Faculty Publications, Department of Child, Youth, and Family Studies

Child, Youth, and Family Studies, Department of

6-2018

Needs Assessment for Informing Extension Professional Development Trainings on Teaching Adult Learners

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Abstract

As society becomes more information saturated, Extension must evaluate its educational programming and delivery methods used to facilitate adult learning. Extension professionals must have a comprehensive understanding of how adults learn. Accordingly, we conducted a needs assessment as a basis for providing professional development trainings focused on teaching adults. Our objective was to identify Extension professionals' professional development needs related to designing and facilitating programming based on andragogy. We developed a survey instrument that addressed andragogy-related topics and administered it to Extension professionals. The results indicated that professional development centered on andragogy was needed by and relevant to the study participants. We describe the study and resulting professional development training and provide associated recommendations that are applicable across Extension.

Keywords: andragogy, needs assessment, professional development

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Introduction

Extension professionals are often expected to educate or train adult learners within specific content areas. However, research has shown that individuals who facilitate adult education may have little to no understanding of how adults learn (Martin & Omer, 1990). As society continues to become more information saturated, Extension must evaluate its current educational programming and delivery methods used to facilitate adult learning (Extension Committee on Organization and Policy [ECOP] Leadership Advisory Council [LAC], 2007). To best meet the needs of their adult clientele, Extension educators should be encouraged to use new teaching models that have been developed on the basis of research (ECOP LAC, 2007). Additionally, they should attend to the preferences of their adult clientele. Strong, Harder, and Carter (2010) found that although Extension educators recognized the preference among adult learners for hands-on learning experiences over traditional lecture-based ones, they did not typically implement hands-on teaching strategies because of the increased amount of preparation required to do so.

Toward ensuring that Extension professionals have a comprehensive understanding of how adults learn in order to develop and deliver successful adult education programming, we conducted a needs assessment that could

serve to inform the creation of relevant professional development trainings. We then used our findings to create professional development trainings that were themselves based on assumptions about how adults learn. In this way, we both applied best practices for ensuring successful trainings and modeled how best to teach adult learners. In this article, we describe the needs assessment and explain ways in which we used our findings to generate effective professional development experiences for Extension professionals. Others across Extension may be able to use the information provided herein to develop such needs assessments and associated trainings.

Background

Approximately 45 years ago, Malcolm Knowles introduced the idea that "adults and children learn differently" (Knowles, Holton, & Swanson, 2015, p. 3). Later, Knowles (1980) described andragogy as the "art and science of helping adults learn" (p. 43). According to Ota, DiCarlo, Burts, Laird, and Gioe (2006), the assumptions of andragogy should be considered by Extension educators when designing and facilitating training programs for adult learners as these assumptions aid adult learners in applying new knowledge and skills to environments outside the classroom (i.e., professional environments). The following assumptions of andragogy were developed in Knowles's early work and reprinted in the eighth edition of the textbook *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development* (Knowles et al., 2015):

1. *The need to know.* Adult learners must understand why learning new knowledge or skills is important. Therefore, "the first task of the facilitator of learning is to help the learners become aware of the need to know" (p. 44)

2. *The learner's self-concept.* The learner's self-concept is a continuous challenge in adult education. Adults desire to take control of their lives and to be self-directed; therefore, facilitators of learning should help transition adult learners from dependency to self-directed learning.

3. *The role of the learner's experiences.* The role of an adult learner's experiences is vital to how that person learns. Adults bring prior life experiences to every aspect of their growth and development. Adult learning facilitators should strive to incorporate the experiences of each participant into the educational programming.

4. *Readiness to learn.* Timing is a critical component of the readiness to learn assumption. According to Knowles et al., "adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations" (p. 45).

5. *Orientation to learning.* The orientation to learning assumption posits that adults seek new knowledge or skills in order to address a task at hand.

6. *Motivation.* Finally, motivation is a key component of how adults learn. Motivation may come from external or internal sources, but intrinsic motivation is often the more powerful force.

Theoretical Framework

Traditionally, educators have used a content model to inform instruction (Knowles et al., 2015). When applying a content model, an instructor uses the following process:

[The instructor] decides in advance what knowledge or skill needs to be transmitted, arranges this body of

content into logical units, selects the most efficient means for transmitting this content (lectures, readings, laboratory exercises, films, tapes, etc.), and then develops a plan for presenting these content units in some sort of sequence. (Knowles et al., 2015, p. 51)

On the other hand, an instructor who follows an andragogical approach uses the following process model:

[The instructor] prepares in advance a set of procedures for involving the learners and other relevant parties in a process involving these elements: (1) preparing the learner; (2) establishing a climate conducive to learning; (3) creating a mechanism for mutual planning; (4) diagnosing the needs for learning; (5) formulating program objectives (which is content) that will satisfy these needs; (6) designing a pattern of learning experiences; (7) conducting these learning experiences with suitable techniques and materials; (8) evaluating the learning outcomes and diagnosing learning needs. (Knowles et al., 2015, p. 51)

We considered the andragogical process elements identified above in formulating the theoretical framework for the study described in this article. In particular, we focused on diagnosing Extension educators' needs regarding learning about how adults learn.

Purpose and Objectives

The purpose of our study was to identify professional development needs of Extension professionals in relation to the following topic: designing and facilitating programming based on andragogy. More specifically, the objectives of the study were as follows:

1. Identify perceived knowledge levels of Extension professionals in regard to selected topics within the art and science of adult learning (andragogy).

2. Identify the perceived relevancy of selected topics within the art and science of adult learning (andragogy) in relation to Extension professionals' work.

3. Rank the professional development needs of Extension professionals in relation to the art and science of adult learning (andragogy).

Methodology

For the study, we collected descriptive data. We developed the needs assessment instrument, and its content was derived from the theory of andragogy (Knowles et al., 2015). The format of the instrument mirrored the format of an instrument previously developed by Estepp, Thoron, Roberts, and Dyer (2014) and later modified by Sanok et al. (2015). Four experts in the field of agricultural education and Extension reviewed the items created for the instrument to help ensure content and face validity. The instrument identified 22 topics related to andragogy (listed in Table 1 in the "Results" section). For each topic, the Extension professional indicated his or her level of knowledge of the topic and the relevance of the topic to his or her job. We used 5-point Likert scales to collect data. The Likert scale used to capture knowledge level ranged from 1 = *low knowledge* to 5 = *high knowledge*, and that used to determine relevance of the topic ranged from 1 = *low relevance* to 5 = *high relevance*. We used Qualtrics to administer the instrument and to calculate mean and standard deviation for the responses to each item. We then calculated mean weighted discrepancy scores (MWDSs) (Borich, 1980) in order to determine which topics should be included in the design and implementation of a professional development workshop centered

around designing and facilitating programming based on andragogy.

The target population for our study was 40 Nebraska Extension professionals—specialists, educators, and assistants, most of whom worked in the "learning child" realm—who had formed an Extension issue team focusing on increasing quality and frequency of learning experiences for children. More specifically, the issue team members had created the following objective for the team: Increase the skills, depth of knowledge, and behavioral change of adults as they engage children and youths in quality learning experiences that support their holistic development. We used the issue team's electronic mailing list to make contact with members of the team. According to Dillman, Smyth, and Christian's (2009) tailored design method, we sent emails making the issue team members aware of the upcoming needs assessment (one email), notifying the issue team members of the active needs assessment (one email), and urging completion of the needs assessment (three emails). Following procedures suggested by Dillman et al. (2009) helped us ensure that each of the 40 Extension professionals had adequate opportunity to participate in the needs assessment. Emails included an author-developed message and a link to the needs assessment instrument that was hosted on Qualtrics. Thirty-four members of the issue team completed the needs assessment, making our response rate 85%.

Results

Of the 22 andragogy-related topics included in the instrument, the topics that ranked in the top 10 after MWDSs were applied were motivation to learn (MWDS = 8.202), adult learning styles (MWDS = 8.097), orientation to learning (MDWS = 7.911), learning for action/results (MWDS = 7.713), self-concept (MWDS = 7.375), empowerment of the participants (MWDS = 7.353), adult learner experience (MWDS = 7.203), traits of adult learners (MWDS = 6.727), how people think (MDWS = 6.685), and collaborative inquiry (MWDS = 6.612). Complete results are shown in Table 1.

Table 1.

Mean Weighted Discrepancy Scores (MWDSs) for Andragogy-Related Topics to
Be Addressed Through Professional Development Trainings

Item	Knowledge		Relevance		MWDS
	M	SD	M	SD	
Motivation to learn	2.91	1.08	4.67	0.53	8.202020202
Adult learning styles	3.15	0.99	4.64	0.59	8.096885813
Orientation to learning	2.82	1.01	4.56	0.60	7.910899654
Learning for action/results	2.85	0.86	4.55	0.66	7.713498623
Self-concept	2.94	0.97	4.56	0.60	7.374567474
Empowerment of the participants	3.21	1.09	4.76	0.43	7.352617080
Adult learner experience	2.88	0.95	4.48	0.66	7.202938476
Traits of adult learners	3.35	1.05	4.76	0.42	6.726643599
How people think	3.32	1.08	4.74	0.44	6.685121107
Collaborative inquiry	2.85	0.96	4.36	0.77	6.611570248

Multiple intelligences	2.91	1.31	4.47	0.75	6.563476563
Characteristics: learners	3.44	0.91	4.79	0.40	6.563476563
Understanding learning styles	3.32	1.13	4.68	0.58	6.326989619
Readiness to learn	3.00	1.00	4.56	0.61	6.273437500
Appropriate teaching methods	3.50	1.22	4.76	0.42	6.025951557
Encouraging active participation	3.56	1.06	4.76	0.49	5.745674740
Building on experiences: adults	3.56	1.06	4.74	0.50	5.570934256
Reflection	3.50	1.14	4.68	0.58	5.501730104
Cooperative learning process	3.30	1.17	4.52	0.70	5.472910927
The learning environment	3.68	1.05	4.79	0.40	5.358131488
The experiential learning cycle	3.62	1.21	4.71	0.52	5.121107266
Creating a climate of respect	3.79	1.02	4.82	0.38	4.965397924

Discussion, Conclusions, and Recommendations

To assist Extension professionals in moving from a content model approach to an andragogical approach, we conducted an assessment addressing the professional development needs of Extension professionals in relation to andragogy. Use of an andragogy-focused needs assessment enables Extension professionals to identify their educational needs relative to specific aspects of andragogy, and, as such, aligns with the assertion by Knowles et al. (2015) that adult learners should be the ones to decide what they need to learn.

On the basis of the results that emerged from our needs assessment, Extension professionals who belong to the Increasing Quality and Frequency of Learning Experiences for Children issue team expressed a need to receive professional development focused on how to effectively teach adult learners. The study participants rated their knowledge levels of the assumptions of andragogy as low to moderate yet felt that the assumptions of andragogy were highly relevant to their work with adult learners. They simply did not have enough knowledge to apply andragogy to their programming.

Accordingly, we created a 1-day professional development workshop focused on designing and facilitating programming based on andragogy and offered it to all Extension professionals involved in the Increasing Quality and Frequency of Learning Experiences for Children issue team in Nebraska. We used the andragogical approach set forth by Knowles et al. (2015) as a process model for designing and implementing the workshop. We also accounted for different learning styles in developing the training. More specifically, our incorporation of kinesthetic learning opportunities aligned with the assertion by Strong et al. (2010) that adult learners prefer hands-on learning over traditional lecture and encouraged the participants to actively engage in the learning activities.

After participation in the professional development training, members of the issue team discussed strategies for making the professional development available to all Nebraska Extension professionals. One proposal was to use a train-the-trainer model to prepare selected Extension professionals to facilitate the professional development workshop. Having multiple facilitators would allow the training to be offered across Nebraska and would provide

all Extension professionals the opportunity to participate. Another suggestion was to incorporate the professional development into Nebraska's Extension training program that is required for new Extension professionals.

Through our experience with using the needs assessment results to develop and implement an associated training, we can offer recommendations for conducting such a training. When developing a professional development workshop focused on how to design and facilitate programming based on andragogy, the developer should begin by reviewing the theory of andragogy proposed by Knowles et al. (2015), which should be applied throughout the professional development workshop. It stands to reason that if the workshop is not based on andragogical theory, it will not be as effective as possible and the Extension professionals may not obtain the knowledge and skills needed to effectively educate adult learners. Essentially, the professional development workshop should serve as an example of how one could design and facilitate his or her own adult education programming. Therefore, it is imperative that the professional development event involve teaching strategies and techniques that align with adult learning principles. Moreover, to provide structured reflection regarding each teaching strategy and technique used in the training, the developer should ensure that there will be opportunity for discussion throughout the event.

Another strategy for presenting a successful professional development workshop focused on andragogy is use of a workshop outline. A detailed outline for the workshop should be created and used to facilitate the training. Such an outline assists the facilitator in conducting the workshop and serves as an example for the workshop participants. The detailed workshop outline should be given to the participants upfront and used as a learning tool throughout the event. Providing participants access to the facilitator's outline allows them to clearly understand how the needs of the learners (study/workshop participants) were addressed in the development of the workshop. Transparency throughout the development and implementation of the workshop shows participants how the needs assessment was used in the design and implementation of the training, reinforcing the idea behind the process element of diagnosing the needs for learning (Knowles et al., 2015).

The needs assessment we used was focused on a specific group of Extension professionals in Nebraska. However, such a needs assessment, and accompanying workshop, could be used with all types of Extension professionals throughout the United States. The needs assessment could be applied in its current form or modified to address additional andragogical topics and/or the needs of specific target audiences.

Further research should be conducted to determine how the participants of the professional development training have incorporated andragogical concepts into their adult programming. Additionally, research should be used to evaluate the effectiveness of adult programming that the workshop participants and others have modified/redesigned to align with the theory of andragogy.

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