

**Integrating Adult Learning into Extension:
Identifying Importance and Possession of Adult Education Competencies
Among County Extension Faculty**

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Abstract

An ex post facto case study was conducted to determine critical professional development needs of county extension faculty in the area of adult education. To conduct the study, a survey was administered to a group of 60 county extension faculty representing one extension district within a Southeastern US state. The constructs measured in the survey included embedded perceptions as to the importance and degree of possession of a set of adult learning concepts and practices expressed as skills/competencies, the perception of the need for training in these areas, and general demographic information.

On average, faculty felt that they spend about 50% of their time on adult education, and the majority perceived themselves as effective adult educators. However, respondents also believed that they have a substantial need for training in adult education. Data analysis indicated that gender and background in adult education were significant predictors of both perceived importance and possession of skills/competencies in the field of adult education. Results also indicated that while no significant differences existed between those with and those without a formal background in adult education in terms of perceived importance, those with a formal degree in this area felt they possessed these skills/competencies to a significantly greater degree than those without a formal degree. Although generalizability is limited to the extension district in which the study took place, these findings do suggest that the extension system might significantly benefit from active integration of adult education into the realms of formal training, hiring and professional development opportunities.

Introduction/Theoretical Framework

“Extension was borne of a need to provide innovative, informal adult education programs” (Astroth and Robbins, 1987, p.1).

While the above quote may aptly serve to emphasize the significance of adult education as an integral aspect of the cooperative extension system, the jury is still out as to how effectively extension has been able to integrate adult learning concepts, training and practices into the organization as a whole. As the world's largest nonformal adult education organization (Boone, 1985), it could be reasonably assumed that Extensionists possess the requisite knowledge and skills to anticipate and recognize adult needs and to direct learning activities that adequately address those specific requirements. It has been argued, however, that in many situations, extension professionals have been hired to work in extension primarily because of efficacy in a particular subject area rather than experience or skills as educators (Seevers, 1995). Further, although extension agents are often well grounded in their respective subject areas, they may not have had much training in educating adults (Cornell, 1999).

Previous research in this area has shown that the success of an extension program depends, not only on the quality of content offered, but also on the ability of the extension educator to effectively facilitate adult learning (Cornell, 1999; Birkenholz, 1999; Rogers, 1996). For example, findings from a study that included a historical review of the hiring practices, pre-professional training requirements and the nature of the Ohio Cooperative Extension Service (OCES), demonstrated the importance of making available professional development in the area of adult education (OCES, 1989). A look at pre-professional educational requirements as well as on-the-job staff development opportunities indicated that most extension professionals were not trained to assume the role of an adult educator, but rather to serve as experts in a particular science-based field (Seevers, 1995). From the above, it could be assumed that the degree to which extension educators perceive the need, desirability and utility of understanding and applying adult learning theory and concepts could be related to programmatic success. But although a few current studies that look at the outcomes of integrating adult learning concepts into extension education exist (Murdock & Paterson, 2002; Gillis & English, 2001), current research focusing on the perceived importance and utility of applying adult learning concepts in the extension setting are missing from the research base. Further, research is also limited with respect to understanding what demographic factors, such as gender, age, and previous education might be predictive of the degree to which county faculty perceive the importance of, as well as feel they possess, these important capabilities.

Adults as learners

Some tend to think of the word “adult” in terms of age. But according to Rogers, no single age can define an adult even within one society, let alone on a comparative basis, because legal and social liabilities come into play at different ages (1996). He argues that a more satisfactory approach may be to identify some of those characteristics inherent within the concept of adulthood. Though they may differ by the person and culture, far-sightedness, self-control, established and accepted values, security, experience and autonomy are among the most common characteristics (1996).

Malcolm Knowles (1990) outlined nine common characteristics to plan for and utilize with any adult learner regardless of level, subject or situation. Knowles contends that adults need to control their learning, as well as feel that what they are learning has immediate utility, and is focused on issues that directly concern them. Adults need to test their learning as they go along, rather than receive background theory and general information. They need to anticipate how they will use their learning, and to expect performance improvement to result from their learning. Adult learning is greatest when it maximizes available resources. It requires a climate that is collaborative, respectful, mutual and informal, and it relies on information that is appropriate to what is known at a given time; i.e., it is developmentally paced (1990).

Innate in these characteristics are the notions that adults have a basic need for control of, a need to take relevance from, and a need for involvement in any learning experience. Boulmetis (1998) finds Knowles' list to be "true of all adults regardless of their age, gender, socio-economic status, ethnicity or race. Surprisingly enough, Knowles' characteristics apply to all these groups—singly and collectively" (p.2). Boulmetis contends that most authors on the subject, even those outside the adult education arena, write about important learning or training principles that are very similar to those of Knowles (Boulmetis, 1998).

Birkenholz (1999) asserts that adults with more education have a stronger tendency to participate in adult education activities than those who have less education. He explains that this is because, as people expand their knowledge base, they also increase awareness of what they do *not* know. Although education expands the base of knowledge, it also tends to expand a sense of ignorance or inadequacy that serves to drive life-long learning and motivation to learn (1999).

Henschke (1998) contends that adult educators are models. He outlined four components for the practice of modeling in the preparation of adult educators. The first ingredient is the theory of andragogy—the art and science of helping adults learn (Knowles, 1990). Its primary principle is the desire, potential and ability for self-directedness on the part of the learner. Other principles that comprise this theory include: (a) perceiving the learner's experience as a resource for learning, (b) seeing developmental tasks of social roles as crucial in activating the need and readiness for learning, (c) learners need a situation-centered or problem-centered orientation to learning, (d) understanding that motivation of adult learners is internal, rather than merely external, and (e) learners need a valid reason why they need to learn something to appreciate its importance.

Henschke's use of andragogy is based on the work of Knowles. Henschke contends that andragogy is the basis for the next component in his model, which involves attitude. According to Henschke, andragogy is much more than a method or theory (1998).

"It (andragogy) is an attitude of mind and heart, and it becomes a transforming power and positive influence in modeling the preparation of adult learners. An attitude for caring for the learner as a valuable, unique person, and of helping the learner to accomplish his or her educational goals. It is essential for an adult educator" (p. 12).

The third component of his model is congruence. When andragogical principles are applied consistently, congruency with learners will be achieved in the form of mutual agreement of voluntary conformity. This requires congruency of theory and practice (1998). The final ingredient is trust, which Henschke describes as coming from both the attitude of andragogy and congruency. The adult educator must initiate trust with learners (1998). "If he or she effectively models the principles of adult education, learners have a golden opportunity to become great adult educators themselves (p. 12)." Without trust, Henschke notes, the learners may not learn something they would have, or would have learned less well, more slowly, or not at all. "A lack of trust seriously hampers the learning process" (p. 12).

Adult learners and extension professional development

Maricle and Nolting (1991) postulate that to effectively present programs to adult participants in extension, it is important to know how adults develop as they mature, and what learning style most appropriately fits each developmental stage. They define adult development as "the study of adult capacity to improve over time" (1991). Adults change in predictable ways according to age, individual characteristics, and demands of the environment (1991). They contend that cognition, conceptual development, and personality development should all be considered when developing Extension programs for adults (1991). Knowing how adults develop from simplistic, concrete thinking to multi-information and abstract thinking is vital to program success (1991).

One of the ways in which to insure that Extensionists have the skills they need to educate adults is through extension professional development activities and programs. Skills and competencies designed for extension educators are enhanced by the process of staff development (Seevers, Graham, Gamon & Conklin, 1997). Professional staff development can take the form of in-service training, professional organizations, personal reading, computer networks, and mentoring programs (1997).

Guskey (2000) defines professional development within an organization as a process that is intentional, ongoing, and systematic. He defines *intentional* to include a consciously designed effort to bring about positive change and improvement. This needs to be a deliberate process that is guided by a clear vision of purposes and planned goals. For professional development to be the most effective, individuals must appreciate its possibilities and the necessity for improvement in all aspects of the workplace. Professional development is *ongoing* because every day presents a variety of challenging learning opportunities, and Extension faculty must stay abreast of new knowledge, technology and information. Training and development are necessary if extension professionals are to keep up with the growing and expanding global knowledge base. Effective professional development is *systematic* because the process must consider change over an extended period of time, and it must take into account all levels of the organization (2000).

For the past ten years, there has been an increase in research outlining the best procedures in professional development (Galbo, 1998). According to Galbo, there has also been an attempt to connect adult learning theory to the design of professional development training (1998). She contends that educators have made an effort to link the best practices in professional

development with information on adult learning because they believe that the most effective professional development results from connecting the two fields (1998). Galbo denotes that Knowles' research has important implications for staff development providers (1998). "While andragogy teaches us that there is not one best way to design staff development programs, applying adult learning theory can help those responsible for planning staff development training to meet the individual requirements of adult learners" (p. 1). Galbo indicates that professional staff development is much more likely to be effective in facilitating reform if the implementation of staff development practice is also based on the key findings of adult learning theory (1998).

Purpose/Objectives

Based on the concept that youth and adult audiences respond to education differently, and in fact learn differently (Birkenholz, 1999), it can be argued that county extension faculty need to understand how to tailor their extension education programs for these disparate audiences. Given the focus on educating adults, it could be assumed that knowledge, understanding and capability in applying adult education concepts and skills would be important assets for county extension faculty. From an organizational perspective, demonstrating that competency in adult education is an important and valued skills set could be useful in terms of identifying a new and potentially important area for professional development and in-service training opportunities.

The purpose of this study, therefore, was to conduct a case study designed to explore and determine perceived levels of importance, competency and need for training in adult learning theories and practices among a population of county extension faculty in one extension district. Consequently, the objectives of the study were as follows:

1. Describe county extension faculty respondents' overall perceptions of the importance of adult education theories, concepts and practices;
2. Describe county extension faculty respondents' overall perceptions of the degree to which they felt they possessed these adult education skills/competencies;
3. Determine the amount of variance in the perceived overall importance and degree of possession of adult education skills/competencies as explained by the linear combination of faculties' age, gender, academic rank, years of service in position, and background in adult education, in order to assess which combination of factors best predicted perceived importance and possession of the above attributes.
4. Determine the differences in both perceived importance and possession of skills/competencies based upon age, gender, academic rank, and background in adult education.

Methods/Procedures

The research design for this study, a one shot case study in which observations were made in the form of a questionnaire, was causal comparative in nature (Ary, Jacobs & Razavieh, 1996). The design and methods were modeled on the work of Bata (1999) who conducted a similar study of professional needs and educational competencies of extension educators. The population for the study ($N=70$) was comprised of county extension faculty in one of five state

extension districts. The survey was developed and administered to a convenience sample of faculty ($n=60$) attending a district meeting of all county extension faculty.

The survey consisted of three sections of five-point Likert-type statements adapted from instruments developed by Hiemstra & Sisco (1990), Bata (1999), and Place (2001). The constructs measured embedded perceptions as to the importance and degree of possession of adult learning concepts and practices expressed as skills/competencies, as well as perceptions of the need for training in this area. The first section of the instrument measured the perceptions of importance and degree of possession of a set of 15 adult education skills/competencies that were based on accepted adult education concepts and practices. The second part of the instrument measured the perceived need for training in the field of adult learning, and included two questions focusing on the estimated percent of time an faculty spends with adult education, as well as their perceptions of need for additional training in adult education. The third section of the instrument collected demographic information, including age, gender, academic rank, educational background, years of service, position appointment and time in that position.

All items were reviewed for face and content validity via a panel of experts comprised of faculty and graduate students with expertise and training in adult education (Ary et al., 1996). Cronbach's alpha reliability coefficient for the resulting scale was .86.

Results/Findings

Demographic characteristic results indicated that 60.2% of the faculty in the sample were female. The majority of respondents held a master's degree (65%), followed by a doctorate (18.3%) while a smaller percentage had only a bachelor's degree (15%). The average length of time county extension faculty had been employed was 8.4 years ($SD=9.48$). Furthermore, 75.8% of the faculty had a length of service in their current position in the category of between 1-10 years. The average age of respondents was 44 years. Of the faculty who responded, 45.6% possessed a background in the field of education. Nearly 71% of total respondents had no formal background in the field of adult education. Of those who did have a background in education, 65% of these respondents had an adult education background.

To determine what were the key needs in this domain, respondents' ratings of the perceived importance and degree of possession of each item in the skills/competencies battery were categorized according to a convention adapted from Bata (1999), wherein means that ranged between 1.00 - 1.49 were categorized as "low" in terms of level of importance; means between 1.50 - 2.49 were categorized as "below average"; means between 2.50 - 3.49 were considered "average"; means ranging between 3.50 - 4.49 were "above average"; and means between 4.50 - 5.00 were considered "high" in level of importance.

Based on the above, the grand mean for perceived importance of the set of adult learning skills/competencies was perceived as above average ($M=4.22$, $SD=0.79$). Six items in this construct were categorized as high in level of importance: "ability to conceptualize and plan extension programs for adult learners ($M=4.75$, $SD=0.57$), "ability to recognize the needs of a diverse adult student population (ex. gender, social, cultural, etc.) and plan programs accordingly" ($M= 4.70$, $SD=0.56$), "ability to use various active learning strategies to motivate

adults to learn” ($M=4.72$, $SD=0.56$), “ability to design and deliver effective educational materials to adult learners” ($M=4.82$, $SD=0.47$), “ability to understand needs of adult participants of extension programs” ($M=4.73$, $SD=0.58$), and “ability to recognize differences between youth and adult learners and how to design learning materials for both audiences” ($M=4.70$, $SD=0.50$) (Table 1).

The grand mean for the degree to which respondents felt they possessed the skills/competencies in the battery was rated to be above average ($M=3.55$, $SD=0.87$). Nine of the fifteen individual items in this construct were in the above average range. In terms of degree of perceived possession, six of the skills/competencies were in the average range: “ability to recognize philosophical roots of adult learning and explain how they apply in Extension” ($M=3.28$, $SD=0.92$), “ability to trace the historical development of the field of adult and continuing education in the U.S.” ($M=2.80$, $SD=1.05$), “ability to distinguish different theoretical explanations of adult learning” ($M=3.05$, $SD=1.05$), “ability to define the terms “pedagogy” and “andragogy” and tell how they relate to instruction” ($M=2.52$, $SD=1.16$), “ability to name the pertinent attributes of adult learners, within a *developmental perspective*” ($M= 2.98$, $SD=1.03$), and “ability to access and utilize Web-based learning modules, consisting of PowerPoint® presentations, Video Clips and text layouts for professional development training” ($M=3.27$, $SD=1.01$). The means of two items fell at the lower end of the average range: “ability to trace the historical development of the field of adult and continuing education in the U.S.” and “ability to define the terms “pedagogy” and “andragogy” and tell how they relate to instruction.” (See Table 1).

Table 1

Attribute Importance (Imp) and Possession (Poss): Field of Adult Learning Construct (n=60)

<i>Field Construct</i>	<i>Imp Mean</i>	<i>Imp SD</i>	<i>Poss Mean</i>	<i>Poss SD</i>
<i>Defining the Field</i> - Familiarity with the significance of the field of adult learning and its application to Extension education.	4.37	0.91	3.66	0.86
<i>Philosophical roots of the field</i> —Ability to recognize philosophical roots of adult learning and explain how they apply in Extension.	3.73	0.95	3.28	0.92
<i>Historical Roots of Adult Learning</i> —Ability to trace the historical development of the field of adult and continuing education in the U.S.	3.22	1.08	2.80	1.05
<i>Adult Learning</i> —Ability to distinguish different theoretical explanations of adult learning.	3.75	1.01	3.05	1.02
<i>Program Planning</i> —Ability to conceptualize and plan Extension programs for adult learners.	4.75	0.57	4.08	0.72
<i>Recognizing Diversity</i> —Ability to recognize the needs of a diverse adult student population (ex. gender, social, cultural, etc.) and plan programs	4.70	0.56	4.08	0.70
<i>Pedagogy vs. Andragogy</i> —Ability to define the terms “pedagogy” and “andragogy” and tell how they relate to instruction.	3.09	1.11	2.52	1.16
<i>Adult Learners</i> —Ability to name the pertinent attributes of adult learners, within a <i>developmental</i>	3.68	1.04	2.98	1.03
<i>Motivation of Learners</i> —Ability to use various active learning strategies to motivate adults to learn	4.72	0.56	4.03	0.80
<i>Instructional Materials</i> —Ability to design and deliver effective educational materials to adult learners.	4.82	0.47	4.17	0.69
<i>Approaches to Instruction</i> —Ability to differentiate between and utilize learner-centered and teacher-centered approaches to instruction.	4.47	0.68	3.80	0.78
<i>Becoming an adult education professional</i> —Ability to identify the major characteristics of what it means to be a professional in the field of adult education.	4.10	1.02	3.63	0.88
<i>Understanding learner needs</i> —Ability to understand needs of adult participants of Extension programs.	4.73	0.58	4.05	0.79

Table 1. (Continued)

Field Construct	Imp Mean	Imp SD	Poss Mean	Poss SD
Youth vs. Adult Instruction—Ability to recognize differences between youth and adult learners and how to design learning materials for both audiences.	4.70	0.50	3.97	0.71
Web-based Learning—Ability to access and utilize Web-based learning modules, consisting of PowerPoint® presentations, Video Clips and text layouts for professional development training.	4.40	0.76	3.27	1.01
Overall Totals	4.22	.79	3.55	.87

In addition to the skills/competencies items, two items in the survey assessed respondents' perceptions of need for training in the field of adult learning. Overall, respondents felt that they spent nearly 50% of their time with adult education. Not surprisingly, county faculty also perceived their need for additional training in adult education to be substantial ($M=3.53$, $SD=1.14$).

The third research objective was to determine the amount of variance in the perceived importance and possession of adult education skills/competencies as explained by the linear combination of the faculties' age, gender, academic rank, years of service in position, and background in adult education. To accomplish this objective, multiple linear regression was run, utilizing first, skill/competency importance, and then, degree of possession of skills/competencies as the dependent variables (See Table 2).

Table 2
Regression of Age, Gender, Academic Rank, Years in Position and Adult Education Background on Perceived Importance of Skills/Competencies (n=60)

Variables	B	t	Sig.	F	p
Age	-0.116	-1.754	0.085	3.796	0.006**
Gender	0.446	3.564	0.001**		
Academic Rank	-5.149	-0.533	0.596		
Years in Position	3.300	0.020	0.984		
Adult Ed Background	-0.269	-2.210	0.032*		

Standard Error = 0.4483

$R^2 = 0.066$

Adjusted $R^2 = 0.012$

* = $p < .05$; ** = $p < .01$

Results indicated that both gender and background in adult education were significant predictors of both perceived importance of adult education skills/competencies, as well as perceived degree of possession. (See Table 3).

Table 3

Regression of Age, Gender, Academic Rank, Years in Position and Adult Education Background on Perceived Degree of Possession (n=60)

<i>Variables</i>	<i>B</i>	<i>t</i>	<i>Sig.</i>	<i>F</i>	<i>p</i>
Age	0.136	1.653	0.104	5.185	0.001**
Gender	0.396	2.770	0.008**		
Academic Rank	3.473	0.038	0.315		
Years in Position	2.522	0.115	0.909		
Adult Ed Background	-0.535	-3.834	0.000**		

Standard Error = 0.559

$R^2 = 0.052$

Adjusted $R^2 = -0.003$

* = $p < .05$; ** = $p < .01$

The fourth objective was to determine if significant differences existed in the perceived importance and possession of the skills/competencies as a function of age, gender, academic level and adult education background. To accomplish this objective, ANOVA models were run utilizing first, perceived importance, and then, perceived degree of possession as the dependent variables. While no differences were found as a function of age, statistically significant differences were found between males and females in terms of overall perceived importance of adult learning skills/competencies $F(1, 57)=6.88$, $p < .02$, such that females perceived these skills/competencies as significantly more important ($M=4.36$, $SD = .41$) than males ($M=4.02$, $SD = .54$). There were no statistically significant gender differences $F(1, 57) = 2.42$, $p < .12$) observed for perceived degree of possession (males $M = 3.44$, $SD = .57$), (females $M = 3.66$, $SD = .50$) of the skills/competencies.

With respect to academic level and perceived importance of adult education skills/competencies, statistically significant differences were found $F(2, 58) = 3.19$, $p < .05$. Further analysis indicated that those with a bachelor's degree as their highest academic rank had significantly lower perceptions ($M=3.90$, $SD = .50$), of the importance of the skills/competencies than those with master's degrees ($M=4.32$, $SD = .44$) and Ph.D.'s ($M=4.12$, $SD = .56$). There were no significant differences among the three different academic degree levels, $F(2, 58)=.03$, $p < .10$, in terms of perceived degree of possession of adult education attributes (bachelor $M = 3.51$, $SD = .52$; masters $M = 3.56$, $SD = .56$; Ph.D. $M = 3.57$, $SD = .59$).

Finally, with respect to perceptions of importance of skills/competencies, no significant differences existed, $F(1, 57) = 1.67$, $p < .3$, between those with ($M= 4.34$, $SD = .55$) or those without a background in adult education ($M= 4.16$, $SD = .46$). In terms of perceived degree of possession, however, highly significant differences, $F(1, 57) = 14.57$, $p < .01$, were observed, such that perceptions of those with a background in adult education ($M=3.92$, $SD=.48$), were significantly higher compared to those without this background ($M= 3.38$, $SD = .49$).

Conclusions/Implications/ Recommendations

Although generalizability of this study is limited to the population under study, results from this group suggested that county extension faculty respondents did feel that they spent a significant amount of time on adult education, and that they generally perceived themselves as effective adult educators. However, the majority of faculty surveyed also felt that they have a substantial need for additional training in this area. Further, although respondents perceived both importance and degree of possession of adult education skills/competencies as above average, perceived importance was rated at a higher level than degree of possession.

Other key findings focused on the effect of demographics and academic preparation on respondents' perceptions. For example, respondents' gender and adult education background were the most significant predictors of both their level of perceived importance and degree of possession of skills/competencies in adult education. Further, significant differences existed between male and female respondents such that female respondents perceived the studied skills/competencies as more important than did males. In addition, as might be expected, while both those with and without a background in adult education perceived the skills/competencies as of equal importance, those *with* an adult education background rated their perceived degree of possession significantly higher. Finally, those with the least amount of academic preparation, e.g., those respondents holding bachelors degrees, had significantly lower perceptions as to the importance of these skills/competencies, although all three groups were similar in terms of their perceived degree of possession.

Based on the above, the results seem to indicate that those who possessed a background in adult education may have been more likely to perceive themselves as possessing skills/competencies in this area. Traditionally speaking, many extension faculty have been trained from a technology transfer perspective, but the extension organization to which they belong is now placing heavier emphasis on teaching and learning (Arrington, personal communication, 2002). As a consequence, those who possess these attributes and comprehend their importance may be best positioned to gain and to be most effective. At the same time, more conventional faculty may be less advantaged if they do not possess these competencies, which might be a barrier, both to their perceiving the importance of as well as being receptive to professional development in this area. This may be an area worthy of future research.

Given the results of this study, it is also apparent that gender differences existed among respondents with respect to perceiving the importance of these skills and competencies. Females in this study were more likely than males to perceive the importance of adult education concepts, and gender was a predictor of both perceived importance and degree of possession. This finding may suggest a need to provide joint training in this area, where males and females could learn from one another, with a view toward facilitating collaborative social learning, which is a founding theoretical basis for the extension service as well as adult learning in general (Birkenholz, 1999; Cornell, 1999).

Another potential limitation of this study is that it measured attitudes and perceptions toward adult learning concepts and not actual knowledge. While utilizing a knowledge test is a direction for future research, studies suggest that perceptions are still a good way to identify felt

needs as opposed to listing ascribed needs for a group. Birkenholz (1999), for example, states that when working with adults, addressing felt needs is often better than ascribing needs, because the adult learner must feel that they are fully involved in learning.

Major recommendations of this study would be to expand adult education offerings within both non-formal and formal curriculum areas. To that end, based on the results of this study, subsequent development of a needs-based adult learning instructional Web module has been initiated and is being implemented to help meet these needs. Future studies are planned to examine broader populations and the effectiveness of specific adult learning modules, delivery methods and professional development offerings in this important area.

Coursework focusing upon the theories, principles and characteristics of adult learning is key for any potential extension educator. Individuals aspiring to become extension faculty as well as those already in the field need education and training in this area if they are to effectively deal with the challenges and opportunities they are facing. Appropriate offerings in these topics will better prepare future extension educators to be effective with diverse adult clientele that have various backgrounds and needs. In addition, understanding how extension faculty perceive the importance of, as well as the degree to which they feel they possess adult learning concepts and competencies will ultimately improve the effectiveness of program planning and trainings conducted in this area.

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