

Philosophies of Adult Education as Practiced by Agricultural Education Teachers

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Abstract

The purpose of this study was to increase understanding of adult education philosophies as practiced by Pennsylvania, West Virginia, and Virginia secondary school agricultural education teachers. A Philosophy of Adult Education Inventory (PAEI), developed by Lorraine M. Zinn, and a researcher-created demographic sheet was sent to a sample of agricultural education teachers in the tri-state area. One hundred and eighteen secondary agricultural education teachers responded to the survey (38%). The average respondent was male, 44 years of age, had 18 years teaching experience, and had taught adult education classes for 14 years. Approximately 50% had formal training in teaching adults and two-thirds were paid to teach adult classes in agriculture.

Slightly more than two-thirds of the educators in the tri-state area identified with the Progressive philosophy. This philosophy of adult education is concerned with the well-being of society and an individual's role in society. Analysis of variance statistical procedures were used to distinguish differences between the means of the five philosophical groups and key demographic variables used in the study. When the five philosophical group means were compared by state, a statistically significant variance was determined between the Humanistic Philosophy and the state variable. Further analysis showed a statistical difference between the mean score of Pennsylvania and West Virginia.

Introduction

Over the past one hundred and twenty-five years, agricultural education has been a pioneer in the development of adult education. This effort was enhanced with the passage of four major pieces of Federal legislation. The Morrill Act of 1862 established the Land-Grant Colleges. Their emphasis on education in agriculture and the mechanical arts was designed to improve social and economic conditions for the rural population. In 1887, the Hatch Act established the Agricultural Experiment Stations. By making it possible to apply scientific findings to real world agricultural problems, the Hatch Act increased the need for adult education in agriculture. The Smith-Lever Act of 1914, which established the Cooperative Extension Service, and the Smith-Hughes Act of 1917, which established vocational education in agriculture in the public schools, provided a specific response to the need for adult education in agriculture (Bender, McCormick, Woodin, Cunningham, & Wolf, 1972).

While agricultural education was a pioneer in the development of adult education programs, the number of secondary agricultural education programs offering an adult component has declined in recent years. In 1989, Birkenholz and Marcie (1991) found that while there were 5,852 secondary agricultural education programs in the United States, there were only 1,610 adult agricultural education programs. In 2000, Burdette (unpublished manuscript) found less than one fourth of the agricultural educators in West Virginia (22.7%) were conducting organized educational activities for adults outside of the normal school day.

Adult agricultural education programs are more important today than ever before because of rapid advances in technology, innovative marketing, new farm management techniques, new agricultural laws, and regulations (Chizari & Taylor, 1991). A study by Lilley, et al., (as cited in Chizari & Taylor, 1991) suggests that adults in production agriculture need classes on feeds, crop production, soil sciences, farm records and management, farm mechanics, long range planning, government laws, and regulations. Drueckhammer and White (1984) suggested that because of the declining numbers in agricultural producers, the need for production information has decreased also. Harbstreit (as cited in Birkenholz & Maricle, 1991) stated that adult agricultural education programs used to focus on improving the efficiency in production agriculture and managerial skills, now the focus has shifted to problems of agricultural consumers, homeowners, gardeners, and concerned citizens. Nur, Birkenholz, and Stewart (1989) agreed that a shift in the target audience and the knowledge base for adult education programs has occurred.

- An important factor in an adult educator's purposes, methodology, and teaching processes is their philosophy of education (Wingenbach, 1996). Philosophies of adult education are the beliefs about the way in which adult education should be conducted and the general principles that guide practice (Beder, 1989). Therefore, developing a working philosophy of adult education is important to adult educators when planning programs.

Many leaders in adult education have developed principles to help educators form a working philosophy. Apps (1981) suggested the following guidelines, consisting of four phases, to develop one's own adult education philosophy.

- Identify beliefs about adult education by asking oneself questions about the learner, the overall purpose of adult education, content or subject matter, and the learning process.
- Search for contradictions in the beliefs.
- Discover where the basis for these beliefs came from and find supporting beliefs.
- Make judgments about the beliefs held.

Another leader in adult education, Beder (1989), formed principles that are not as lengthy and could be used to build a foundation of philosophy in adult education. The five principles are:

1. Whether society is basically good or is inherently flawed, it can and should be improved. In this, adult education can and should play a major role.
2. If individuals and ultimately societies are to prosper, learning must continue throughout life.

3. Adults are capable of learning and should be treated with dignity and respect.
4. All adults should have access to learning the things required for basic functioning in society.
5. Although adults may or may not differ from pre-adults regarding the basic cognitive processes of learning, the context of adult education differs substantially from the context of pre-adulthood. Hence, adults should be educated differently from pre-adults.

Zinn (1983) designed the Philosophy of Adult Education Inventory (PAEI), based on five philosophical tenets, as practiced by adult educators. The following provides an in-depth description of these philosophical ideologies.

Liberal: This adult philosophy purpose is to develop intellectual powers. Liberals always seek knowledge. They work to transmit knowledge and clearly direct learning. The educator is the “expert”. He/she directs the learning process with complete authority. Learning methods used include lecture, study groups, and discussion. Socrates, Plato, and Piaget were practitioners of the liberal philosophy. (Note: Liberal adult education does not refer to liberal political views, it is related to Liberal Arts.)

Behaviorist: The purpose of the Behaviorist adult philosophy is to promote behavioral change to guarantee that societies standards and expectations are upheld. Environmental influence is strong in this philosophy. The traits of the behaviorist teacher are close to those of the liberal. The behaviorist “manages” the learning process and directs learning. Behaviorist concepts include mastery learning and standards-based. Some methods of teaching that behaviorist educators use include programmed instruction, contract learning, and computer guided instruction. Vocational training and teacher certifications are both behaviorist practices. Skinner, Thorndike, and Steinberg all believe in the behaviorist philosophical tenet.

Progressive: This philosophy of adult education is concerned with the well-being of society and an individual’s role in society. Learners of this philosophy need problem solving skills and practical knowledge. Teaching methods used in this philosophy include problem solving, scientific method, and cooperative learning. The educator is an organizer who guides learning instead of directing learning and also evaluates the learning process. Progressive proponents include Spencer, Dewey, and Lindeman.

Humanistic: The humanistic philosophy seeks to facilitate personal growth and development. Humanists are highly motivated and self-directed learners; responsibility to learn is assumed by the learner. The humanist educator facilitates learning but does not direct learning. The educator and learner are “partners.” Concepts that define the humanistic philosophy include experiential learning, individuality, self-directed, and self-actualization. Humanistic teaching methods contain group discussion, team teaching, individualized learning, and the discovery method. Rogers, Maslow, Knowles, and McKenzie are facilitators of the humanistic philosophy.

Radical: The Radical adult education philosophy or Reconstructionist philosophy promotes social, political, and economic change through education. The educator and learner are

equal partners in the learning process. The educator is the coordinator of the class and makes suggestions but does not direct the learning process. This philosophy embraces concepts such as noncompulsory learning and deschooling. Exposure to the media and people in real life situations are considered effective teaching methods. Holt, Freire, and Illich are proponents of the Radical adult education philosophy.

Studies Dealing with Philosophies of Adult Educators

In a study of students enrolled in the researcher's classes, Wingenbach (1996) found significant differences between gender and the Behaviorist and Radical orientations. All females were found to have higher mean scores than males in the Radical philosophical orientation. As noted by Zinn (1990), "Radical [Reconstructionist] adult education also runs against the current of American value patterns" (p. 56). In the Behaviorist orientation, female graduates had higher mean scores than did male graduates, except in the undergraduate group. In this group the males had higher mean scores. The students did not differ statistically in their mean scores for the Behaviorist, Humanistic, or Radical orientations.

These findings differ from the findings of McKenzie (1985). In his study, McKenzie (1985) found significant differences in all five philosophical orientations while comparing business trainers, religious educators, and adult education graduate students (p. 20). Due to the significant differences in Liberal and Progressive orientations between these groups of students certain assumptions about these orientations were apparent in both groups' thinking, while completing the PAEI inventory. Some assumptions might be: (a) the group of graduate students scored higher in the Progressive orientation because of their teaching experience (about 12 years), which has given them an advantage in teaching practical skills like problem solving; and (b) the group of undergraduates scored higher in the Liberal orientation because of their lack of experience, which has not allowed them an opportunity to apply theoretical knowledge outside the university.

Despite the differences in age and years of experience between the two groups in this study, these students can identify, clarify, and reflect upon their educational beliefs and values. The significant differences between the groups in the Liberal orientation may represent the findings of Berger and Luckmann (1966). That is, when individuals enter an existing institution, they begin to express the views reflected in that institution; they begin to speak a common language. In time, once the undergraduate students have gained experience, they may want to repeat the PAEI to check for shifts in their philosophical orientations.

The relationship between identifying a specific adult education philosophy and agricultural education should be an important educational factor for secondary school agricultural educators. Youth and adults differ greatly in their preferred learning styles and educational environments. If agricultural education teachers can accept these basic differences, then the teaching methods, procedures, activities, learning environments, and evaluations must differ also for adult audiences. There remains the question of whether actual differences do exist when secondary agricultural education teachers teach adults? Previous research shows that significant differences do exist between educators when compared by years of experience and/or gender (Wingenbach, 1996; Zinn, 1990) and educational level (McKenzie, 1985). The

researcher is left to ponder, does a methodological difference in agricultural programming exist for adult and pre-adult participants in Pennsylvania, West Virginia, and Virginia? Do agricultural education teachers from Pennsylvania practice a significantly different adult educational philosophy than teachers from Virginia or West Virginia?

Purpose and Objectives

The purpose of this study was to increase the understanding of adult education philosophies as practiced by Pennsylvania, West Virginia, and Virginia secondary school agricultural education teachers. Specific objectives were to:

1. Determine the demographics of Pennsylvania, West Virginia, and Virginia agricultural education teachers who may have taught an adult technology class in agriculture during 1998-99.
2. Assess Pennsylvania, West Virginia, and Virginia agricultural education teachers' philosophies of adult education using the Philosophy of Adult Education Inventory.
3. Determine if significant relationships exist between agricultural education teachers' philosophies and selected demographic variables.

Limitations of the Study

The study was limited to secondary school agricultural education teachers (N=657) in Pennsylvania, West Virginia, and Virginia who may have taught adults in their local communities during the 1998-99 academic year. The PAEI may not accurately represent all adult education philosophies through its listing of questions and responses.

Methods and Procedures

Population and Sample

The target population of this study included all agricultural education teachers from Pennsylvania (N=259), West Virginia (N=95), and Virginia (N=303) who taught classes during the 1998-99 academic year and who were listed in their respective state's Agricultural Educators Directory for the 1998-99 academic year. The researcher obtained original copies (paper and electronic) of these directories from the State Supervisor for Agricultural Education. From these rosters, the population of agricultural education teachers was determined to be 657. Proportional stratified sampling was employed to ensure equal representation from each state identified in the target population. A sample size of 314 was needed to represent this population (Krejcie & Morgan, 1970).

Instrumentation

The Philosophy of Adult Education Inventory (PAEI) was used to obtain information for this study. The PAEI was developed by Lorraine M. Zinn to help the adult educator determine

his or her philosophy of education and compare it to other educators' philosophies. The PAEI consisted of 75 statements rated on a seven-point Likert-type scale with 1 = strongly disagree, 4 = neutral, and 7 = strongly agree. Total scores can range from 15 to 105 for each of the philosophical orientations. These scores signify the individuals' views toward the five philosophies of adult education.

The educators' highest score is the score that most closely describes their philosophy. The lowest score is the philosophy least like the educators' philosophy. A score of 95 to 105 indicates that the educator strongly agrees with a philosophy. A score of 15-25 indicates that the educator strongly disagrees with a philosophy. Most educators have one philosophy that receives a high score, therefore, that is the philosophy that the educator agrees with and uses when teaching. It is not uncommon, however, for an educator to have two philosophies that have high scores. This occurs because of some overlap in the philosophies. Educators who have other combinations of high scores or have three or more close scores should review their beliefs and look for contradictions (Zinn, 1983). Some common philosophy combinations are Liberal and Behaviorist, Progressive and Humanistic, Progressive and Radical, and Humanistic and Radical (Zinn, 1983).

In previously published studies by Zinn (1987), the PAEI had been determined to be a reliable and valid instrument for measuring adult education philosophies with reported Cronbach's alpha levels at 0.75. The PAEI was designed to be administered, scored, and interpreted by the respondent (Zinn, 1983). The instructions sent with Zinn's inventory were the original instructions Zinn developed to accompany the PAEI. An additional instrument, developed by the researcher, was sent to assess respondents' educational degree attained, years of teaching experience, geographic location, age and gender.

Data Collection Procedure

Data collection procedures were developed based upon practices recommended by Dillman (1978). The data collection efforts began on May 7, 1999. For the study, the PAEI instrument, demographic questionnaire, cover letter, and self-addressed, stamped return envelopes were mailed to the sample group in Pennsylvania, West Virginia, and Virginia. Two weeks after the initial mailing, follow-up postcards were sent out to all non-respondents. This card reminded the respondent that they had received the PAEI and a questionnaire and that their response was important to the study. Four weeks after the first mailing, a second postcard reminder was sent to all non-respondents.

Five weeks after the initial mailing, the researcher selected 10% of the non-respondents and sent them a new PAEI, cover letter, and demographic sheet. The mean responses of these subjects were statistically compared to the respondents to determine if significant differences existed (Ary, Jacobs, & Razavieh, 1996). Data collection ended July 23, 1999.

Analysis of Data

Data collected were analyzed using the Statistical Package for Social Sciences for Windows (SPSS). Descriptive statistics such as frequencies, means, and standard deviations, as

well as correlational and multivariate analyses were used to describe and analyze the research results.

Results/Findings

Adult Educators

The sample size for the study was 314 teachers comprised of 93 adult educators and 221 non-adult educators. A total of 118 surveys returned were usable in this study resulting in a response rate of 38%. When the response rate was examined by dividing the respondents into adult educators and non-adult educators, there was a significant difference in the rates. For example, 75 of the 93 adult educators returned their survey for a response rate of 81%. Of the non-adult educators only 43 of the 221 educators returned their surveys resulting in a response rate of 19%.

Non-Response Error

An Analysis of Variance (ANOVA) was used to determine if differences existed between respondents and non-respondents. Non-respondents were surveyed using the double-dipped sampling method. No significant differences were found between the two groups when dealing with philosophies, therefore, generalizations could be made to the entire population.

Demographics of Respondents

Each respondent provided basic demographic information in addition to completing the PAEI instrument. Respondents were asked questions including state, age, gender, degree, years of teaching secondary school, number of years teaching adults, whether the educator received formal education for teaching adults, and whether the educator received monetary compensation.

The average age of the respondents was 44 years ranging from a low of 22 years old to a high of 63 years of age. The minimum number of years taught by the respondents was less than one year and the maximum was 35 years. The average number of years taught by the respondents was 19 years. The minimum number of years teaching adults was one year while the maximum number of years teaching adults was 34 years. The average number of years that educators had taught adults was 14 years.

Of the 118 respondents, 75 were adult educators (63.6%). Respondents included 49 educators from Pennsylvania (41.5%), 45 educators from Virginia (38.1%), and 24 educators from West Virginia (20.3%). Ninety-nine respondents were male (83.9%). Sixty-one respondents (54.0%) had an advanced college degree (Masters Degree or Ph.D.) while 52 respondents (46.0%) had a Bachelor's Degree. Eighty-eight respondents indicated they taught adults (77.2%). Sixty-two respondents (56.4%) reported having receiving formal training in teaching adults and 69 respondents (64.5%) were paid to teach adult classes.

Philosophy of Adult Education

Eighty educators in the tri-state area (67.8%) identified with the Progressive philosophy. None of the respondents identified with the Liberal philosophy. Other philosophies represented by the respondents included 25 Behaviorists (21.2%), 9 Humanists (7.6%), and 4 Radicals (3.4%). Pennsylvania educators had the highest percentage in the Progressive group (71.4%), followed by Virginia (68.9%), and West Virginia (58.3%). West Virginia has the highest Behaviorist rate (29.2%), followed by Pennsylvania (20.4%), and Virginia (17.8%). West Virginia had the highest rate of Humanist philosophies followed by Virginia and Pennsylvania. Those rates were 12.5%, 8.9%, and 4.1%, respectively. Pennsylvania and Virginia each had two Radical respondents (see Table 2).

Table 1

Descriptive Statistics for Demographic Data

| <u>Variable</u> | <u>f</u> | <u>P</u> |
|---------------------------------------|----------|----------|
| State (n = 118) | | |
| Pennsylvania | 49 | 41.5% |
| Virginia | 45 | 38.1% |
| West Virginia | 24 | 20.3% |
| Gender (n = 107) | | |
| Male | 99 | 83.9% |
| Female | 19 | 16.1% |
| Degree (n = 118) | | |
| Masters | 60 | 53.1% |
| Bachelors | 52 | 46.0% |
| Ph.D. | 1 | 0.9% |
| Teach Adults (n = 114) | | |
| Yes | 88 | 77.2% |
| No | 26 | 22.8% |
| Adult Education Preparation (n = 110) | | |
| Yes | 62 | 56.4% |
| No | 48 | 43.6% |
| Adult Education Payments (n = 107) | | |
| Yes | 69 | 64.5% |
| No | 38 | 35.5% |

Correlation between Philosophies and Demographic Variables

Correlational relationships between the five philosophical categories and the selected demographic variables were examined. The Davis Convention (Davis, 1971) was used to measure the level of association between variables.

Researchers found a strong association between the Liberal and Behaviorist philosophies (.81). There was also a strong association between the Behaviorist and Progressive philosophies

(.72). There was a substantial association between the Liberal and Progressive philosophies (.59) as well as the Humanistic and Progressive philosophies (.55) (see Table 3).

Table 2

Philosophical Totals by State

| | Pennsylvania | | West Virginia | | Virginia | | Total | |
|-------------|--------------|----------|---------------|----------|----------|----------|----------|----------|
| | <u>N</u> | <u>P</u> | <u>N</u> | <u>P</u> | <u>N</u> | <u>P</u> | <u>N</u> | <u>P</u> |
| Liberal | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Behaviorist | 10 | 20.4% | 8 | 17.8% | 7 | 29.2% | 25 | 21.2% |
| Progressive | 35 | 71.4% | 31 | 68.9% | 14 | 58.3% | 80 | 67.8% |
| Humanist | 2 | 4.1% | 4 | 8.9% | 3 | 12.5% | 9 | 7.6% |
| Radical | 2 | 4.1% | 2 | 4.4% | 0 | 0.0% | 4 | 3.4% |
| Total | 49 | 100.0% | 45 | 100.0% | 24 | 100.0% | 118 | 100.0% |

Table 3

Correlation Between Philosophical Categories and Demographic Variables

| | Liberal | Behaviorist | Progressive | Humanist | Radical |
|----------------|---------|-------------|-------------|----------|---------|
| Liberal | | .81** | .59** | .38** | .29** |
| Behaviorist | | | .72** | .42** | .30** |
| Progressive | | | | .55** | .26** |
| Humanist | | | | | .48** |
| Radical | | | | | |
| Age | .11 | .05 | .01 | .00 | .11 |
| Years | .17 | .17 | .06 | -.03 | .04 |
| Adult Years | .15 | .09 | -.04 | -.01 | .13 |
| State | .00 | -.02 | .09 | -.27** | -.08 |
| Gender | .06 | -.05 | .13 | -.02 | .10 |
| Degree | .07 | .10 | .10 | .01 | .07 |
| AE Preparation | .07 | .14 | .05 | .17 | .13 |
| AE Payment | .10 | .09 | .19* | .07 | -.04 |

* $p < .05$

** $p < .05$

The Liberal philosophy has a statistically significant correlation ($< .01$) with the Behaviorist, Progressive, Humanistic, and Radical philosophies. The Behaviorist philosophy correlated significantly ($< .01$) with the Progressive, Humanistic, and Radical philosophies. The Progressive philosophy was significantly correlated ($< .01$) with the Humanistic and Radical Philosophies, and the Humanistic philosophy was significantly correlated ($< .01$) with the Radical philosophy (see Table 3).

Correlation between the philosophies and the demographic variables were also examined. There was a statistical difference ($< .01$) between the State variable and the Humanistic philosophy (-.27), as well as, a statistical significant difference ($< .05$) for the Adult Education Payment variable and the Progressive philosophy (.19). Both of these correlations show low associations according to the Davis convention.

Summary, Conclusions, and Implications

One hundred and eighteen secondary agricultural education teachers in Pennsylvania, West Virginia, and Virginia responded to the survey with useable data for a 38% response rate. This included 49 educators from Pennsylvania, 45 from Virginia, and 24 from West Virginia. The average respondent was 44 years of age, had 18 years teaching experience, and had taught adult education classes for 14 years. Approximately two-thirds of the respondents taught adults. The group was predominately male with more than half having an advanced degree. Approximately 50% had formal training in teaching adults and two-thirds were paid to teach adult classes in agriculture.

Slightly more than two-thirds of the educators in the tri-state area identified with the Progressive philosophy. None of the respondents identified with the Liberal philosophy. Other philosophies represented by the respondents included Behaviorists (21.2%), Humanists (7.6%), and four Radicals (3.4%). Pennsylvania educators had the highest the highest percentage in the Progressive group (71.4%), followed by Virginia (68.9%), and West Virginia (58.3%). West Virginia has the highest Behaviorist rate (29.2%), followed by Pennsylvania (20.4%), and Virginia (17.8%). West Virginia had the highest rate of Humanist philosophies followed by Virginia and Pennsylvania. Those rates were 12.5%, 8.9%, and 4.1%, respectively. Pennsylvania and Virginia each had two Radical respondents.

Correlational relationships between the five philosophical categories and the selected demographic variables were examined. Researchers found a strong association between the Liberal and Behaviorist philosophies. There was also a strong association between the Behaviorist and Progressive philosophies. There was a substantial association between the Liberal and Progressive philosophies as well as the Humanistic and Progressive philosophies.

Correlation between the philosophies and the demographic variables were also examined. There was a statistical difference between the State variable and the Humanistic philosophy as well as, a statistical significant difference for the Adult Education Payment variable and the Progressive philosophy.

Implications

After examining the results from this study, it leaves one with the age-old adage, “which came first, the chicken or the egg?” In other words, were the philosophies of the agricultural educators influenced by teaching methods learned in their teacher preparation program or was the selection of educational methods used with adults a result of their philosophical development?

Slightly more than two-thirds of the educators in the tri-state identified with the Progressive philosophy. Keep in mind that teaching methods used in this philosophy include problem solving, scientific method, and cooperative learning. Agricultural educators have long been advocates of the problem solving approach to teaching. Over the past one hundred years, Dewey's Steps in Reflective Thinking, also known as The Chain of Reasoning, The Method of Science, and The Scientific Method, have been recommended by agricultural educators as the problem solving approach to teaching (Binkley and Tulloch, 1981; Crunkilton and Krebs, 1982; Hammonds, 1950; Krebs, 1967; Lancelot, 1944; Newcomb, McCracken, and Warmbrod, 1993; Stewart, 1950).

Has the emphasis on the use of problem solving in teaching high school and adults agricultural education students influenced the philosophical development of agricultural educators? While the data from the study did not lend itself to answering this question, it presents an interesting topic for additional research.

An additional twenty-one percent of the population identified with the Behaviorist philosophy. Once again, the Behaviorist educators utilize programmed instruction, contract learning, and computer guided instruction. Vocational training and teacher certifications are both examples of behaviorist practices. Has the influence of vocational training and teacher certification programs impacted the philosophy of these individuals?

If philosophical development is influenced by undergraduate and graduate education, teacher educators have an excellent opportunity to have a positive influence on potential adult educators. It has long been accepted that life-long learning occurs in the form of problem solving (Newcomb, McCracken, & Warmbrod, 1993). If teachers are prepared to use proven methods of teaching such as problem solving, it will enhance the quality of their adult programs as well as the level of learning of their adult students. Additional research is needed on the factors that affect the development of adult educator philosophies.

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