An Analytic Needs Assessment for Extension Education: Views from Extension Professionals and Faculty

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Acknowledgments

An Analytic Needs Assessment for Preparing Extension Educators: Views from Extension Professionals and Faculty

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This study describes professional development for Extension educators and curricula expectations for those preparing for Extension careers – as perceived by members of the American Association for Agricultural Education (AAAE) and Joint Council of Extension Professionals (JCEP). We relate and differentiate findings from two surveys with open-ended questions. Regarding professional development, JCEP respondents identified program planning and evaluation, but AAAE respondents prioritized research methods. JCEP respondents prioritized practical experiences in Extension Education college courses, and AAAE members reported some practical Extension experiences in the college curriculum. College faculty may apply the results for impactful academic, professional development, and research programs.

Keywords: needs assessment, Extension education, professional development, college curriculum

Introduction/Literature Review

Faculty in departments of Agricultural and Extension Education (AEE) lead impactful academic, research, and Extension programs that address the professional development needs of current Extension professionals while preparing college students as the next generation of Extension professionals. AEE refers to departments with various official names, including Departments of Agricultural Education, Technology, and Innovation; Agricultural Education, Communications, and Technology; Agricultural and Human Sciences; and Agricultural Leadership, Education, and Communications (Donaldson et al., 2021). Needs assessments are important for ensuring that

AEE curricula, research, and engagement activities meet the needs of current and future Extension professionals.

Professional competencies reflect an individual professional's ability to perform a task, inclusive of knowledge, skills, and values, and competencies are often defined, observed, and measured (Drisko, 2014). Donaldson and Vaughan (2022) conducted a scoping study of Extension professional competencies that spanned 37 primary studies across 46 years. They noted that "the results of [such studies] have been instructive for aligning Extension Education college courses with real-life needs [and] … have also contributed to professional learning (p.1). Assessing and understanding competencies and professional development needs are particularly important as today's workplaces and communities demand that professionals possess digital skills in addition to personal and social skills (Griffin & Care, 2015).

A needs assessment is a tool for program planning and program improvement (Patton, 1982) that may pinpoint problems, solutions, and future needs (Altschuld & Watkins, 2014; Royse et al., 2009; Soriano, 2013). A needs assessment aims to gather information for planning to fulfill identified needs (Sleezer et al., 2014). The educational needs assessment framework identified by Stufflebeam et al. (1985) includes different views of needs assessments: discrepancy view, democratic view, diagnostic view, and analytic view. The discrepancy view attempts to identify gaps between a current state and a perceived state, and it often focuses on a situation with measurable outcomes. The democratic view seeks to identify what most stakeholders perceive as needs. The diagnostic view is used to identify and assess harmful and beneficial factors. The analytic view involves skilled and knowledgeable respondents who consider needs and opportunities.

The analytic view guided the present study as it emphasizes "informed judgments" (Stufflebeam et al., 1985, p. 8). The literature has identified that it is often challenging to find skilled and knowledgeable respondents who can truly analyze situations using the analytic view (Stufflebeam et al., 1985). Seeking the opinions of the members of respective professional associations is a practical option to address this challenge when using the analytic view for needs identification.

Purpose/Objectives

The present study's overall purpose was to understand two aspects of Extension education: the professional development needs of Extension professionals and curricula needs of college students preparing for Extension careers. Since the purpose was inclusive of the professional development needs of current Extension professionals and college students, two audiences were selected as research participants: members of the American Association for Agricultural Education (AAAE) and Joint Council of Extension Professionals (JCEP). The following research questions were addressed:

1. What are the professional development needs of Extension educators?

2. What Extension Education academic curricula are offered by AEE Departments?

3. What Extension Education academic curricula do JCEP board members perceive as most critical for developing the next generation of Extension professionals?

Methods

This qualitative study is based on data obtained from two professional groups using two open-ended questionnaires. The North Carolina State University Institutional Review Board approved the studies of AAAE members (Number 20537) and JCEP board members (Number 21111). The research reported here was part of a larger study that also examined Extension education trends and research needs (Donaldson et al., 2021, 2022).

Participants

The participants were members of the AAAE and the JCEP. Consistent with the analytic view of needs assessments, the AAAE and JCEP members are well-informed respondents on the foci of the study, namely the professional development needs of current and future Extension educators. AAAE members are AEE college faculty focused on teacher education, Extension education, leadership, and communications in agriculture. The JCEP is a consortium of Extension professional associations, and JCEP Board members are the past president, president, and president-elect of the seven Extension professional associations. The seven Extension associations are the Association of Natural Resource Extension Professionals, Epsilon Sigma Phi, National Association of County Agricultural Agents, National Association of Community Development Extension Professionals, National Association of Extension 4-H Youth Development Professionals, National Association of Extension Program and Staff Development Professionals, and National Extension Association of Family and Consumer Sciences. JCEP members have wide-ranging knowledge of Extension programs and professionals nationwide.

Procedures

The researchers developed the open-ended questions and examined the questions carefully to ensure clarity and face validity, reduce perceived biases, and create the most appropriate sequence (Marshall & Rossman, 2006). Only open-ended questions were used to support the diversity and abundance of opinions, meanings, and experiences consistent with the varied experiences and needs of the AAAE and JCEP board members (Patton, 2015). Regarding academic curricula, the survey for AAAE members asked, "Are you aware of Extension Education courses taught at your land-grant university? If so, please provide the names of these courses." The survey for JCEP members asked, "Think about the areas of expertise in

Departments of AEE. Considering these areas of expertise, what should be the priority of these departments for college curricula that prepares students for Extension careers?"

Researchers used Qualtrics Research Suite for conducting the surveys. AAAE members were contacted via an organizational list serve, and the email addresses of all JCEP board members were obtained from their websites. In both cases, one initial email message and three reminder messages were sent consistent with the Tailored Design Method (Dillman, 2007). Of the 154 active AAAE members at the time of the study, 32 completed the questionnaire, resulting in a 20.7% response rate. The majority (22 or 68.7%) reported being tenure-track faculty, and other roles represented were graduate students, non-tenure track faculty, state Extension specialists, County Extension Directors, and County Extension Agents. The JCEP population consisted of 21 members of the 2020 JCEP board, and 10 completed the questionnaire, yielding a 47.6% response rate.

We analyzed the data via an open coding approach whereby themes emerged from the data (Creswell, 1998). We used microanalysis to complement our coding by reading and discussing each other's codes and themes (Corbin & Strauss, 2008). We coded line-by-line, used in vivo codes, and subsequently grouped codes into themes. AAAE members shared brief descriptions of Extension Education course curricula (i.e., course catalog descriptions), and we used these descriptions to write a composite description of the course content areas. The combined descriptions of the course content areas should be viewed with the caveat that the researchers' collective experiences as Extension Agents, Extension Specialists, and tenure-track faculty in AEE departments may have influenced the grouping of courses. The researchers were all faculty in land-grant institutions; four were in AEE departments and one in a county Extension office. All were members of AAAE, in addition to being members of the various Extension professional organizations represented by JCEP.

Findings

Research Question 1: What are the professional development needs of Extension educators?

AAAE members were asked about their perspectives on the professional development needs of Extension educators. From the 25 responses (seven AAAE participants did not answer this question), two major themes emerged. The need to develop Extension professionals to use quality research and evaluation methods was named by eight respondents (32%; 8 of 25), and the need to build cultural competence for teaching diverse audiences was recognized by five respondents (20%; 5 of 25). In terms of research and evaluation, Extension professionals need development in "research methods [and] greater understanding of what goes into research findings" (AAAE 6) as well as program evaluation for "documenting impacts of programs" (AAAE 21). Pertaining to diverse audiences, respondents described the need for "increased cultural competency, understanding of, [and] appreciation for diversity of ALL kinds" (AAAE

11). One respondent expressed that diversity and inclusivity in professional learning focus on "methods to engage more deeply in … human capital development to break generational poverty" (AAAE 8). Other responses AAAE mentioned less frequently were communications, marketing, and technology.

JCEP members were asked to provide current priorities for Extension professional development, and five participants (50%; 5 of 10) named program planning and evaluation topics. Representative comments were:

- "I would say that program planning and evaluation are priority due to reporting and accountability requirements linked to funding" (JCEP 2).
- "Start with the end in mind – evaluation. When people see how to measure the change they seek, the rest of the planning and implementation process comes more naturally and is more worthwhile" (JCEP 7).

Four participants (40%; 4 of 10) described building Extension competencies among Extension professionals. JCEP respondents expressed that competency building was important "so staff can be flexible to meet ever-changing needs" (JCEP 5). Participants desire appropriate professional development assessment strategies with the intention for Extension professionals to pinpoint the competency "area they need most" (JCEP 3) for professional development. Those participants who named competencies suggested leadership, communications, and technology as important professional development proficiencies. One respondent suggested a national credentialing system for Extension professional competencies, "similar to a board-certified doctor; Extension professionals would have to demonstrate knowledge/skills in each of these areas" for promotion and pay raise potential (JCEP 1). Table 1 delineates the major themes that emerged, percentages for the most frequent responses, and representative comments illustrating themes.

Table 1. Professional Development Needs of Extension Professionals

Major Themes (Percentage of Responses)[a]	Representative Comments
AAAE Key Themes ($N = 25$)	
1. Use quality research and evaluation methods (32%)	1. "Research methods and greater understanding of what goes into research findings" (AAAE 6)
2. Build cultural competencies for teaching diverse audiences (20%)	2. "Methods to engage more deeply in…development to break generational poverty" (AAAE 8)
JCEP Key Themes ($N = 10$)	
1. Program planning and evaluation (50%)	1. Program planning and evaluation should be prioritized "due to reporting and accountability linked to funding" (JCEP 2)
2. Competency building (40%)	2. Extension professionals to pinpoint the competency "area they need most" (JCEP 3)

[a]Percentages represent the most frequent responses and will not equal 100% as one participant may have shared multiple responses, and not all respondents answered every question.

Research Question 2: What Extension Education academic curricula are offered by AEE Departments?

AAAE members were asked to list the Extension Education courses taught at their institutions, provide course descriptions, and identify whether the course is offered for undergraduates or graduates. These individual courses were grouped into 12 content areas. As an illustration of the relationship between individual courses and the content area, we grouped the following courses and descriptions into the History, Philosophy, and Foundations of Extension content area: Introduction to Cooperative Extension, Introduction to Non-formal Community-Based Education, History of Extension, Philosophy and Programs in Extension, Introduction to Extension and Engagement, and Principles of Cooperative Extension. Notably, there are differences in course descriptions between undergraduate and graduate courses. For instance, the undergraduate course descriptions of the program evaluation courses stress a basic understanding of processes, concepts, and theories, while the graduate courses require the application of processes, concepts, and theories for Extension program assessment. Respondents shared that *Conducting Needs Assessments* were taught only to graduate students, while the broader *Program Planning, Instructional Design, and Curriculum Development for Extension Education* were taught to both undergraduate and graduate students.

Research Question 3: What Extension Education academic curricula do JCEP board members perceive as core curriculum (highest priority) for developing the next generation of Extension professionals?

JCEP board members were asked to identify the most critical priorities for the college curriculum that prepares students for Extension careers. Of the 10 responses, six (60%) referred to "core … competencies of an excellent Extension professional" (JCEP 3). Responses indicated two major themes for these competencies: (a) Extension programming that includes planning, delivering, and evaluating Extension Education programs (40%; 4 of 10), and (b) teaching and learning engaging adults and youth in non-formal settings (40%). JCEP 1 shared a personal experience of completing Extension Education courses. "I took a course specifically on program development which touched on the planning, delivery and evaluation of programming and strongly believe without this course I would not be nearly as effective as an Extension professional as I am."

Other priorities named by JCEP respondents were practical experiences (e.g., internships), communication, leadership, technology, conflict management, volunteerism, and building community partnerships. Table 2 describes the course content areas taught to college students preparing for Extension careers shared by AAAE members and the content areas named as core curriculum by JCEP respondents. Table 2 also shows the 12 course content areas and the composite course descriptions.

Table 2. Extension Education Course Content for College Students Preparing for Extension Careers

Course Content Area and Description (AAAE)	Core College Curriculum (JCEP)
Adult Education: Identifies basic principles motivating adults to learn and procedures to implement these principles in bringing about changes in adult behavior.	Core
Conducting Needs Assessments: Focuses on the concept of needs and conducting needs assessments in Extension settings. [a]	---
Diffusion of Innovations: Analysis of change models and theories and the application of those in societal changes and technology transfer.	---
Extension Communication: Covers the topics such as technological communication theory; instructional and presentation models; teaching strategies; and multimedia development.	Core
History, Philosophy, and Foundations of Extension: Introduces the Land-grant Mission, Cooperative Extension System mission, philosophy, history, organization, structure, administration, and program areas.	---
International AEE: Provides international development perspectives and methods for international Extension and advisory services.	---
Leadership Education: Introduces theory, principles, ethics, and application of leadership in Extension settings. [a]	Core
Program Delivery and Teaching: Engages students in appropriate teaching techniques, learning theories, curricula, and resources. Emphasis of the course is on teaching and instruction in non-formal/extension and outreach settings. [a]	Core
Program Evaluation: Focuses on evaluation principles applied to educational programs in agriculture and life sciences. Students gain a basic understanding of skills in program evaluation processes, concepts, and theories and develop skills needed to design and conduct evaluations of youth and adults in Extension, community, and school-based programs.	Core
Program Planning, Instructional Design, and Curriculum Development for Extension Education: Discusses extension program development, extension teaching, delivery methods, and techniques and applications of technology to enhance instruction of agricultural topics.	Core
Research Methods: Introduces methods and procedures of conducting research in Extension. [a]	---
Volunteer Management: Covers principles, theories, concepts, techniques, and applications for leading volunteers in agriculture and life sciences nonprofit, governmental, and community organizations.	Core

[a] AAE reported that these courses were taught only to graduate students; all other courses were taught to undergraduate and graduate students.

Conclusions/Recommendations/Implications

This analytic needs assessment provided important insights into how AAAE members and JCEP board members view Extension Education professional development and academic curricula. The two groups converged in their views on the professional development needs of Extension professionals. AAAE members identified that Extension professionals needed quality research and evaluation methods, and JCEP members identified evaluation as a priority. JCEP described these professional development needs in terms of competencies that one must develop to be successful in an Extension career. JCEP members described program planning and evaluation together and did not mention research methods, which may be because, normally, Extension professionals are less likely to engage in active research even though they are active consumers of research. Since Extension professionals are active consumers of research and have the potential to engage in action research, it is important to consider the significance of the inclusion of research in professional development programs. Unlike AAAE members, JCEP members did not highlight the need for cultural competence. However, numerous studies of United States Extension professionals have shown that diversity and cultural competence is an essential Extension professional competency (Cochran, 2009; Fox & LaChenaye; Lakai, 2010; Scheer et al., 2011). Furthermore, academic, research, and engagement programs, including professional development, are necessary to encourage greater cultural competence among Extension professionals (Deen et al., 2014).

Concerning undergraduate and graduate curriculum, AAAE reported three content areas that JCEP respondents did not name as priorities for Extension Education college curricula: (a) History, Philosophy, and Foundations of Extension; (b) Diffusion of Innovations; and (c) International Agriculture and Extension Education. In terms of graduate education, AAAE members reported offering two content areas that JCEP members did not name as priorities: (a) Conducting Needs Assessments and (b) Research Methods. JCEP respondents prioritized (a) program planning, delivery, and evaluation; and (b) teaching and learning engaging adults and youth. Both groups also mentioned practical experiences such as internships. Evaluation studies have shown that Extension internships, practicums, observations, and other programs that provide college students with first-hand Extension experiences are useful career development tools in the Extension Education curriculum (Donaldson et al., 2020; Mott et al., 2021; Sellers et al., 2020).

One limitation of this study was the small response rate ($n = 32$; 20.7%) among AAAE members. To better understand AAAE members, we searched faculty profiles on the AAAE membership database and online University profiles. We found that slightly more than one in five AAAE members (21%; 56 of 267) noted Extension, informal, and/or non-formal education as research interests. It is recommended that future research involving Extension professional development and academic curricula should focus on this subset of AAAE members rather than the entire membership because the vast majority of the AAAE members are teacher educators. Another

limitation is that AAAE members were asked to provide the names of courses taught at land-grant institutions. Future research should ask respondents to indicate which courses they judge as priorities for future Extension professionals.

We recommend additional research to understand contemporary curriculum needs in preparing students for Extension careers; such research is important to AEE departments, the students they serve, and the Cooperative Extension System. Additional research is imperative to pinpoint priorities for Extension Education college curricula, onboarding, and continuing professional development. In this study, JCEP respondents did not prioritize needs assessments, and additional research is warranted to understand these perspectives as numerous studies of Extension professionals have identified understanding community needs as an essential Extension professional competency (Diaz et al., 2020; Hall & Broyles, 2016; Owen, 2004).

One JCEP respondent suggested a national credentialing system through which Extension professionals would earn an endorsement in Extension competencies. This idea has importance as 40% of JCEP respondents described competencies as professional development priorities. AEE faculty and Extension administrators should study the feasibility and potential of such a credentialing system. A credentialing system could facilitate AEE faculty collaboration among institutions, consistent with previously identified Extension program and staff development needs (Benge et al., 2020).

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