for new insights. Further, students could be surveyed as well regarding a number of their dispositions and their relationship to educational gain; longevity in a program, number of times entering a program, years of school completed prior to entering AEL, time out of school before AEL, all compared to educational gain.

The researcher continues to believe that directing research at the styles of instruction and varying dispositions of teachers is appropriate. As noted earlier in this chapter, students are a largely uncontrollable variable and cannot be influenced by interventions as easily as the smaller number of trained teachers. Consequently, ways of understanding and affecting teacher behaviors that, in turn, influence learner outcomes is a most productive direction.

Conclusion

It was revealed that this sample of Missouri AEL teachers are more inclined to teach in styles that are teacher-centered in orientation. The sample of Missouri AEL teachers is predominantly female, over 60 years of age and has five years or more of tenure in adult education. A majority of the survey outcomes from the 34 sample responses were found to be positively aligned with the position that some adult students are not self-directed and, in fact, prefer the greater degree of leadership and direction provided by the teacher-centered style.

Several study limitations were also identified in terms of the way the survey was organized and presented as well as recommendations for changes in future surveys to avoid such limitations.

It is hoped that an interest in the relationships between teachers and outcomes will be developed by other researchers. Teaching behavior is among the most controllable variables in the entire array of factors affecting AEL learner outcomes. This is due to the fact that learners bring their life experiences with them to the AEL classroom and it is not possible to efficiently filter or affect the consequences of those factors to improve learning. On the other hand, teachers represent a smaller group, easily identified and professionally prepared to understand the challenge of improving learner outcomes. More research into the process and pedagogy of teaching ABE students is warranted and likely to be most productive.

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Appendix A -

Principles of Adult Learning Scale (PALS)

Developed by Gary J. Conti

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 by circling the appropriate letter. Your choices are *Always*, *Almost Always*, *Often*, *Seldom*, *Almost Never*, and *Never*. If the item **does not apply** to you, circle number N for never. The Value Column will be completed by the research team.

Always **A**	***Almost Always*** **AA**	***Often*** **O**	***Seldom*** **S**	***Almost Never*** **AN**	***Never*** **N**

Question/Item	**Response Category**	**Value**
1. I allow students to participate in developing the criteria for evaluating their performance in class.	A AA O S AN N	
2. I use disciplinary action when it is needed.	A AA O S AN N	
3. I allow older students more time to complete assignments when they need it.	A AA O S AN N	
4. I encourage students to adopt middle class values.	A AA O S AN N	
5. I help students diagnose the gaps between their goals and their present level of performance.	A AA O S AN N	
6. I provide knowledge rather than serve as a resource person.	A AA O S AN N	
7. I stick to the instructional objectives that I write at the beginning of a program.	A AA O S AN N	
8. I participate in the informal counseling of students.	A AA O S AN N	
9. I use lecturing as the best method for presenting my subject material to adult students.	A AA O S AN N	
10. I arrange the classroom so that it is easy for students to interact.	A AA O S AN N	
11. I determine the educational objectives for each of my students.	A AA O S AN N	
12. I plan units which differ widely as possible from my students' socio-economic backgrounds.	A AA O S AN N	

Question/Item	Response Category	Value
13. I get a student to motivate himself/herself by confronting him/her in the presence of classmates during group discussions.	A AA O S AN N	
14. I plan learning episodes to take into account my students' prior experiences.	A AA O S AN N	
15. I allow students to participate in making decisions about the topics that will be covered in class.	A AA O S AN N	
16. I use one basic teaching method because I have found that most adults have a similar style of learning.	A AA O S AN N	
17. I use different techniques depending on the students being taught.	A AA O S AN N	
18. I encourage dialogue among my students.	A AA O S AN N	
19. I use written tests to assess the degree of academic growth rather than to indicate new directions for learning.	A AA O S AN N	
20. I utilize the many competencies that most adults already possess to achieve educational objectives.	A AA O S AN N	
21. I use what history has proven that adults need to learn as my chief criteria for planning learning episodes.	A AA O S AN N	
22. I accept errors as a natural part of the learning process.	A AA O S AN N	
23. I have individual conferences to help students identify their educational needs.	A AA O S AN N	
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.	A AA O S AN N	
25. I help my students develop short-range as well as long-range objectives.	A AA O S AN N	
26. I maintain a well disciplined classroom to reduce interference to learning.	A AA O S AN N	
27. I avoid discussion of controversial subjects that involve value judgments.	A AA O S AN N	
28. I allow my students to take periodic breaks during class.	A AA O S AN N	
29. I use methods that foster quiet, productive desk work.	A AA O S AN N	
30. I use tests as my chief method of evaluating students.	A AA O S AN N	
31. I plan activities that will encourage each student's growth from dependence on others to greater independence.	A AA O S AN N	

Question/Item	Response Category	Value
32. I gear my instructional objectives to match the individual abilities and needs of the students.	A AA O S AN N	
33. I avoid issues that relate to the student's concept of himself/herself.	A AA O S AN N	
34. I encourage my students to ask questions about the nature of their society.	A AA O S AN N	
35. I allow a student's motives for participating in continuing education to be a major determinant in the planning of learning objectives.	A AA O S AN N	
36. I have my students identify their own problems that need to be solved.	A AA O S AN N	
37. I give all my students in my class the same assignment on a given topic.	A AA O S AN N	
38. I use materials that were originally designed for students in elementary and secondary schools.	A AA O S AN N	
39. I organize adult learning episodes according to the problems that my students encounter in everyday life.	A AA O S AN N	
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.	A AA O S AN N	
41. I encourage competition among my students.	A AA O S AN N	
42. I use different materials with different students.	A AA O S AN N	
43. I help students relate new learning to their prior experiences.	A AA O S AN N	
44. I teach units about problems of everyday living.	A AA O S AN N	

Always	*Almost Always*	*Often*	*Seldom*	*Almost Never*	*Never*
A	**AA**	**O**	**S**	**AN**	**N**

Scoring the Principles of Adult Learning Scale (PALS)

Positive Questions

Question numbers 1, 3, 5, 8, 10, 14, 15, 17, 18, 20, 22, 23, 24, 25, 28, 31, 32, 34, 35, 36, 39, 42, 43, and 44 are positive items. For positive questions, assign the following values: Always=5, Almost Always=4, Often=3, Seldom=2, Almost Never=1, and Never=0.

Negative Questions
Question numbers 2, 4, 6, 7, 9, 11, 12, 13, 16, 19, 21, 26, 27, 29, 30, 33, 37, 38, 40, and 41 are negative items. For negative questions, assign the following values: Always=0, Almost Always=1, Often=2, Seldom=3, Almost Never=4, and Never=5.

Missing Questions
Omitted questions are assigned a neutral value of 2.5.

Factor 1: Learner-Centered Activities

Question #	2	4	11	12	13	16	19	21	29	30	38	40	Total Score
Score													

Factor 2: Personalizing Instruction

Question #	3	9	17	24	32	35	37	41	42	Total Score
Score										

Factor 3: Relating to Experience

Question #	14	31	34	39	43	44	Total Score
Score							

Factor 4: Assessing Student Needs

Question #	5	8	23	25	Total Score
Score					

Factor 5: Climate Building

Question #	18	20	22	28	Total Score
Score					

Factor 6: Participation in the Learning Process

Question #	1	10	15	36	Total Score

Score					

Factor 7: Flexibility for Personal Development

Question #	6	7	26	27	33	Total Score
Score						

Computing and Interpreting Your Scores

Factor scores are calculated by summing the value of the responses for each item/question in the factor. Compare your factor score values to their respective means (see table below). If your score is equal to or greater than each respective mean, then this suggests that such factors are indicative of your teaching style. From such factors, you will then begin to identify what strategies you use to be consistent with your philosophy (from the Philosophy of Adult Education Inventory, PAEI). Those scores that are less than the mean indicate possible areas for improving a more learner-centered approach to teaching. An individual's total score on the instrument is calculated by summing the value of each of the seven factors (see table below). Scores between 0-145 indicate your style is “teacher-centered.” Scores between 146-220 indicate your style as being “learner-centered.”

Factor	Mean	Standard Deviation	Your Score
1	38	8.3	
2	31	6.8	
3	21	4.9	

4	14	3.6	
5	16	3.0	
6	13	3.5	
7	13	3.9	
TOTAL	146	20	

Appendix B

College oEducation

Educational Leadership and Policy Studies

One University Boulevard
St. Louis, Missouri 63121-4400
Email: fousheek@umsl.edu

Dear AEL Program Director:

I am an Adult Education teacher in the Parkway AEL program and am also conducting research for my doctoral dissertation in adult education at the University of Missouri – St. Louis, College of Education. Part of my dissertation consists of a survey sent to all AEL instructors in the state program. The survey is the Principles of Adult Learning Scale, developed by Gary J. Conti. There are 44 questions and several demographic questions. I also ask for the site number where the responding teacher is working. Completing the survey should take no more than fifteen minutes in most cases. Information from the survey will be used to help associate certain teaching styles with successful learner outcomes in terms of educational gain or progression.

The survey is accessed by clicking on a link contained in an accompanying attachment which all teachers should open and read. I have also a short note from you, as the Program Director, that asks for the teachers' support in the research effort. Please feel free to delete this note if you desire not to send it. I am asking that you simply open the attachment, give it your approval, and forward the attachment to each of your teachers in the ABE/ASE category. We are not surveying ESL teachers at this time. At the end of the survey there are two small arrows, which serve as a submit button, which will send the completed data back to me. Nothing else need be done. Complete directions are contained in the cover letter to teachers and the survey itself. Your help and cooperation is greatly appreciated. Please contact me with any questions.

Kenneth Foushee, College of Education, University of Missouri – St. Louis

314-498-1608 fousheek@umsl.edu

Appendix C

From: Program Director
To: Fellow Adult Educators:
November 20, 2014

Ken Foushee, our colleague in the Parkway AEL program, St. Louis County, is conducting research into the types of instructional practices we use in our everyday teaching as a part of his doctoral dissertation at the University of Missouri – St Louis. He is asking all teachers in the Missouri ABE/ASE program to complete a quick survey that will help us understand what styles and techniques of instruction are being used in our state. This data can help with planning and design of professional development experiences.

Please take a few moments and complete the attached survey. Follow the instructions on opening and completing the questions. At the end of the survey there are two arrows in the lower right of the page. Clicking of the arrows will submit the survey and complete the process.

Thank you for your cooperation. This is a confidential survey, no attempt will be made to identity any respondent or to associate data with persons. The project is being conducted under the supervision of the College of Education at the University of Missouri – St. Louis as doctoral dissertation research.

Please fill out your survey at your earliest convenience but no later than December 15, 2014, and submit per the instructions to the researcher, Kenneth Foushee. The survey instructions and link to the survey itself follow.

Appendix D

College of Education
Educational Leadership and Policy Studies
One University Boulevard
St. Louis, Missouri 63121-4400

November 17, 2014

Dear Fellow AEL Teacher:

Thank you for your willingness to complete my Principles of Adult Learning Scale Survey. As was noted in the email from your director, I am a doctoral student at the University of Missouri – St Louis and this survey's results will serve as an important part of my dissertation research. I am also an instructor in the Parkway AEL program and in my fifth year of teaching AEL in St. Louis County.

My purpose is to associate the characteristics of teaching styles with the various levels of educational gain or progression in the many teaching sites across the state. The survey is confidential as to teacher identity and no attempt will ever be made to associate a particular teacher with any survey or outcome. Please be completely assured of the confidentiality of your responses. There is no right or wrong answer to any of the questions.

The survey does request your site number so that progression data can be associated with the survey responses. This cannot be avoided. Nonetheless, please be assured that in the research analysis we will be looking only at averages and not individual site

progression rates or survey results. No attempt will be made to ever associate a teacher with a particular survey. Also be assured that only program-wide date will be published in the results, nothing relating specific sites to any outcome. Data regarding specific responses or respondents will never be shared with program directors at your own or any other site.

I believe that the results of this survey will positively impact all of us in the Missouri AEL program by providing scientifically based evidence of the relationship between teaching style and learner outcomes. Upon completion of the state-wide analysis the confidential aggregated information will be available to all AEL instructors to help inform their teaching styles and affect outcomes.

The survey should take no more than 15 – 20 minutes to complete. Please click on the following link, follow the directions and check the appropriate box as to your feelings about the specific question. There are 44 questions in all and several anonymous demographic questions following. For questions, please contact me at the email below. Thank you! Scroll down for the survey.

Email: fousheek@umsl.edu

Appendix E

Please read the following instructions prior clicking on the link below:

Principles of Adult Learning Scale (PALS) - Developed by Gary J. Conti

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*. If the item **does not apply** to you, click on the letter N for never.

NOTE: Completing this survey implies your consent to participate in the research as described. No other opportunity will be provided to give consent. If you do not wish to be a participant in this research project, do not complete or return the following survey.

Click on the link (Control/Click) or copy and paste into your browser.

https://umsl.az1.qualtrics.com/SE/?SID=SV_em9YhIS07wPyCvX

Appendix F

Email from Researcher to Program Directors - Reminder email regarding any nonparticipants in survey

Dear AEL Program Director:

Thank you for your cooperation and participation in my research into ABE/ASE learning styles in Missouri. Your support is critical to the effectiveness of this valuable research and will assist each of us in better understanding the particular methods of instruction most effective with our learners.

Please forward a short note to you teaching staff encouraging anyone who has not yet submitted their survey to do so at their earliest convenience. Participation is entirely voluntary and confidential. Let your teachers know that their help is appreciated in this effort to gather important data. Any questions can be directed to me at the email address below.

Kenneth Foushee

Investigator

University of Missouri – St. Louis

fousheek@umsl.edu

Appendix G

Directory of Missouri Adult Education Programs

Missouri Adult Education Programs		
City	Adult Education Director	Address/Phone Number
Blue Springs	Ms. Becky Stanton Director of Adult Education **bstanton@bssd.net**	**Blue Springs R-IV School (link is external)** 5000 NW Valley View Road Blue Springs, MO 64015 (816) 874-3762
Bonne Terre	Ms. Amy Jones Director of Adult Education **ajones@ncsd.k12.mo.us**	**Unitec Career Center** 7163 Raider Road Bonne Terre, MO 63628 (573) 358-3011
Camdenton	Ms. Kathy Hueste Director of Adult Education **khueste@camdentonschools.org**	**Lake Career & Technical Center (link is external)** 204 Business Park Road Linn Creek, MO 65052 (573) 346-5616
Cape Girardeau	Ms. Becky Atwood Director of Adult Education **atwoodb@capetigers.com**	**Cape Girardeau Public School** 301 North Clark Cape Girardeau, MO 63701 (573) 334-3669
Carthage	Ms. Mary Bader Director of Adult Education **baderm@carthage.k12.mo.us**	**Carthage R-IX** 609 River Street Carthage, MO 64836 (417) 359-7095
Columbia	Ms. Barbie Banks Director of Adult Education **bbanks@columbia.k12.mo.us**	**Columbia Adult Learning Center** 4203 S. Providence Columbia, MO 65203 (573) 214-3690
Della Lamb	**Ms. Alies Dalton** **Director of Adult Education** **adalton@DellaLamb.org**	**Della Lamb** Adult Education 500 Woodland Avenue Kansas City MO 64106 (816) 842-8040
Hillsboro	Ms. Betty Linneman Director of Adult Education **blinnema@jeffco.edu**	**Jefferson College (link is external)** 1000 Viking Drive

		Hillsboro, MO 63050 (636) 481-3154
Houston	Ms. Brandi Gentry Director of Adult Education **gentry.brandi@gmail.com**	**Houston R-I School District** 401 South Third Houston, MO 65483 (417) 967-8520
Independence Don Bosco	Ms. Deborah Briggs Director of Adult & Community Education **deborah_briggs@isdschools.org**	**Independence Don Bosco** 201 North Forest Independence, MO 64050 (816) 521-5507
Independence	Ms. Deborah Briggs Director of Adult & Community Education **deborah_briggs@isdschools.org**	**Independence Adult Basic Education** 201 North Forest Independence, MO 64050 (816) 521-5507
Jefferson City	Ms. Sarah Porter Coordinator of Alternative Programs **sarah.porter@jcschools.us**	**Jefferson City Adult Learning Center** 204 East Dunklin Jefferson City, MO 65101 (573) 659-3122
Joplin	Ms. Linda Dishman Director of Adult Education **lindadishman@joplin.k12.mo.us**	**Joplin AEL Learning Center** 123 Main Street Joplin, MO 64801 (417) 625-5263
Kansas City	Ms. Sonya Thomas Interim Director of Adult Education **sthomas@kcmsd.net**	**Kansas City ABE** 1215 E Truman Road Kansas City, MO 64102 (816) 418-7150
Kirksville	Mr. Tom DeBlauw Director of Adult Education **tdeblauw@kirksville.K12.mo.us**	**Kirksville Area Technical Center** 1103 South Cottage Grove Kirksville, MO 63501 (660) 665-2865
Kirkwood	Mr. Karl Steenberg Director of Adult Education **ksteenberg@stlcc.edu**	**St. Louis Community College at Meramec (link is external)** 11333 Big Bend Blvd Kirkwood, MO 63122-5799 (314) 984-7777
Macon	Ms. Lydia McClellan Coordinator of Adult Education **lmcclellan@macon.k12.mo.us**	**Macon Area Vo-Tech School** 702 North Missouri Macon, MO 63552 (660) 385-2158

Maryville	Ms. Amanda Haile Director of Adult Education **ABE@nwmissouri.edu**	**Maryville R-II School District** 1429 Munn Avenue Maryville, MO 64468 (660) 582-5615
Moberly	Ms. Ann McCauley Director of Adult Education **annmc@cx.macc.edu**	**Moberly Area Community College** 101 College Avenue Moberly, MO 65270 (660) 263-4100 ext. 11382
Neosho	Ms. Juli DeNisco Director of Adult Education **julidenisco@crowder.edu**	**Crowder College AEL (link is external)** 601 Laclede Neosho, MO 64850 (417) 455-5521
Nevada	Ms. Susan Burns Director of Adult Education **sburns@nevada.k12.mo.us**	**Nevada R-V Bowman Building** 2015 North West Street Nevada, MO 64772 (417) 448-2016
North Kansas City	Ms. Bonnie Endicott Director of Adult Education **bonnie.endicot@nkcschools.org**	**Northland Human Service Center** 3100 NE 83rd St Suite 2450 Kansas City, MO 64119-9998 (816) 413-5480
Parkway of St. Louis	Mr. Brad Foshee Director of Adult Education **bfoshee@parkwayschools.net**	**Parkway Area AEL (link is external)** 13157 North Olive Spur Creve Coeur, MO 63141 (314) 415-4940
Poplar Bluff	Ms. Gina Duckett Director of Adult Education **ginaduckett@pb.k12.mo.us**	**Poplar Bluff Adult Learning Center (link is external)** 2620 Westwood Blvd Poplar Bluff, MO 63901 (573) 686-2011
Ritenour	Ms. JaVonda Quinn Director of Adult Education **quinnj@ritenour.k12.mo.us**	**Ritenour School District** 8762 St Charles Rock Road St Louis, MO 63114 (314) 426-7900
Rockwood/ Eureka	Ms. Mary Grott Adult Education/MOLearns Supervisor **grottmary@prcommunityed.org**	**Rockwood AEL** 500 N. Central-Admin. Office Annex Eureka, MO 63025 (636)-733-2161

Sedalia	Ms. Deb Williams Director of Adult Education **dwilliams1@sfccmo.edu**	**State Fair Community College** 3201 West 16th Street Sedalia, MO 65301-2199 (660) 596-7289
Sikeston	Ms. Chandra Manuel Director of Adult Education **cmanuel@sikeston.k12.mo.us**	**Sikeston R-VI** 733 Greer Sikeston, MO 63801 (573) 471-9469
Springfield	Ms. Ramona George Director of Adult Education **georger@otc.edu**	**Ozarks Technical Community College (link is external)** 1001 East Chestnut Expressway Springfield, MO 65802 (417) 447-8861
St. Charles	Ms. Amanda Rose Director of Adult Education **arose@stchas.edu**	**Adult Education and Literacy St Charles (link is external)** St Charles Community College 4601 Mid Rivers Mall Dr. LRC 209 Cottleville, MO 63376 (636) 922-8411
St. Joseph	Ms. Betty Kimberling-Wymore Director of Adult Education **betty.wymore@sjsd.k12.mo.us**	**St Joseph Adult Learning Center** 1211 North 18th Street St. Joseph, MO 64510 (816) 671-4020
St. Louis City	Ms. Rhonda Jones Director of Adult Education **Rhonda.Jones@slps.org**	**St Louis Adult Learning Center** 5078 Kensington Avenue St. Louis, MO 63108-1010 (314) 367-5000
Union	Mrs. Alice Whalen Director of Adult Education **alice.whalen@eastcentral.edu**	**East Central College Adult Learning Center (link is external)** 1964 Prairie Dell Road Union, MO 63084 (636) 584-6533
University City	Mr. Clay Ware Director of Adult Education **cware@ucityschools.org**	**University City AEL Program** 8136 Groby Avenue University City, MO 63130 (314) 290-4052
Vandalia	Ms. Shannon Moore Director of Adult Education **smoore@vf.k12.mo.us**	**Van Far R-I School District** 2200 Hwy 54 West Vandalia, MO 63382-1130

		(573) 594-6111
Waynesville	Ms. Tina Woody Director of Adult Education **twoody@waynesville.k12.mo.us**	**Waynesville R-VI School District** 1501 State Road F Waynesville, MO 65583 (573) 842-2150
West Plains	Ms. Joan Wright Director of Adult Education **joanwright@missouristate.edu**	**Missouri State University- West Plains (link is external)** 218 Garfield Avenue West Plains, MO 65775 (417) 255-7744