Barriers and Effective Educational Strategies to Develop Extension Agents' Professional Competencies

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Abstract: The study reported here determined the barriers and effective educational strategies to develop Extension agents' professional competencies. This was a descriptive survey research conducted with a random sample of Extension agents. Increased workload and lack of time and funding were identified as the most constraining barriers of Extension agents acquiring competencies. Extension agents identified the face-to-face small group training workshop as the most effective educational delivery method for acquiring desired Extension competencies. This implies the need for using small group face-to-face training programs close to the work place as a viable alternative for achieving desired results.

Introduction

Since its establishment, the Cooperative Extension Service has delivered educational programs to help people improve their quality of lives and ability to self-actualize. Extension has experienced major transformational changes in terms of programs, finances, and personnel in the last two decades (ECOP, 2002). The effectiveness of the Extension programs in changing environment greatly depends on the delivery approach and competencies of the Extension agent.

The Blue Ribbon Commission of North Carolina Cooperative Extension (NCCE) established seven core competencies needed for Extension professionals (NCCE, 2001), These Extension core competencies are knowledge about Extension, subject matter expertise, programming skills, professional ethics, communication skills, human relation skills, and leadership skills. Similar to

this, Texas AgriLife Extension established six core competencies needed for Extension professionals, These competencies are subject matter expertise, organizational effectiveness, develop and involve others, communications, action orientation, and personal effectiveness (Stone & Coppernoll, 2004).

There are several other studies that support the notion of establishing core competencies essential for the success of Extension professionals in a changing world (Boyd, 2003; Burke, 2002; Gonzalez, 1982; Reynolds, 1993).

Extension professionals' competency acquisition depends on rewards and barriers. The reward focus is moving toward personal satisfaction, colleague recognition, and professional respect (Shinn & Smith, 1999). Organizational commitment is needed to identify and acknowledge the competencies that will meet the needs of future clients and reduce the barriers that discourage acquisition of competencies.

A Delphi study conducted with Extension agents in Texas discovered five major barriers that discouraged Extension agents from acquiring core competencies (Shinn & Smith, 1999). The barriers were time pressure and increased workloads, personal costs related to attainment, increasing scopes of the job, lack of local funds, and lack of monetary reward.

There was not any study conducted to determine barriers preventing NCCE professionals acquiring Extension competencies. The 21st-century knowledge economy forces organizations to perform competency analyses and develop training programs based on future competency needs (Gayeski, Golden, Andrade, & Mason, 2007).

Purpose

The purpose of the study reported here was to determine the barriers that hinder Extension agents from acquiring professional competencies and to identify effective educational strategies that help them to acquire desired competencies. More specifically, the study aimed to find answers to the following three questions.

1. What are the barriers preventing Extension agents from acquiring desired professional competencies?

2. What are the effective educational strategies to facilitate Extension agents' acquisition of desired competencies?

Methods

This was a descriptive online survey research study conducted with a random sample of Extension agents in North Carolina Cooperative Extension. Eleven commonly cited barriers in the literature (Harder, Lamm, & Vergot, 2010; Shinn & Smith, 1999) were included in the instrument. The respondents were asked to indicate to what extent they experienced each of the barriers when acquiring desired competencies on a four-point Likert scale ranged from one being "not at all" to four being "great extent." In addition, respondents were asked to list any other significant barriers and to rate them.

Commonly used educational delivery methods and training opportunities were listed, and respondents were asked to rate the most effective methods in helping them to learn important competencies. Related demographic information was also collected. A panel of experts validated the survey instrument. It was pilot tested with 20 Extension agents to establish reliability. The Cronbach alpha was .80 for the 11-item scale. The total population was 332 Extension agents. The representative sample for this population was 178 for achieving a 95% confidence level, with a 5% margin of error (Krejcie & Morgan, 1970).

Because Extension agents' response rate can be as low as 65.2% (Edwards, McLucas, Briers, & Rohs, 2004), it was assumed that the study would be able to achieve 65% response rate. Therefore, the sample size was recalculated to adjust to a 65% response rate. The adjusted sample size was 274. The simple random sampling procedure was used to draw this sample. The agents included in the pilot testing were not included in the study sample.

The study received 180 usable surveys, comprising a 66% response rate. Early and late respondents were compared to address nonresponse error (Lindner, Murphy, & Briers, 2001) and it was found that there was no significant difference between these two groups, confirming the generalizability of findings for the study population. Descriptive statistics were used to summarize data.

Results and Discussion

Of the respondents, 110 (61%) were female. The majority (43.8%) of the respondents were at the Extension Agent rank while 34.3% of the respondents were at the Assistant Extension Agent rank (Table 1).

Table 1.
Distribution of Respondents by Their Job Rank

Job Rank	*n*	%
Extension Agent	78	43.8
Associate Extension Agent	35	19.7
Assistant Extension Agent	61	34.3
Others	4	2.2

Of the respondents, 33.9% were Agriculture agents, 23.2% were Family and Consumer Sciences agents, 18.6% were 4-H and Youth Development agents, and 18.1% were Horticulture agents (Table 2). Forestry and Natural Resource, and Community Development agents made up a small percentage of the respondents.

Table 2.
Distribution of Respondents by Their Content Area of Responsibility

Content Area of Responsibility	*n*	%
Agriculture	60	33.9
Family and Consumer Sciences	41	23.2
4-H and Youth Development	33	18.6
Horticulture	32	18.1
Forestry and Natural Resources	2	1.1
Community Development	2	1.1
Others	7	4.0

Barriers for the Acquisition of Extension Competencies

The severity of barriers preventing Extension agents from acquiring competencies were recorded on a four-point Likert scale ranging from one being "not at all" to four being "great extent." The highest mean value (3.24) on this scale was reported for "increased work load," followed by "lack of time," "lack of funding," and "increased personal costs related to acquiring competency" (Table 3). "Lack of personal motivation" and "lack of credible information" were the least affecting barriers.

Table 3.
Barriers Preventing Extension Agents Acquiring Desired Competencies

Barriers	*M*	*SD*

Increased workload	3.24	0.73
Lack of time	3.12	0.78
Lack of funding	3.02	0.92
Increased personal costs related to acquiring Extension competencies	2.88	0.95
Lack of incentives for acquiring competencies	2.63	1.02
Lack of training opportunities	2.46	0.97
Ineffective training delivery methods	2.28	0.92
Lack of organizational support	2.16	0.90
Lack of educational resources	2.04	0.92
Lack of credible information	1.77	0.87
Lack of personal motivation	1.67	0.78
Note. 1 = Not at All; 2 = A little Extent; 3 = Some Extent; 4 = Great Extent		

The other barriers the respondents identified were "inadequate compensation for the most outstanding workers in the organization," "unfair evaluation system," " incompetent management and inability of administration to solve problems," "lack of supervision or managerial coaching," "inconsistency of the administration about required skills," "increased pressure with too many expectations," "family commitments," and "the training focused only on new agents." The severity of these other barriers was rated as either some extent or great extent.

Effective Educational Strategies to Facilitate Competency Development

Respondents were asked to identify the most effective educational delivery method to help them gain needed competencies. The majority (74.3%) of the respondents identified face-to-face small group training workshops as the most effective educational delivery method for acquiring desired competencies followed by a combination of two or more delivery methods (Table 5).

Some of the respondents identified online training, mentoring, and job shadowing as effective educational delivery methods for acquiring competencies. Only a very small percentage of respondents identified printed materials and electronic modes such as CDs as effective educational delivery methods for acquiring competencies.

Table 4.
Identified Educational Delivery Methods to Develop Competencies of Extension Agents

Delivery Methods	*n*	Percentage of Respondents
Face-to-face small group training workshops	133	74.3
Combination of two or more delivery methods	10	5.6
Face-to-face large group training workshops	9	5.0
Online training programs	6	3.4
Mentoring	5	2.8

Job shadowing	4	2.2
Electronic learning materials	4	2.2
Printed learning materials	3	1.7

Respondents were asked whether pre-service (college preparation) education, induction training, or in-service training was the best opportunity for developing Extension competencies. The majority (62.8%) identified in-service training as the best opportunity for developing Extension competencies, followed by induction training (21.7%) and pre-service training (15.6%) (Table 5).

Table 5.
The Stage for the Development of Extension Competencies

Delivery Methods	*n*	Percentage of Respondents
In-service Training	68	62.8
Induction Training	39	21.7
Pre-service Training	28	15.6

Conclusions and Implications

- It is important to take necessary steps to overcome the barriers preventing Extension agents from acquiring desired competencies. If necessary steps are not taken, it is unavoidable that an overstretched Extension will compromise its quality of service.

- Increased workload and lack of time and funding are inter-connected barriers. For instance, lack of funding has limited the hiring of new Extension agents, compelling existing Extension agents to stretch their service to meet the needs of increasing clientele. This situation has led to an increase in the Extension agents' workload along with limiting the available time need for acquiring the competencies. Understanding the root cause of these inter-connected barriers is essential to overcome these barriers.

- Increased personal costs related to acquiring Extension competencies are important barriers preventing agents from acquiring competencies. Some of the personal costs are monetary, such as paying for childcare during the period away from home. Some of the personal costs are nonmonetary, such as being away from family for a few days. It is important to consider personal costs associated with training when in-service programs are planned for achieving desired results.

- If Extension agents have young children, the childcare burden is huge. When they are attending for training away from home, they will have to make arrangements for childcare. This implies that if the training is not made compulsory by their supervisors and not directly linked with rewards for acquiring desired competencies, Extension agents may tend to pay more attention to the immediate personal costs and decide not to attend.

- This view is consistent with the notion that adult learners are responsive to some extrinsic motivators such as the possibility of better jobs, promotions, and higher salaries (Knowles, Holton, & Swanson, 2005).

- Lack of training opportunities and ineffective training delivery methods are important barriers. These barriers could be removed by properly planning training opportunities with effective teaching methods to ensure participants acquiring desired competencies.

- Several Extension agents in the study indicated that they would participate in training only if it meets their learning needs. Extension agents participate in professional development

programs based on their individual interests (Harder & Dooley, 2007). This implies the importance of developing training programs based on real needs of Extension agents to ensure their full participation.

- In-service programs provide the best opportunity for Extension agents to acquire desired competencies. Therefore, Extension organizations should invest comprehensively in the in-service educational programs for making desired outcomes (Ferrer, Fugate, Perkins, & Easton, 2004).

- Extension agents perceived face-to-face small group training workshops as the most effective educational delivery method in acquiring competencies. The implication of this finding is that organizing in-service training as small groups for the Extension agents in nearby counties at one location will minimize their personal costs associated with the training. This will reduce their travel time and the need for overnight lodging, leading to reduced training costs.

Recommendations and Limitations

- Proactive actions are needed to overcome barriers preventing Extension agents from acquiring desired competencies. Adequate funding and qualified personnel should be allocated to plan and deliver effective in-service training programs for helping agents to acquire desired Extension competencies. An in-service training is needed to help Extension agents learn how to manage their time and other limited resources for effective programming, professional growth, and organizational development.

- It is important to plan decentralized in-service training programs close to Extension agents' work site for minimizing the personal costs associated with the training. Strong and Harder (2009) stressed the importance of facilitating agents to plan their personal needs ahead of their work schedule to achieve stability between work and personal life. Organizing training programs at one convenient, nearby location for several surrounding counties is the best option for planning a decentralized training. Use of face-to-face small group training workshops is needed to enhance the effectiveness of in-service training.

- It is necessary to provide incentives for motivating agents to acquire Extension competencies. Boyd (2003) suggested that organizations should consider employees' acquisition of competencies as an important part of their accomplishments. However, Spencer and Spencer (1993) cautioned that organizations need to define a clear financial link between the competency-based pay system and the economic value to the organization. When the monetary rewards are impossible during difficult budget times, the use of non-monetary incentives such as recognition of acquired competencies with awards should be used for motivating Extension agents to acquire competencies.

The study reported here was conducted with the Extension agents in North Carolina. This is the major limitation of this study. A comprehensive study with a sample of Extension agents drawn from multi-states is needed to draw valid conclusions for the overall Extension system.

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