The Journal of Extension

Volume 62 | Number 3 Article 5

9-3-2024

Andragogical Tendencies of Excellent Extension Educators

T. Grady Roberts
University of Florida, groberts@ufl.edu

Matt Benge
University of Florida, mattbenge@ufl.edu

Amy Harder
University of Florida, amy.harder@uconn.edu

Recommended Citation

Roberts, T., Benge, M., & Harder, A. (2024). Andragogical Tendencies of Excellent Extension Educators. *The Journal of Extension, 62*(3), Article 5. https://open.clemson.edu/joe/vol62/iss3/5

This Research in Brief is brought to you for free and open access by the Conferences at Clemson OPEN. It has been accepted for inclusion in The Journal of Extension by an authorized editor of Clemson OPEN. For more information, please contact kokeefe@clemson.edu.

JOURNAL OF Extension

Research in Brief

Volume 62, Issue 3, 2024

Andragogical Tendencies of Excellent Extension Educators

T. Grady Roberts[1], Matt Benge[1], and Amy Harder[1]

AUTHORS: [1]University of Florida.

Abstract. Extension agents frequently teach adult audiences, who require a different approach than youth audiences. Andragogy has been frequently used to frame research in Extension. However, it is not clear if Extension professionals apply andragogical principles in practice when teaching programs. We used Knowles' theory of andragogy and the Personal Adult Learning Style Inventory to investigate the andragogical tendencies of Extension agents who were nominated as exceptional teachers in Florida. Our study results suggest that the agents viewed as exceptional teachers in Florida embrace an andragogical philosophy when it does not conflict with their understanding of their job responsibilities.

INTRODUCTION

Extension is often the public face of land-grant universities, with agents working directly with stakeholders in local communities across each state. Extension agents are tasked with developing, delivering, and assessing their educational programs, which are designed to address local needs using research-based solutions (Bruns & Franz, 2015). Agents are often hired from a variety of educational backgrounds and have general program-specific technical knowledge (Halbritter et al., 2021). Most Extension systems offer onboarding programs to assist new agents in developing their extension skills (Benge et al., 2021), including teaching skills, which are considered a priority competency area (Harder et al., 2010). Extension agents frequently teach adult audiences, who require a different approach than youth audiences (Dvorak, 2014; Knowles et al., 2015; Miller & Kitinoja, 1993). Knowles et al. (2015) used the term andragogy to delineate a theory of teaching adults. Andragogy has been frequently used to frame research in Extension (e.g., Chlipalski et al., 2018; Conner et al., 2018; Dvorak, 2014). However, it is not clear if Extension professionals apply andragogical principles in practice when teaching programs. Our study investigated the andragogical tendencies of Extension agents who were nominated as exceptional teachers to determine if the theory is applicable to successful teaching in Extension.

THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

This study was framed using Knowles et al.'s (2015; 2020) andragogy theory and its core principles of (a) the learner's need to know, (b) the self-concept of the learner, (c) the prior experience of the learner, (d) the learner's readiness to learn, (e) the learner's orientation to learning, and (f) the learner's motivation to learn. In outlining a theory of adult learning, Knowles et al. (2015; 2020) contrasted andragogy with pedagogy (the teaching of youth). When determining what they need to know, youth accept the teacher's decisions that they need to learn something whereas adults need to know why they need to learn it. Youth are dependent on the teacher, while adults are more self-directed. When examining the prior experiences of the learner, youth have very little experience, whereas adults tend to have considerable experience from learning either processes and/or content, which should be considered. Learners' readiness to learn is also different, with youth relying on the teacher to indicate when it is time to learn something and adults being more focused on learning to solve a problem they face. Youth are more focused on learning subjects, while adults are more focused on life. Finally, youth are often extrinsically motivated, whereas adults are more intrinsically motivated (Knowles et al., 2015). Although early versions of Knowles' theory presented andragogy and pedagogy as more of a dichotomy, later versions recognized the developmental nature of learning and therefore presented the principles of adult learning as occurring on a continuum from pedagogy to andragogy (Knowles et al., 2020). Educators who are philosophically closer to the pedagogical end of the continuum tend to view learners as dependent and to place their emphasis on content and consistency (Knowles et al., 2020). In contrast, educators who are philosophically closer to the andragogical end of the continuum tend to view learners as independent and to emphasize learners as individuals who have a shared role in the development and delivery of educational programs (Knowles et al., 2020).

Andragogy is expressed by adult educators through their philosophical beliefs about (a) learning orientation, (b) learning design, (c) how people learn, (d) learning methods, (e) program development, and (f) program administration (Knowles et al., 2015). In practice, Extension educators who apply andragogical principles in their programs provide a learner-centered environment designed to help people address timely and relevant problems. However, Extension agents may not be fully prepared to consciously implement the principles of andragogy. For example, a needs assessment conducted with Extension professionals identified the top 10 andragogy-related topics they wanted to have addressed through professional development, including (a) motivation to learn, (b) adult learning styles, and (c) orientation to learning (Conner et al., 2018).

Extension adult education has been influenced by numerous changes that should be taken into consideration, such as rising educational levels among the public, technological advancements, globalization, and urbanization (French & Morse, 2015). Furthermore, changes occur throughout adulthood, necessitating different programmatic approaches (Knowles et al., 2015). However, a synthesis of Extension core competencies identified in publications between 2006 and 2017 stated that among professional development efforts, "life span development and knowledge" was reported the least (Argabright et al., 2019, para. 5).

Extension agents who participated in a mixed methods study strongly agreed that their roles as educators most closely aligned with the philosophy of progressivism, which promotes "practical knowledge and problem-solving skills" (Alexander et al., 2020, para. 23). Alexander et al. (2020) added that Extension agents identified the need for professional development to help them create individualized adult learning philosophies to guide their programming. In addition, Snyder (2009) explained that adult learners should be engaged throughout the learning process, from planning to delivery, to promote in-depth understanding.

The Extension-related literature broadly embraces the importance of adult learning principles in extension programming (Alexander et al., 2020; Conner et al., 2018; Franz, 2007; Harder et al., 2010). However, we do not know the extent to which Extension agents apply these principles in their programming. Our study addresses a gap in the literature, and the findings can be used to inform professional development programming for Extension organizations.

PURPOSE AND OBJECTIVE

The purpose of our study was to investigate the andragogical tendencies of Extension agents who were nominated as exceptional teachers in Florida. The objective of our study was to describe the adult learning principles applied by Florida Extension agents using the Personal Adult Learning Style Inventory (Knowles et al., 2015).

METHODS

A descriptive research design was implemented in a group of Extension agents in Florida. The target population for our study consisted of Florida Extension agents who were nominated by their district extension directors (DEDs) or program leaders (PLs) based on their reputations as good adult educators, yielding a population of 46 Extension agents. We received approval from the University of Florida Institutional Review Board and the UF/IFAS Extension Administration Team prior to conducting this study.

We used the Personal Adult Learning Style Inventory (PALSI) (Knowles, 2015; 2020) to understand the philosophical teaching approaches of the respondents. The PALSI is a 30-item instrument that measures an educator's andragogical philosophical beliefs about (a) learning orientation, (b) learning design, (c) how people learn, (d) learning methods, (e) program development, and (f) program administration (Knowles et al., 2015; 2020). Each

Andragogy	←				→	Pedagogy
A Items	A	A more than B	Neither A nor B	B more than A	B	B Items
Effective learning/training design puts equal weight on content and process plans.						Effective learning/training design is concerned with content first and process second.
Effective learning designs take into account individual differences among learners.						Effective learning designs are those that apply broadly to most or all learners.
Successful learning/training designs incorporate a variety of experiential learning methods.						Successful learning/training designs are grounded in carefully developed formal presentations.

Figure 1. Sample PALSI items along the andragogical–pedagogical continuum.

item is constructed on a continuum between andragogy and pedagogy, and respondents are asked to rate their philosophical teaching beliefs according to whether these align more with andragogical or pedagogical statements. The five answer ratings are as follows: A = 5 points, A more than B = 4 points, Neither A nor B = 3 points, B more than A = 2 points, and B = 1 point. Figure 1 shows the sample PALSI items along the andragogical–pedagogical continuum. We also asked one demographic question related to the number of years respondents had worked in Extension. Content and construct validity for the PALSI was established through the use of Knowles' (2015; 2020) andragogy theory.

We formatted the questionnaire as an online survey using Qualtrics. We measured the Cronbach's alpha coefficient to ensure the PALSI domains maintained internal consistency (Cronbach, 1951), which can be seen in Table 1. The alpha levels ranged from 0.73 to 0.55, indicating a potential limitation of our study. We did not find any previous studies that assessed the reliability of the PALSI to which we could compare ours. Cox (2013) noted the same gap in the literature for establishing the reliability of the PALSI.

Table 1. Reliability Levels of Knowles' (2015) Personal Adult Learning Style Inventory

Personal Adult Learning Style Inventory Domains	Study Alpha Levels
Learner orientation	0.62
Learning design	0.69
How people learn	0.55
Learning methods	0.59
Program development	0.70
Program administration	0.73

Note. Reliability levels ≥ .70 were considered acceptable (Cronbach, 1951).

To gather responses, we used the Tailored Design Method (TDM) because it yields high response rates, develops trust with the respondents, reduces sampling errors, and allows the researchers to follow survey procedures that have been researched and are founded on science (Dillman et al., 2009). Furthermore, this approach minimizes nonresponse (Sivo et al., 2006). We sent a pre-notice message to participants indicating they had been nominated for this study by either their DED or their PL and thanking them in advance for their participation. We used Qualtrics to send three emails to the 46 participants in our study population. These individualized emails were followed a week later by the email with a link to the questionnaire. Two reminder emails were sent to non-respondents a week apart. Data were collected in January and February 2022. Ultimately, 35 questionnaires were completed, for an overall response rate of 78% (n = 35).

PALSI domain scores were calculated by adding each respondent's six domain scores together. There was a possible total range of 30 to 150, with 30 indicating complete agreement with pedagogy and 150 indicating complete agreement with andragogy. Each individual PALSI domain had a possible range of 5 to 25, with 5 indicating complete agreement with the pedagogy statements and 25 indicating complete agreement with the andragogy statements. We calculated the individual item means and standard deviations using Statistical Package for Social Sciences for Windows version 28. Table 2 shows the demographic information of our study's respondents.

Table 2. Demographic Characteristics of Survey Respondents

Demographic Characteristic	f	%
Program Area		
4-H youth development	5	14%
Agriculture	18	51%
Community resource development	2	6%
Family and consumer sciences	8	23%
Natural resources	2	6%
Years of Extension Experience		
1–10 years	18	51%
11–20 years	10	29%
More than 20 years	7	20%

RESULTS

Respondents indicated a more andragogical approach to teaching adults, with an average PALSI score of 103.81. The total PALSI scores among our study's participants ranged from 60 to 149. Respondents leaned toward an andragogical approach to teaching adults in all six PALSI domains. The domain that aligned most closely with andragogy to teaching adults was learning orientation (18.46), followed by learning design (18.23), learning methods (17.76), program development (17.71), how people learn (16.71), and program administration (14.94).

Responses to all five of the Learning Orientation domain items leaned toward an andragogical approach. Approximately 77% (n = 28) of respondents reported

Table 3. Total Scores by PALSI Domain

PALSI Domain Items	Total Score
Learning orientation	18.46
Learning design	18.23
Learning methods	17.76
Program development	17.71
How people learn	16.71
Program administration	14.94

Note. The average summated score from each PALSI domain could potentially range from 5 (pedagogy) to 25 (andragogy) on the PALSI continuum.

the following two Learning Orientation domain items as aligning the highest with andragogy: "There are a number of important differences between youths and adults as learners that can affect the learning process" and "Effective learning/training design puts equal weight on content and process plans." "Client system representatives must be involved in the planning of learning/training programs" was the lowest-rated Learning Orientation domain item that aligned with andragogy by approximately 46% (n = 16) of respondents.

Four of the five PALSI items from the Learning Design domain aligned with andragogy. Approximately 86% (n = 30) of respondents rated "Successful learning/training designs incorporate a variety of experiential learning methods" as the highest-rated item that aligned with andragogy. "The role of the

Table 4. Individual Item Agreement Scores for the Learning Orientation Domain

	Percent Agreement					
Statement A	Completely with A	A more than B	Equal	B more than A	Completely with B	Statement B
There are a number of important differences between youths and adults as learners that can affect the learning process.	29% (n = 10)	48% (n = 17)	3% (n = 1)	20% (n = 7)	0% (n = 0)	For the most part adults and youths do not differ greatly in terms of the learning process.
Effective learning/training design puts equal weight on content and process plans.	31% (n = 11)	46% (n = 16)	3% (n = 1)	17% (n = 6)	3% (n = 1)	Effective learning/training design is concerned with content first and process second.
Effective facilitators/trainers model self-directed learning in their own behavior, both within and outside the learning session.	26% (n = 9)	49% (n = 17)	11% (n = 4)	11% (n = 4)	3% (n = 1)	Effective facilitators/trainers show learners that they, the facilitators/trainers, are content experts, with the knowledge and skills to be "in the driver's seat."
Effective learning/training is based on sound methods for involving learners in assessing their own needs.	28% (n = 10)	40% (n = 14)	6% (n = 2)	26% (n = 9)	0% (n = 0)	Effective learning/training rests on the trainer's use of standard, valid methods for assessing learners' needs.
Client system representatives must be involved in the planning of learning/training programs.	17% (n = 6)	29% (n = 10)	17% (n = 6)	31% (n = 11)	6% (n = 2)	It is the program developer's responsibility to provide clients with clear and detailed plans.

Table 5. Individual Item Agreement Scores for the Learning Design Domain

	Percent Agreement					
Statement A	Completely with A	A more than B	Equal	B more than A	Completely with B	Statement B
Program administrators must plan, work, and share decision making with client system members.	11% (n = 4)	49% (n = 17)	14% (n = 5)	23% (n = 8)	3% (n = 1)	Program administrators must have full responsibility to provide clients with clear and detailed plans.
The role of the facilitator/trainer is best seen as that of a facilitator and resource person for self-directed learners.	9% (n = 3)	22% (n = 8)	17% (n = 6)	46% (n = 16)	6% (n = 2)	The role of the facilitator/trainer is to provide the most current and accurate information possible for learners.
Effective learning designs take into account individual differences among learners.	34% (n = 12)	48% (n = 17)	9% (n = 3)	9% (n = 3)	0% (n = 0)	Effective learning designs are those that apply broadly to most or all learners.
Effective facilitators/trainers are able to create a variety of learning experiences for helping trainees develop self-directed learning skills.	23% (n = 8)	43% (n = 15)	3% (n = 1)	28% (n = 10)	3% (n = 1)	Effective facilitators/trainers concentrate on preparing learning/training sessions that effectively convey specific content.
Successful learning/training designs incorporate a variety of experiential learning methods.	52% (n = 18)	34% (n = 12)	11% (n = 4)	3% (n = 1)	0% (n = 0)	Successful learning/training designs are grounded in carefully developed formal presentations.

facilitator/trainer is to provide the most current and accurate information possible for learners" was the lone Learning Design domain item that was aligned with pedagogy. It was identified as such by approximately 52% (n = 18) of respondents.

The How People Learn domain items were split along the andragogical–pedagogical continuum, with two items aligning with andragogy, two items aligning with pedagogy, and one item in a moderate position on the continuum. Approximately 92% (n = 32) of respondents rated "Effective learning requires a physical and psychological climate of mutual respect, trust, openness, supportiveness, and security" as the highest-rated item that aligned with andragogy. Approximately 65% (n = 23) of respondents rated "Learning/training program developers are responsible for designing and using sound needs assessment instruments and procedures to generate valid data for program planning" as the highest-rated How People Learn domain item that aligned with pedagogy. The lone moderately positioned item along the andragogical-pedagogical continuum was "Program administrators must involve their clients in defining, modifying, and applying financial policies and practices related to learning/training programs."

The Learning Methods domain items were split along the andragogical–pedagogical continuum, with three items aligning with andragogy, one item aligning with pedagogy, and one item in a moderate position on the continuum. Approximately 76% (n = 26) of respondents leaned toward an andragogical approach to the following two items: "Effective learning requires the facilitator/trainer to assess and control the effects that factors such as groups, organizations, and cultures have on learners" and "Effective learning/training design engages the learners in a responsible self-diagnosis of their learning needs." Approximately 50% (n = 17) of respondents rated "Learning/training program developers must develop and use ongoing needs assessment data, to revise and adapt programs to better meet client needs" as the highest-rated Learning Methods domain item that aligned with pedagogy. The lone moderately positioned item along the andragogical–pedagogical continuum was "Program administrators must involve organizational decision makers in interpreting and applying modern approaches to adult education and learning/training."

Four of the five Program Development domain items aligned with an andragogical approach, with the fifth item aligning in a moderate position along the andragogical–pedagogical continuum. Approximately 71% (n = 24) of respondents rated "In preparing a learning/training activity, the facilitator/trainer should review those theories of learning relevant for particular adult learning situations" as the highest-rated item that aligned with andragogy. "Effective facilitators/trainers involve learners in planning, implementing, and evaluating their own learning activities" was the lone item that aligned moderately between andragogy and pedagogy.

Table 6. Individual Item Agreement Scores for the How People Learn Domain

	Percent Agreement					
Statement A	Completely with A	A more than B	Equal	B more than A	Completely with B	Statement B
Client system members should be involved in developing needs assessment instruments and procedures that provide the data for program planning.	9% (n = 3)	20% (n = 7)	6% (n = 2)	54% (n = 19)	11% (n = 4)	Learning/training program developers are responsible for designing and using sound needs assessment instruments and procedures to generate valid data for program planning.
Program administrators must involve their clients in defining, modifying, and applying financial policies and practices related to learning/training programs.	6% (n = 2)	17% (n = 6)	20% (n = 7)	43% (n = 15)	14% (n = 5)	Program administrators must be able to explain clearly to their clients their financial policies and practices related to learning/training programs.
Effective facilitators/trainers must take into account recent research findings concerning the unique characteristics of adults as learners.	25% (n = 9)	63% (n = 22)	6% (n = 2)	6% (n = 2)	0% (n = 0)	Effective facilitators/trainers must use the respected, traditional learning theories as they apply to all learners.
Effective learning requires a physical and psychological climate of mutual respect, trust, openness, supportiveness, and security.	46% (n = 16)	46% (n = 16)	3% (n = 1)	5% (n = 2)	0% (n = 0)	Effective learning depends on learners recognizing and relying on the expert knowledge and skills of the trainer.
It is important to help learners understand the differences between didactic instruction and self-directed learning.	14% (n = 5)	34% (n = 12)	14% (n = 5)	26% (n = 9)	12% (n = 4)	Learners should concentrate on the content of learning/training rather than the method or methods of instruction.

Table 7. Individual Item Agreement Scores for the Learning Methods Domain

	Percent Agreement					
Statement A	Completely with A	A more than B	Equal	B more than A	Completely with B	Statement B
Effective facilitators/trainers are able to get learners involved in the learning/training.	26% (n = 9)	47% (n = 16)	6% (n = 2)	18% (n = 6)	3% (n = 1)	Effective facilitators/trainers are able to get, focus, and maintain the learners' attention.
Client system representatives need to be involved in revising and adapting learning/training programs, based on continuing needs assessments.	9% (n = 3)	32% (n = 11)	9% (n = 3)	41% (n = 14)	9% (n = 3)	Learning/training program developers must develop and use ongoing needs assessment data, to revise and adapt programs to better meet client needs.
Program administrators must involve organizational decision makers in interpreting and applying modern approaches to adult education and learning/training.	15% (n = 5)	24% (n = 8)	26% (n = 9)	26% (n = 9)	9% (n = 3)	Program administrators must be able to explain clearly and convincingly modern approaches to adult education and learning/training to organizational policy makers.
Effective learning requires the facilitator/trainer to assess and control the effects that factors such as groups, organizations, and cultures have on learners.	29% (n = 10)	47% (n = 16)	21% (n = 7)	3% (n = 1)	0% (n = 0)	Effective learning requires the facilitator/trainer to isolate learners from the possible effects of outside factors such as groups, organizations, and cultures.
Effective learning/training design engages the learners in a responsible self-diagnosis of their learning needs.	32% (n = 11)	44% (n = 15)	12% (n = 4)	12% (n = 4)	0% (n = 0)	Effective learning/training can take place only after experts have diagnosed the real learning needs of learners.

Table 8. Individual Item Agreement Scores for the Program Development Domain

	Percent Agreement					
Statement A	Completely with A	A more than B	Equal	B more than A	Completely with B	Statement B
Effective facilitators/trainers involve learners in planning, implementing, and evaluating their own learning activities.	21% (n = 7)	27% (n = 9)	3% (n = 1)	41% (n = 14)	9% (n = 3)	Effective facilitators/trainers accept the responsibility for the planning, implementation, and evaluation of the learning activities they direct.
Use of group dynamics principles and small-group discussion techniques is critical for effective learning.	18% (n = 6)	44% (n = 15)	23% (n = 8)	15% (n = 5)	0% (n = 0)	Effective learning centers on the one-to-one relationship between the facilitator/trainer and the learner.
Program developers must help design and use program planning mechanisms such as client system advisory committees, task forces, and others.	20% (n = 7)	50% (n = 17)	15% (n = 5)	15% (n = 5)	0% (n = 0)	Effective program planning is the result of the program developer's efforts to interpret and to use the client system data they collect.
Program administrators must collaborate with organizational members to experiment with program innovations, jointly assessing outcomes and effectiveness.	12% (n = 4)	47% (n = 16)	15% (n = 5)	23% (n = 8)	3% (n = 1)	Program administrators must take the initiative to experiment with program innovations and asses their outcomes and effectiveness.
In preparing a learning/training activity, the facilitator/trainer should review those theories of learning relevant for particular adult learning situations.	27% (n = 9)	44% (n = 15)	11% (n = 4)	18% (n = 6)	0% (n = 0)	In preparing a learning/training, the facilitator/trainer should rely on certain basic assumptions about the learning process that have been proven to be generally true.

The Program Administration domain items were split along the andragogical–pedagogical continuum, with two items aligning with andragogy, two items aligning with pedagogy, and one item in a moderate position on the continuum. Approximately 74% (n = 26) of respondents rated "Effective facilitators/trainers begin the learning process by engaging adult learners in self-diagnosis of their own learning needs" the highest-rated item that aligned with andragogy. approximately 73% (n = 25) of respondents rated "Facilitators/trainers are responsible for planning and developing evaluation instruments and procedures and for carrying out evaluation of learning processes and outcomes" as the highest-rated Program Administration domain item that aligned with pedagogy. The lone moderately positioned item along the andragogical–pedagogical continuum was "Effective learning/training engages learners in formulating objectives that are meaningful to them."

DISCUSSION AND RECOMMENDATIONS

As with most survey research, there were limitations to our study that must be acknowledged. First, we assumed the respondents in the study provided honest and accurate answers. Second, the alpha levels measuring the reliability of the PALSI domains were low, which may have resulted in either the domains not measuring what they are supposed to or in the respondents misinterpreting the questions. Although the PALSI has been established as valid in other educational fields, it has not been used with an extension audience. The third limitation of our study is that participants were nominated by DEDs or PLs based on their perceptions of teaching ability, so it is plausible that some of the nominated agents may not actually have been exemplary adult educators.

Extension agents in Florida considered to be exceptional teachers reported more andragogical than pedagogical beliefs. The agents in our study tended to lean more toward the andragogical end of the scale in every domain; 50% or more of the items for each domain were viewed from an andragogical lens. Agents tended to believe that learning designs should incorporate a variety of experiential learning methods, effective learning occurs in a safe physical and psychological climate, and learners should have the opportunity to self-diagnose their learning needs, practices consistent with those advocated for by Franz (2007).

Knowles' (2015) andragogical principles (the learner's need to know, the self-concept of the learner, the prior experience of the learner, the learner's readiness to learn, the learner's orientation to learning, and the learner's motivation to learn) are embedded in all of the educational processes measured by the PALSI (learning orientation, learning design, how people learn, learning methods, program development, and program

Table 9. Individual Item Agreement Scores for the Program Administration Domain

	Percent Agreement					
Statement A	Completely with A	A more than B	Equal	B more than A	Completely with B	Statement B
Effective learning/training engages learners in formulating objectives that are meaningful to them.	20% (n = 7)	23% (n = 8)	11% (n = 4)	32% (n = 11)	14% (n = 5)	Effective learning/training requires that the facilitator/trainer clearly defines the goals that learners are expected to attain.
Effective facilitators/trainers begin the learning process by engaging adult learners in self-diagnosis of their own learning needs.	14% (n = 5)	60% (n = 21)	12% (n = 4)	14% (n = 5)	0% (n = 0)	Effective facilitators/trainers start by making a careful diagnosis of participant learning needs.
Learners must be involved in the planning and developing evaluation instruments and procedures and in carrying out the evaluation of learning processes and outcomes.	9% (n = 3)	9% (n = 3)	9% (n = 3)	53% (n = 19)	20% (n = 7)	Facilitators/trainers are responsible for planning and developing evaluation instruments and procedures and for carrying out evaluation of learning processes and outcomes.
Program developers must involve client system members in designing and using learning/training program evaluation plans.	6% (n = 2)	23% (n = 8)	3% (n = 1)	57% (n = 20)	11% (n = 4)	Program developers are responsible for designing and implementing sound evaluation plans.
Program administrators must work with organizational members and decision makers to analyze and interpret legislation affecting organizational learning/training programs.	20% (n = 7)	34% (n = 12)	14% (n = 5)	20% (n = 7)	12% (n = 4)	Program administrators are responsible for making and presenting to organizational authorities analyses of legislation that affect organizational learning/training programs.

administration). However, considerable variation within domains existed in our study. Items that tended to relate to an agent's own responsibilities, such as having responsibility for conducting needs assessments, designing and implementing learning activities, designing and implementing evaluation plans, and providing the most current and accurate information possible for learners, were viewed more pedagogically. These responsibilities have long been viewed as core competencies of Extension professionals (Harder et al., 2010) and are commonly included in agents' position descriptions (see the National Job Bank hosted by *The Journal of Extension* for examples). Shifting to a more andragogical perspective on program development and evaluation responsibilities would redefine how professionals view their jobs. While Knowles et al. (2015) argued that educators should consider the self-concept of the learner, our findings appear to show that the agents' own concepts of their job responsibilities influence their beliefs about teaching adults.

Our study results suggest that the agents viewed as exceptional teachers in Florida embrace an andragogical philosophy when it does not conflict with their understanding of their job responsibilities. Practically, this information can be integrated into professional development in-service trainings to ensure new hires are taught how to apply andragogical principles in their programming as appropriate. Academic extension education programs, such as the one at Florida, can ensure their students encounter andragogy in the curriculum so they are prepared when they move into Extension as professionals.

Future research is needed to determine if agents are practicing andragogy in ways that are consistent with their professed beliefs, so that any gaps can be identified and addressed. Further, we recommend comparing the philosophical beliefs of exceptional Extension teachers with those viewed less favorably to determine if any differences exist. Conducting in-person peer teaching observations to collect data is also recommended to triangulate self-reported viewpoints. We have plans to do this in Florida. Systematically investigating agents' perceived and actual behaviors will expand what is known about how Extension professionals carry out one of their most important responsibilities, teaching, and will provide a factual basis for future professional development planning and competency building.

REFERENCES

Alexander, J., Grover, K. S., & Walters, S. (2020). Exploring agents' philosophies of adult education and perceptions of the role of Extension. *Journal of Extension*, *58*(5). https://tigerprints.clemson.edu/joe/vol58/iss5/15/

Angima, S., & Stokes, A. M. (2019). Engage the future: The new Extension learners. *Journal of Extension*, *57*(2). https://tigerprints.clemson.edu/joe/vol57/iss2/25/

Argabright, K. J., Davis, G. A., Torppa, C. B., King, J., Scheer, S. D., & Stollar, M. K. (2019). Developing and supporting the future Extension professional. *Journal of Extension*, *57*(4). https://tigerprints.clemson.edu/joe/vol57/iss4/21/

Benge, M., Muscato, A. F., & Beattie, P. N. (2021). Professional development needs of early-career Extension agents beyond the first year: Florida county Extension director perspectives. *Journal of Extension*, *58*(6). https://tigerprints.clemson.edu/joe/vol58/iss6/11

Bruns, K., & Franz, N. (2015). Cooperative Extension program development and the community-university engagement movement: Perspectives from two lifelong Extension professionals. *Journal of Human Sciences and Extension*, *3*(2), 156–169. https://scholarsjunction.msstate.edu/jhse/vol3/iss2/10/

Chlipalski, M., Quick, D., Auld, D., & Baker, S. (2018). Needs assessment regarding online training for paraprofessionals in the expanded Food and Nutrition Education Program. *Journal of Extension*, *56*(5). https://tigerprints.clemson.edu/joe/vol56/iss6/10/

Conner, N. W., Dev, D., & Krause, K. (2018). Needs assessment for informing Extension professional development trainings on teaching adult learners. *Journal of Extension*, *56*(3). https://tigerprints.clemson.edu/joe/vol56/iss3/25/

Cox, T. D. (2013). Adult learning orientations: The case of language teachers in Peru. *International Forum of Teaching and Studies*, *9*(1), 3–10.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*, 297–334. https://doi.org/10.1007/BF02310555

Cummings, S. R., Andrews, K. B., Weber, K. M., & Postert, B. (2015). Developing Extension professionals to develop Extension programs: A case study for the changing face of Extension. *Journal of Human Sciences and Extension*, *3*(2), 132–155. https://scholarsjunction.msstate.edu/jhse/vol3/iss2/9/

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method* (3rd ed.). John Wiley & Sons, Inc.

Dvorak, T. (2014). *Adults as learners: Teaching adults in Extension*. UKnowledge Community and Economic Development Publications. https://uknowledge.uky.edu/cgi/viewcontent.cgi?article=1020&context=ced_reports

Halbritter, A., Wallau, M., Benge, M., & Mackowiak, C. (2021). Identifying important skills and competencies needed for new Florida agriculture Extension agents. *Advancements in Agricultural Development*, *2*(3),61–71. https://doi.org/10.37433/aad.v2i3.151

Franz, N. (2007). Adult education theories: Informing

Cooperative Extension's transformation. *Journal of Extension*, *45*(1). https://archives.joe.org/joe/2007february/a1.php

French, C., & Morse, G. (2015). Extension stakeholder engagement: An exploration of two cases exemplifying 21st century adaptions. *Journal of Human Sciences and Extension*, *3*(2), 108–131. https://scholarsjunction.msstate.edu/jhse/vol3/iss2/8/

Harder, A., Place, N. T., & Scheer, S. D. (2010). Towards a competency-based Extension education curriculum: A Delphi study. *Journal of Agricultural Education*, *51*(3), 44–52. https://doi.org/10.5032/jae.2010.03044

Hodgson, E., Dean, A., & Wang, Z. (2020). Using an immediate feedback tool to improve learning and facilitate program evaluation. *Journal of Extension*, *58*(4). https://tigerprints.clemson.edu/joe/vol58/iss4/18/

Kim, J., Russell, M. B., & Schroeder, A. (2017). Online financial education programs: Theory, research, and recommendations. *Journal of Human Sciences and Extension*, *5*(1), 113–123. https://scholarsjunction.msstate.edu/jhse/vol5/iss1/9/

Knowles, M. S., Holton, E. F., & Swanson, R. A. (2015). *The adult learner: The definitive classic in adult education and human resource development* (8th ed.). Routledge.

Knowles, M. S., Holton, E. F., Swanson, R. A., & Robinson, P. A. (2020). *The adult learner: The definitive classic in adult education and human resource development* (9th ed.). Routledge.

Miller, L. E., & Kitinoja, L. (1993). Do Extension adult education participants use what they are taught? *North American Colleges and Teachers of Agriculture*, *37*(1), 30–33. https://nactaarchives.org/attachments/article/818/Miller_NACTA_Journal_March_1993-10.pdf

Parker, S., Powell, L., Hermann, J., Phelps, J., & Brown, B. (2011). Preferred educational delivery strategies among limited income older adults enrolled in community nutrition education programs. *Journal of Extension*, *49*(1). https://archives.joe.org/joe/2011february/a8.php

Sivo, S. A., Saunders, C., Chang, Q., & Jiang, J. J. (2006). How low should you go? Low response rates and the validity of inference in IS questionnaire research. *Journal of the Association for Information Systems*, *7*(6), 351–414. https://business.ucf.edu/wp-content/uploads/sites/4/2014/11/How-Low-Should-You-Go..Low-Response-Rates-and-the-Validity-of-Inference-in-IS-Questionnaire-Research.pdf

Sneed, C. T., & Franck, K. L. (2021). Back to the basics: Are traditional educational methods still effective in a high-tech world? *Journal of Extension*, *57*(6). https://tigerprints.clemson.edu/joe/vol57/iss6/7/

Snyder, M. M. (2009). Instructional-design theory to guide the creation of online learning communities for adults. *TechTrends*, *53*(1), 48–56. http://online-educator.pbworks.com/f/Snyder09OLlearningcommunity.pdf

Thelen, B. (2019). *Engaging adult learners in Extension programming* [Doctoral dissertation, Iowa State University]. https://dr.lib.iastate.edu/entities/publication/7c7a5b2d-cab6-45f2-a281-f1ff19e57ecc