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Agricultural Extension Agents' Perceptions of Effective Teaching Strategies for Adult Learners in the Master Beef Producer Program

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Abstract: The purpose of the study reported here was to explore and describe how Extension agents selected teaching strategies for adult audiences. Andragogy is hypotheses concerning the attributes of adult learners (Knowles, Swanson, & Holton III, 2005). Extension agents responsible for teaching the Master Beef Producer (MBP) program were purposively selected for this study. Using qualitative research, results of the study show that county agricultural Extension agents felt hands-on instruction was the most effective teaching strategy for cattlemen. This article highlights the need for Extension to provide potential and current agents with formal education and professional development in andragogy.

Introduction

Cooperative Extension's mandate is to provide education and practical demonstrations of enhanced practices in agriculture and home economics (Seevers, Graham, & Conklin, 2007). Improving the success of educational programs has been and continues to be a priority both internally and externally for Extension (ECOP LAC, 2007). Extension agents should reflect upon the teaching strategies they employ and evaluate those most efficient and effective for their audiences (Franz, 2007; Irani, Place, & Mott, 2003; McGrath, Conway, & Johnson, 2007; Ota, DiCarlo, Burts, Laird, & Gioe, 2006; Sorter, 2003).

Theoretical Framework & Review of Literature

Knowles (1980) defined andragogy as the "art and science of helping adults learn" (p. 43). Andragogy is based upon six essential hypotheses concerning the attributes of adult learners (Knowles, Swanson, & Holton, 2005). Knowles et al. reported that educators' understanding of the six hypotheses in andragogy will assist them in organizing and creating successful instruction for adult learners.

First, adults have the desire to know why they should learn something before they begin to learn about it. This was referred to as the "need to know" (Knowles et al., 2005). Second, adult learners think they are accountable for themselves. This stage is known as "self-concept" (Knowles et al.). The third section of andragogy is experience. According to Knowles et al., adults gain more experience as they mature, which should be utilized as a resource during instruction. Fourth, adults adjust their readiness to learn with tasks that enhance their place in society. Educators can stimulate adults' readiness to learn with recommended best management practices via hands-on instruction. Orientation to learning is the fifth component of Knowles' theory (Knowles et al.). An adult's orientation to learning is positively influenced when the direction of learning becomes problem centered and no longer subject centered. The sixth and final piece to andragogy is motivation to learn (Knowles et al.). Adult motivations to learn may be immediate for example satisfying curiosity or long-term such as learning how to handle a future situation (Tough, 1979).

Dollisso and Martin (1999) found that hands-on experience was the most preferred strategy by farmers for learning, while learning in groups was least preferred. Based on their findings, Dollisso and Martin suggested the integration of "practical and hands-on teaching and learning strategies" would increase farmers' motivation to participate in adult education (p. 44). According to Downing and Finley (2005), Extension clientele favored active learning strategies over most passive learning strategies. Similar preferences for experiential learning and problem-solving strategies were found for other adult audiences (Kistler & Briers, 2003; Trede & Whitaker, 2000).

Earlier research by Creswell and Martin (1993) examined the teaching strategies perceived by agents to be effective for teaching pesticide application courses. While 35mm film slides and lecture/discussion were the most commonly used strategies, the perceived effectiveness of these strategies was lower than their frequency of use. Creswell and Martin also found agents tended to limit their teaching to the use of a few strategies rather than a wide variety.

Research has indicated that adult learners dislike lecture as a teaching strategy (Grudens-Schuck, Cramer, Exner, & Shour, 2003; Johnson, Carter, & Kaufman, 2008). Adults' lack of interest in lectures as a teaching strategy may not coincide with current Extension practice.

Purpose

The purpose of the study reported here was to explore and describe the teaching strategies selected by Extension agents for adult participants in the Master Beef Producer Program. Specifically, the objectives of the study were to:

1. Describe the teaching strategies agents utilized in an adult educational program; and
2. Describe the adult teaching strategies agents felt were the most and least effective.

Methodology

Qualitative research was used as the method for the study. Denzin and Lincoln (1994) indicated qualitative research strives to explore the extent to which social understanding is built and defined by asking questions. One method of data collection strategies used in qualitative research is interviews (Lincoln & Guba, 1985).

Purposive sampling identifies exclusive individuals or groups by means of an explicit objective in mind (Green, 2000). Agents had to have taught Master Beef Producer to be eligible to participate in the study. The Master Beef Producer (MBP) program was developed by Cooperative Extension to enhance producers' knowledge, skills, and abilities in the beef industry. The USDA National Agricultural Statistics Service (2002) reported beef cattle production was the leading agricultural industry in the southern state where the research was conducted. Specifically, nine agents represented the population and were located in a region of the state where beef cattle production was a major entity of the agricultural industry. Babbie (1989) reported small sample sizes were a foundation and the protocol of a qualitative research design. The one female and eight male participants had 14 to 33 years of Extension experience.

A semi-structured interview guide was used to explore how agents select teaching strategies for the MBP program. The interview guide focused on which teaching strategies agents used in the MBP program and the perceived effectiveness of those strategies for teaching adults. The researchers used open-ended questions to allow the participants to contemplate their thoughts and convey their motives (Bogdan & Biklen, 1998).

The interviews were conducted at each agent's local office. Informed consent documents were signed by participants preceding the interviews, which were recorded on audio, transcribed, and analyzed. The researchers reviewed the interviews and replayed the audio recordings on numerous occasions. The lead researcher's field notes were added to the transcription.

Member checking (Lincoln & Guba, 1985) was used to assist the researchers with the study's credibility. The lead researcher emailed the participants the transcript from their interview to increase the trustworthiness of the data (Lincoln & Guba). Member checking allowed participants to be informed as to what information would be used in the study. All participants verified their transcripts as accurate.

The constant comparative method was used for data analysis. Glaser (1978) indicated that the constant comparative method allows the researcher to identify common themes, non-verbal communications, observations, and similar and dissimilar findings. The transcriptions were coded and categories developed based upon identified themes. Due to the qualitative nature of the study, the themes may not be generalized beyond the population studied.

Findings

Key findings emerged from the interviews with Extension agents who taught Master Beef Producer. Summaries of the emerging themes are outlined in the sections that ensue. The participants' names were changed to protect anonymity, as recommended by Bogdan and Biklen (1998).

Teaching Tools

Multiple teaching tools were utilized in the adult educational program. All agents reported videos, lectures, and PowerPoint presentations were employed in teaching the program for cattlemen. Roy reported the information taught was diverse and tailored to the industry. Roy detailed the situation further: "One week we were teaching marketing at our local stockyard, the next we were in a pasture teaching forages and another

we were in a classroom teaching adults about food safety." The inclusion of multiple teaching tools in teaching was a design of the Master Beef Producer curriculum.

Most Effective Teaching Strategies

Agents determined providing hands-on experiences was the most effective teaching strategy due to their experiences as instructors and face-to-face feedback received from adult learners. John detailed the situation further:

Over the years to see cattlemen paying attention watching and doing what I as an agent was trying to teach them whether the class was seeing the benefits of hay storage, a working cattle demonstration or identifying weeds in a pasture, told me they get more (knowledge) and are more apt to change their practice out of those hands-on experiences better than I could give them in a traditional classroom.

Dennis and Mike reported hands-on experiences provided learners the opportunity to socialize. Dennis said: "Farmers are followers and hands-on teaching gave them opportunities to learn what one another were doing that was successful." Wyatt believed the hands-on aspect of MBP improved his teaching, saying: "In the past, we were teaching the A, B, C's of beef production and Master Beef Producer has allowed us, as educators, to teach producers how to make words out of those A, B, C's." Five agents were creative and incorporated hands-on activities for those sections designated for lectures.

Annie and Mike indicated that hands-on experiences were the most effective teaching strategy but that they rarely implemented them. Both agents identified time, travel funds, and administrative responsibilities as barriers to employing field days and demonstrations in their teaching. Annie added: "We (agents) do not have the time like we once did to plan and implement field days and other forms of hands-on teaching for our clientele."

Least Effective Teaching Strategies

Agents determined lectures were the least effective teaching strategy due to summaries of evaluations where adult learners commonly cited lectures were dull, uninteresting, or boring. Adult participation decreased in educational programs where lectures were utilized as the strategy of delivery. Dennis added:

My beef producers dislike lectures. I know this because they confronted me directly and told me, not asked, to provide more hands-on teaching. When I taught less lectures, I noticed more adults attended my programs. I have been an agent for over 30 years and those experiences have said to me to not use lectures when I had another option.

Gil stated: "Lectures in a classroom were the most ineffective strategy." Richard felt: "Straight or canned lectures were the worst adult teaching strategy." Dennis added: "Lectures restricted the opportunities for socialization between the learners." Lectures were cited as the weakest teaching strategy used in the Master Beef Producer program.

Conclusions, Implications, & Recommendations

Adults are able to apply new information and skills effectively when the knowledge is applicable to them practically (Knowles et al., 2005). In the study reported here, hands-on experiences were identified as the most effective way to practically convey knowledge to beef producers through the implementation of

demonstrations and field days. Lectures emerged as the least effective teaching strategy. Portions of the MBP curriculum were designed to be taught in a lecture format, but innovative agents adjusted their teaching strategies depending on the specified educational objectives of each session.

The findings from the study are consistent with Creswell and Martin's (1993) results in that agents addressed adults' orientations to learning via multiple teaching strategies. Strategies used by Extension agents to teach MBP audiences ranged from lectures to demonstrations. Differentiating teaching strategies permitted agents to focus their instruction on the problems that cattlemen faced in the industry versus solely on the subject matter of MBP. Adults are motivated to learn when they believe learning will assist them in tackling problems they deal with in everyday life (Knowles et al., 2005). The design and curriculum of the MBP allowed agents to adjust their teaching strategies and incorporate various tools for instruction to encompass multiple learning orientations.

The results of the study indicated that hands-on experiences provided the best possibility for cattlemen to learn from one another. The use of hands-on experiences complemented the findings from Knowles et al. (2005) regarding an adult's orientation to learning because the focus of instruction was problem centered. A few agents recognized the effectiveness of hands-on teaching but chose not to implement the strategy because of personal preference and organizational barriers. This finding mirrors Creswell and Martin's (1993) results from 15 years ago and suggests that some agents continue to find the adoption of best teaching practices to be difficult. Research is recommended to determine how organizational barriers can be reduced or eliminated so that agents teaching MBP are able to use the best teaching strategies as identified by theory (Knowles et al., 2005) and clientele preferences (Dollisso & Martin, 1999; Downing & Finley, 2005).

The study reported here supports the need for continued focus on the use of successful teaching strategies, as recommended by Creswell and Martin (1993). Dollisso and Martin (1999) recommended that agricultural Extension educators should incorporate hands-on learning activities into educational programs. Incorporating additional hands-on instructional experiences in MBP will further invigorate adults' readiness to learn (Knowles et al., 2005). Extension agents teaching MBP should focus their teaching strategies to address the problems cattlemen face (Knowles) in order to acquire higher levels of program impact (Downing & Finley, 2005).

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