Identifying Training Needs of Extension Personnel:  
A Comprehensive Model

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Abstract

Determination of training and development for personnel in any organization is a challenging task. The task is even more complex when employees have diverse job responsibilities. That is the challenge that faced a team of professionals with Ohio State University (OSU) Extension who designed and implemented a comprehensive training and development needs assessment in Autumn 2000. Program personnel and support staff perceived a greater need for training in personal and professional development topics than in technical subject-matter topics. OSU Extension is not unique in facing the challenges of designing a professional development system that meets the educational needs of a very diverse population of employees.
Introduction

With the rapid change in the world around us, knowledge is evolving and is quickly outdated. An organization with knowledge development and education as its base needs to have processes in place to continually develop its intellectual capital (Van Buren, 2001). With the aging baby boomer population and increasing racial and ethnic diversity of the workforce, the 21st century organization must be skilled at developing capacities of personnel.

Determination of training and development for personnel in any organization is a challenging task—even more so when the employee base includes over 1,400 people located in nearly 100 locations statewide! The task is even more complex when these personnel have diverse job responsibilities ranging from developing, implementing and evaluating programs, teaching, providing office support, to serving as technical subject matter resources. That is the challenge that faced a team of professionals with Ohio State University Extension (OSU Extension) who designed and implemented a comprehensive training and development needs assessment in Autumn 2000.

Concerns about in-service attendance and satisfaction level in Pennsylvania State (Penn State) University’s Cooperative Extension program were examined in a study by Mincemoyer and Kelsey (1999). They found that the top reasons cited by county-based faculty for not attending in-service programs were: 1) previous commitments (56%); 2) too much time away from the office (53%); 3) conflict with local programming (45%); 4) conflict with another in-service (43%); 5) work/family conflicts (42%); and 6) in-service not relevant to program in county (41%). They also cited problems and issues that were reported to result in a less than ideal educational experience for county-based faculty which included 1) the in-service (program) lacked sufficient content-depth (36%); 2) agents already knew the information being presented (33%); and 3) poor instructors (23%). Sixty-four percent of all staff responding to the Penn State questionnaire indicated that they did not have enough voice in the process to determine what in-services were offered.

In-service topics in Ohio have most frequently been proposed by District and State Extension specialists and by other subject matter faculty who have only a small percentage of their appointment in Extension. Since these faculty members with Extension responsibilities are one of the primary sources of information for county faculty, it is important that they understand the needs of county staff and be inclusive in their in-services (Radhakrishna & Thompson, 1996; Shih and Evans, 1991). According to Baker and Villalobos (1977), state extension faculty may not fully understand their role in the Extension programming process, especially in the role of developing resource materials, providing in-services, and in program evaluation related to current and timely issues identified as county needs.

Texas Agricultural Extension Service (TAEX) adopted a systems approach to professional development by providing on-going opportunities to develop and learn through programs based on identified competencies. The field of competency development has grown in popularity with administrative management in business and agencies worldwide since it allows for training dollars to be spent on areas that are identified as a need through
the skill assessment process. The competency model developed by TAES is highly participatory and thus responds well to the continual changes in the work and issues that educators are addressing. If extension agents and staff help to identify the knowledge, skills, and behaviors that they need and play a role in identifying and then assessing their level of skill and competency development then trust in and commitment to the organization can be developed (Stone & Bieber, 1997).

In-service training is an important component of professional development provided by Ohio State University Extension. However, no formal needs assessment targeting all personnel in OSU Extension had been conducted in the last 10 years. Throughout that time, isolated efforts were made to identify training and development needs through informal dialogue, optional open-ended feedback, and graduate research studies focusing on very specific target audiences and needs.

The organizational leader for training and development conducted dialogue sessions with teams in each program area during the spring of 1999. These teams, composed of state and district specialists as well as program area assistant directors, observed a number of factors indicating that personnel needs and training offered were not well matched. Over a three year time period, one third of the in-services offered annually were cancelled due to low enrollment. Yet at the same time, applications for competitive funds for support staff and agent specialization to fund training from external sources were increasing. The professional improvement committees of professional organizations expressed concern about scheduling time to attend in-services for more than one day, dates conflicts of in-services and local events, and too many choices impacting individuals’ ability to participate. Many questions were asked about how the organization determined what training and development to offer in light of personnel needs. Program areas were searching for assistance in how to assess needs. Support staff were concerned that they had limited opportunities for training and that supervisors were limiting time to participate in training. District and state specialists in agriculture and natural resources, community development, family and consumer sciences, and 4-H youth development indicated that the highest priority to be addressed by the Team Leader, Training and Development was to develop a method for ongoing needs assessment of staff using an electronic process. It was felt that if agents and educators had input into the selection of topics to be offered that there might be greater value placed on the learning opportunities.

The concern about lack of relevant professional development topics was voiced by the Ohio Extension Agents Association (OEAA), Professional Improvement Committee in a meeting where they discussed concerns with an Employee Development Network Team member. At the fall 1999 meeting of the OEAA Professional Improvement Committee, a sub-committee of two members agreed to work with the Team Leader, Training and Development in developing a questionnaire to survey Extension personnel about their professional development needs. As a result, a team of people including the team leader for training and development, two extension agents, a program manager skilled in research and evaluation, and two computer specialists designed and implemented a comprehensive needs assessment process with three main objectives:
1) To determine factors impacting personnel participation in in-services opportunities.
2) To identify barriers in-service coordinators face in providing professional development and to identify support needed in this role.
3) To determine both technical subject matter and process skill developmental needs of Extension program personnel and office support staff.

Methodology

A descriptive correlational study was the design for this comprehensive professional development needs assessment. A four-part study was designed to address the main research objectives. Ohio State University (OSU) Extension employees were the overall population for the study; however, the following target populations were selected for the four-part study: a) 200 Coordinators, consisting of OSU Extension personnel who have designed/delivered in-service training and/or with responsibility for providing training and development; b) 1,400 users, consisting of all OSU Extension employees, who are potential recipients of professional and development opportunities; c) 800 OSU Extension program personnel with program delivery responsibilities (i.e., extension agents, program assistants, nutrition educators, state and district specialists, and extension associates); and d) 628 OSU Extension support staff consisting of Classified Civil Service (CCS) employees (i.e., office administrative associates, office associates, office assistants). Instead of sample selection procedures, a census was used for each component of the research study.

Four research instruments were designed and/or adapted by the group of investigators. The Coordinators' instrument consisted of 22 questions designed to identify Extension employees with training and development responsibilities, number of in-services provided, major barriers encountered in providing professional development, types of delivery formats, financial and technical support needed, and evaluation methods used.

The Users’ instrument consisted of 46 questions. The questions were designed to determine factors affecting OSU extension personnel participation in training opportunities, ideal length of in-services opportunities, willingness to participate in distance education and preferred format, number of days spent in attending knowledge/process skill training opportunities both within and outside OSU Extension, sources outside OSU Extension for training and development, and financial support for training and development.

The research instrument for program personnel consisted of a comprehensive list of 217 competencies. The competencies were identified from listings by Wisconsin Extension, Michigan Extension, Ohio State University Extension’s District and State Specialists, and Extension Assistant Directors. After reviewing needs assessment instruments used by business and industry, a model used by Westinghouse called GETNA was adapted for use in conjunction with the Borich’s model for the calculation of discrepancy need scores. Competencies were grouped in four process skill areas (communications, information and technology; leadership and management skills; program development, planning and evaluation; and personal and professional development) and four subject matter areas (agriculture and natural resources; 4-H youth development; family and consumer sciences;
and community/economic development). Respondents were instructed to complete all-four process skill areas and only the subject matter skill areas relevant to their program area responsibilities. In addition, respondents were asked to indicate their perceived level of proficiency in performing the task as well as their perceived level of relevance of performing the task in order to be an effective and efficient employee. Responses to the perceived performance and relevance were rated on a five-point Likert-type scale, from 0 to 4. The last section of the research instrument consisted of four selected demographic characteristics of OSU Extension program personnel.

The research instrument for support staff consisted of a list of 81 competencies. The main source used to select competencies for the support staff research instrument was the Ohio’s Competency Analysis Profile for Administrative/Secretarial Services (Ohio Department of Education, 1992). In addition, most of the items listed in the “Communications, Information, & Technology” section of the program personnel research instrument were also used for the support staff research instrument. Competencies examined encompassed the following five areas: a) personal and professional development, b) leadership and management skills, c) communications, information, and technology, skills, d) support tasks, and e) financial functions. Similar to the program personnel survey, support staff were asked to rate their perceived level of proficiency and relevance of each task in order to be effective and efficient employees. The last three questions of the instrument asked for demographic characteristics of the respondent.

A panel of experts, consisting of members of the Employee Development Network, Assistant Directors, the Ohio Extension Agents Association, and Professional Improvement Committee of Chi Epsilon Sigma, established content and face validity of the research instruments. Reliability coefficients of the program personnel and support staff survey were calculated using Cronbach’s alpha (r = .94 and .87 respectively).

After review of available software for web-based questionnaire development and data collection, the software entitled “EventHandler” formerly known as WWC Contest was recommended by the computer specialists. This software program is fully customizable for surveys, polls, or contests. Criteria used by the team of investigators for the selection of this particular data collection procedure were: a) no requirement of advanced computer skills for instrument development, b) reasonable cost of software, c) easy and straightforward survey completion, and d) responses directly added to a data base.

The research team initially intended to use the web-based questionnaire as the data collection procedure for all research instruments. However, the results of the field tests indicated that this data collection procedure was more appropriate for the shorter research instruments such as the Coordinators and Users’ surveys. A mail survey was the data collection procedure used for both program personnel and support staff surveys. Data were collected between fall of 2000 and early winter 2001. To control for non-response error (Miller & Smith, 1983), early respondents were compared to late respondents on both program personnel and support staff surveys. No statistically significant differences were found between early and late respondents for the major variables of the study.
Quantitative data from the four research instruments were analyzed using SPSS for Windows. Descriptive statistics were used to organize and summarize the data. Statistics employed included: frequencies, percentages, measures of central tendency, variability, and correlation coefficients.

**Key Findings**

Coordinators’ Survey

Seventy-three (36%) coordinators of training and in-services for Extension personnel responded to the survey. Respondents were state specialists, extension associates, district specialists, program area team leaders, and administrators. Eighty-eight percent of the respondents indicated they are to provide training as a part of their job description, with the majority (81%) coordinating at least one in-service per year.

The coordinators primarily targeted Extension employees with program responsibilities for their audience, with Extension agents targeted by 87% of coordinators. Office support staff, which make up 28% of the workforce, were targeted by 16% of the coordinators. Face-to-face workshops/seminars (93%) were the most frequently used format to provide in-service training. Coaching/mentoring was second, used by about thirty-six percent of coordinators. Telephone and e-mail coaching/mentoring, study tours, self-instructional materials, conference calls, and satellite television were used by about one-fourth of coordinators. Other distance education methods such as web-based training, CD Rom-based training, e-mail chat rooms, and interactive video were used by less than thirteen percent of the coordinators.

Coordinators agreed (93%) that funding is needed from Extension Administration to support in-service training. Extension provides $250 to support statewide in-services, yet fewer than ten in-service coordinators applied for the funds in 1999. Almost half the coordinators reported not knowing the money was available or how to access the funds.

The coordinators indicated several barriers in providing training to Extension personnel. The five most cited barriers were too much competition for audiences (71%), low attendance (34%), inadequate facilities (26%), too many responsibilities (25%) and expenses of using outside resource people (22%). Coordinators cited several types of assistance to help them be effective: using electronic registration process (41%), using new formats for conducting in-services (40%), support in implementing distance education strategies (39%), and start up funds (34%). Less than 2/3 of the coordinators were currently working with the staff development leader on planning, conducting, evaluating or funding in-services.

The types of evaluation coordinators used most often with their training programs were at a reactions level. Less than half (41%) reported evaluating at a learning (skill or knowledge acquisition) level. If OSU Extension developed a basic tool for evaluation training and development programs, more than half of the respondents indicated the components included should be assessment of knowledge gained, determining how participants intend to apply training, follow-up evaluation over time to determine application,
assessment of teaching effectiveness of resource persons, and determining reactions of participants.

User’s Views

Approximately 1,400 OSU Extension employees were asked to complete a survey examining the in-service training and development infrastructure. Four hundred eighty-nine people completed the survey; however, only 305 responses were usable for a total response rate of 22%.

Respondents identified to what extent various barriers limited their participation in in-service education offered by OSU Extension. Respondents were asked to indicate if a barrier limited their participation not at all (0), very little (1), little (2), somewhat (3), or to a very great extent (4). The top five barriers were difficulty in taking time from job, scheduling conflicts, lack of in-services relevant to job, too far to travel to in-services, and too much time on the road. No barrier had a mean score higher than 2.7 and only the top three barriers had a mean score above two.

The majority of respondents (92%) preferred 1 to 2-day face-to-face in-services over longer in-services. This finding corresponds with the median number of overnights (1) that the respondents would incur to attend an in-service. For a one-day in-service, respondents indicated $30 was a reasonable registration fee and three hours, round-trip is the maximum driving time they would consider reasonable. Ninety percent would be willing to participate in in-services using distance education technology. Over fifty percent of the respondents would be willing to participate in the following distance education formats, web-based training (69%), satellite television (65%), CD Rom self-instructional packages (63%), video-tapes (56%), interactive video (54%), e-mail with mentor (53%), and conference calls (52%). Over seventy-five percent indicated they had used an electronic or web-based process to register for an in-service. Less than 20% indicated encountering a barrier in using this type of registration process.

Respondents had a mean number of 10.3 years with OSU Extension. One-fifth of respondents had worked for OSU Extension for 2.25 years of less. Respondents were extension agents (31%), support staff (30%), other (20%) and program assistants (19%). Other positions included state and district specialists, extension associates, and program coordinators. In the past year, respondents had spent a median of four days in training and developing technical knowledge or skills at Extension-sponsored in-services and two days at in-services provided by other sources. They spent a median of one-day developing process skills (communication, leadership, teamwork, conflict management, etc.) at Extension-sponsored in-services and had not attended similar trainings outside of Extension. These figures exclude Extension administrative update and recognition conferences. The most common external source for training outside of OSU Extension was professional association meetings (49%) and other colleges or universities (34%). Commercial sources and business & industry were a source for training by less than one quarter of the respondents. Support staff and state administrative and professional staff tend to attend statistically significant fewer OSU Extension in-services (knowledge/skills and process skills) than extension agents.
Support staff tend to attend statistically significant fewer outside in-services (knowledge/skills) than agent and state A&P staff.

Program Personnel

Of 800 OSU Extension employees, 468 (59%) responded to the survey examining perceived relevance and proficiency in performing specific job competencies. Competency areas examined were personal and professional development; communications, information and technology; program development, planning, and evaluation; leadership and management skills; agriculture and natural resources (ANR); 4-H youth development (4-H); family and consumer sciences (FCS); and community and economic development (CD). The perceived training and development topics were calculated through the use of the Borich’s formula, which calculated a discrepancy, need score based upon the relevance and performance scores. The possible range of scores is between –4 (lowest priority) and +16 (highest priority). Table 1 lists top ten topics identified as highest priority.

Table 1
Rank Order of Top Ten Topics Identified as Highest Professional Development Priorities for Program Personnel

<table>
<thead>
<tr>
<th>Topic</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using Presentation Software</td>
<td>3.62</td>
</tr>
<tr>
<td>Planning for Retirement</td>
<td>3.56</td>
</tr>
<tr>
<td>Achieving Work/Life Balance</td>
<td>3.42</td>
</tr>
<tr>
<td>Managing Stress</td>
<td>3.17</td>
</tr>
<tr>
<td>Working with Legislators, Community Leaders and Funding Sources</td>
<td>2.80</td>
</tr>
<tr>
<td>Writing and Managing Grants</td>
<td>2.79</td>
</tr>
<tr>
<td>Developing Web Pages</td>
<td>2.78</td>
</tr>
<tr>
<td>Facilitating Career Growth and Renewal</td>
<td>2.72</td>
</tr>
<tr>
<td>Using Computers for Program Development and Delivery</td>
<td>2.64</td>
</tr>
<tr>
<td>Documenting Teaching Effectiveness</td>
<td>2.59</td>
</tr>
</tbody>
</table>

Personal and professional development topics were identified as the most needed competency area, while technical subject matter topics were identified as the least needed. Statistically significant differences were found between competency area scores and selected demographic variables (i.e. years with OSU Extension, title, and geographic location).

Seventy-one percent of the respondents were field program personnel including extension agents, program assistants, and nutrition educators. The remaining respondents were state specialists, extension associates, and district specialists. Twenty-nine percent of the respondents had FCS as the primary program area assignment, followed by ANR (22%), 4-H (22%), and CD (8%). The majority of the respondents (75%) have worked for OSU Extension less than 17 years, with a mean of 10.8 years.

Support Staff

Of the 628 OSU Extension office support staff, program assistants and EFNEP educators, 303 (48%) responded to questions examining perceived relevance and proficiency in performing specific job competencies. The five competency areas examined were
personal and professional development, leadership and management skills, communications skills, information and technology, support tasks, and financial functions. Topics were calculated by the use of the Borich’s formula to calculate a priority ranking based upon the relevance and performance scores. The possible range of scores is between –4 (lowest priority) and +16 (highest priority). The mean need scores for all competencies were average or below, indicating many different needs rather than strong patterns for support staff as a group. Table 2 lists top ten topics identified as highest priority.

Table 2

<table>
<thead>
<tr>
<th>Topic</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning for Retirement</td>
<td>3.30</td>
</tr>
<tr>
<td>Managing Stress</td>
<td>2.51</td>
</tr>
<tr>
<td>Understanding University Benefits</td>
<td>2.30</td>
</tr>
<tr>
<td>Dealing with Difficult People/Situations</td>
<td>2.03</td>
</tr>
<tr>
<td>Maintaining a Positive Work Attitude</td>
<td>1.99</td>
</tr>
<tr>
<td>Achieving Work/Life Balance</td>
<td>1.98</td>
</tr>
<tr>
<td>Developing Web Pages</td>
<td>1.98</td>
</tr>
<tr>
<td>Understanding Staff Performance Review</td>
<td>1.96</td>
</tr>
<tr>
<td>Using Database/Spreadsheet Software</td>
<td>1.89</td>
</tr>
<tr>
<td>Using Presentation Software</td>
<td>1.81</td>
</tr>
</tbody>
</table>

Rankings were also calculated for the five key competency areas: personal and professional development; leadership and management skills; communications, information and technology; support tasks; and financial functions. The rankings were the same for all categories of staff.

The majority of respondents (75%) have worked for OSU Extension less than 14 years with a mean of 9.3 years. Similar findings were found between the top ten priorities, regardless of years of experience, job title and work location.

Discussion and Implications

The top five barriers identified by Extension professionals for attending in-service training in the users survey were that it is difficult to take time from job; that they experience scheduling conflicts, that in-services were often not relevant to their job; that travel distances to site of in-service was considered to far; and that attending in-services required too much time on the road. The findings related to user barriers for in-service attendance are consistent with the results from the Pennsylvania study by Mincemoyer and Kelsey (1999). Coordinators were also asked what barriers they experienced in planning in-services; they indicated that there was competition for audiences (71%); low attendance (34%); inadequate facilities (26%); that they had too many responsibilities (25%); and that the expense of outside resource people was prohibitive (22%).
An interesting finding concerns the methods used for delivering in-service education. Face-to-face workshops and seminars (93%) were the most frequently used delivery method for in-service education. The vast majority of personnel (92%) also preferred this method in a 1-2 day format. However, with personnel concerns about the barriers of time participating and traveling to and from in-services, other approaches may be needed to deliver in-services. Personnel indicated overwhelmingly (90%) that they would be willing to participate in in-service education via distance education. Yet, few coordinators (22%) are currently using distance formats for delivery. With personnel willingness to try web based training, satellite television, CD Rom or video tape self instruction and interactive video delivery, OSU Extension may want to provide incentives for coordinators to use more distance delivery of training. Coordinators have indicated willingness to examine different formats for in-service education. This could be facilitated through training for the coordinators as well as start up funds as incentives to support distance education delivery of in-services. New approaches to providing in-service education need to be creative and futuristic.

Budget constraints faced by the Extension organization will mandate this even more in the future. Coordinators may be overlooking the total expense to the organization when looking at the expense of in-service training. They may look at the main expenses such as location, meals, speaker and material costs. However, for many of the outlying county offices, the majority of the expense is in time for traveling as much as four hours and the county travel budget. Findings ways to minimize these training in-puts while addressing critical training needs will be essential. This may mean using distance education strategies or offering face-to-face in-services at location geographically convenient to the participants rather than the presenter.

Support staff and program personnel had similar training needs emerge as high priority. Personal and professional development topics were the most needed for in-service training. Four topics were on the top seven highest priority topics for both types of staff: planning for retirement, achieving work/life balance, managing stress, and developing web pages. These similarities may be due to the organization tending to value technical knowledge more than process skills. Findings from the User’s survey, which surveyed all personnel, indicated that respondents had spent a median of six days in training and development technical knowledge or skills, while spending a median of only one day on developing process skills. The results from the surveys show that there is interest in developing process skills, but personnel are not attending the trainings. More pressing job demands occurring in the local office may cause individuals to put aside their personal and professional development needs. Addressing staff’s personal and professional development needs may require more effort than simply offering more opportunities for staff training in these areas. Individuals will need supervisor support and encouragement to participate. The Employee Development Network will also need to address creative ways to implement a process skill development in the context of subject matter development.

In this era of accountability, it is paramount that educational organizations evaluate program outcomes. Findings from the study indicated that in-service coordinators are currently evaluating lower level inputs to in-services. They have indicated willingness to
measure knowledge gained, practice change, etc. if tools are provided to assist. OSU Extension needs to encourage the development of evaluation instruments that emphasize KASA (knowledge, attitude, skills, aspirations) changed or gained, practice change, and end results. Model instruments that can be easily adapted to the specific in-service programs may be useful.

OSU Extension’s findings are relevant to other Extension organizations across the country. OSU Extension is not unique in facing the challenges of designing a professional development system that meets the educational needs of a diverse population of employees (i.e., wide variety of job titles and job descriptions) and a workforce scattered throughout a large geographical region (i.e., county, district, and state levels). The question continues to be what is the right professional and development model that fits such complex organizations? Further research ought to be conducted at a national level to examine what models are overcoming the challenges and barriers to professional development of Extension personnel.

**References**


