



June 2011
Volume 49 Number 3
Article Number 3FEA2

[Return to Current Issue](#)

Designing a Competency-Based New County Extension Personnel Training Program: A Novel Approach

Cheri Winton Brodeur

Coordinator, Program Development and Evaluation Center
University of Florida
Gainesville, Florida
cbrodeur@ufl.edu

Cynthia Higgins

County Extension Director, 4-H Coordinator
University of Florida/Columbia County
cmah1@ufl.edu

Sebastian Galindo-Gonzalez

Research Assistant Professor, Department of Agricultural Education and Communication
University of Florida
Gainesville, Florida
sgalindo@ufl.edu

Diane D. Craig

Analyst, Program Development and Evaluation Center
University of Florida
Gainesville, Florida
ddcraig@ufl.edu

Tyann Haile

Program Assistant, Program Development and Evaluation Center
University of Florida
Gainesville, Florida
thaile@ufl.edu

Abstract: Voluntary county personnel turnover occurs for a multitude of reasons, including the lack of job satisfaction, organizational commitment, and job embeddedness and lack of proper training. Loss of personnel can be costly both economically and in terms of human capital. Retention of Extension professionals can be improved through proper training or strategic techniques designed to increase employee critical competencies, socialization, and job satisfaction. The Delphi study reported here explored the perceptions of county extension faculty regarding job satisfaction, training competencies, social connectedness, and optimal training time frames over the first 3 years of hire.

Introduction

The failure to retain county Extension professionals can have a negative impact on an entire land-grant university system. Employee turnover occurs for a multitude of reasons, including the lack of job satisfaction, organizational commitment, and job embeddedness (Phillips & Connell, 2003). Consequences related to job turnover can be so serious that the Extension Committee on Organization and Policy's leadership advisory council (2005) identified agent retention as a national challenge. From hidden costs to added workload responsibilities, everyone loses when employees leave voluntarily. At the core of this problem is job satisfaction, which is often tied to the employee's belief in their ability to do a job well.

For this reason, Stone and Bieber (1997) have suggested that competencies should be the foundation for improved performance of county Extension professionals. Many new Extension hires do not come with college credits that include Extension-specific subject matter or competency-based education curriculum, and therefore these skills and competencies are often learned through professional development after the hire. But what are the skills and competencies that are most critical? How can they be delivered over the first few years of hire to provide the most impact on the personal and professional growth of the new employee?

The overall goal for the Extension organization should be to retain employees. Turnover is highest among new employees in most organizations (Allen, 2006), and this should be where the first line of defense is developed to offset the loss. Whereas many studies have been conducted on Extension-based competencies, none have focused specifically on a "just in time" competency-based curriculum for faculty. This was the goal of the study reported here.

Review of Literature

There are several studies of Extension organizations that discuss the high cost of turnover and costs associated with hiring a new employee. These costs vary greatly depending on what is included in the analysis. In Texas AgriLife Extension, it is estimated that turnover costs of an agent whose salary is \$30,000 could range between \$7,200 and \$30,000 (Chandler, 2005). Kutilek (2000), in a study conducted of Ohio State Extension, concluded that Ohio Extension lost approximately \$80,000 each year due to agent turnover and prolonged vacancies. In addition, Pinkovitz, Moskal, and Green (2003) estimate that the cost to recruit and interview to fill a position costs approximately \$2,300. A review of literature on the cost of turnover done by Strong and Harder (2009) found that as much as 150% of salary may be required to replace each turnover.

Costs may actually be much higher when the value of human capital is included. In Extension, where public loyalty is based on the building of long-term grass-roots level relationships, there is also loss of human and social capital that accompanies an employee's resignation. Ramlall (2004) states that "the concept of human capital and knowledge management is that people possess skills, experience and knowledge, and therefore have economic value" (p. 53). Human capital increases productivity as well as projecting an increased value for the stakeholder. Retention of well-trained employees provides more than just the traditional economic value to a land-grant university. It provides a population of satisfied customers that has the ability to sway the opinions of funding agencies that affect the existence of Extension. Retention of employees, therefore, is critical to the continued growth and health of the Extension organization.

Retention has been studied from two distinct perspectives. The first is employee turnover, and the second focuses on organizational socialization. A great deal of literature exists on the subject of job turnover (Louis, 1980). However, very little of it relates specifically to the retention of county Extension faculty in land-grant universities. Turnover research can be divided into voluntary and involuntary turnover. Voluntary turnover is

defined as those employees who initiate separation from an organization (Phillips & Connell, 2003). Research related to voluntary turnover suggests there are certain competencies and expectations that are critical to new employee success and to their tenure within the organization (Ross & Zander, 1957; Katzell, 1968; Wanous & Reichers, 2000).

"Growing disillusionment among new members of an organization has been linked to inadequacies in approaches used by organizations to socialize their new hires" (Louis, 1980, p. 226). Socialization is defined as a successful conversion from outsider to an effective member of the entry organization (Feldman, 1976). Indicators of effective social embeddedness through proper socialization include "organizational attachment and commitment, job satisfaction, social integration, role clarity, task mastery, values congruence, and fit" (Allen, 2006, p. 238). Socialization appears to play a major role through interaction and networking skills among an organization's membership. Failure can be costly.

As with turnover, there is little information published on organizational socialization and social embeddedness within Extension. However, there is some research that addresses competencies needed for new hires that are related to socialization and have been shown to reduce job dissatisfaction and employee turnover. There is also some recent research in the area of competency-based Extension education curriculum in college course work (Harder, Place, & Scheer, 2010). A competency as defined by Stone (1997) is the "application of knowledge, technical skills, and personal characteristics that lead to outstanding performance" (p. 1).

Stone and Bieber (1997) suggest that competencies should be used as a foundation for improved performance of county Extension professionals. Unfortunately, many Extension hires do not come with college credits that include Extension-subject-matter- or competency-based Extension education curriculum. This is often learned through professional development training after hire. But what are the competencies that are most critical, and how can they be packaged to make them most useful in training?

Competency models are frequently used to identify core skills and characteristics that are essential in successful extension work and personal job satisfaction. Many state land-grant universities have developed Core competency models, including Texas (Stone & Coppernoll, 2004) and Kentucky (Rennekamp & Nall, 1994). The difficulty is that these models are not consistent in "like" competencies (Harder et al., 2010), nor does there appear to be any research related to the proper time frame for introducing each competency during the training period.

Because many competencies required by Extension are specific to the organization, much of the content of competencies must be addressed within the organizational socialization concept (role clarity, co-worker support, politics, organizational goals and values). According to Gamon, Mohamed, and Trede (1992), one of the most important issues within Extension regarding developing orientation and training is determining the skill set and competency needs of professionals in the field. This continues to be an issue.

Besides state-specific needs, it is agreed that Extension professionals have a very diverse set of job duties (Cooper & Graham, 2001), and the number of competencies Extension agents should possess has increased (Beeman, Cheek, McGhee, & Grygotis, 1979). Texas AgriLife Extension has developed a competency model agents need to possess (Stone, 1997; Stone & Coppernoll, 2004). This competency category includes understanding the mission and scope of Extension. Additionally, studies conducted by Keita and Luft in 1987 listed "extension philosophy and knowledge of the organization" as an important competency needed by new Extension professionals. Both of these aspects relate to role clarity or performance proficiency within the organizational socialization concept. Gibson and Hillison (1994) also conducted research on the training needs of existing Extension faculty and identified necessary competencies.

Safrit and Owen (2010) suggest from their research that effective strategies should be implemented in order to promote retention. One of these areas is training, which includes both skills and competencies. The study reported here attempted to add some support as to which competencies and skills have the most value to newly hired county professionals and at what point during their first 3 years each skill and competency should be taught and mastered. A Florida model is also presented that can be used to develop the competency/skill segment of a broader new county faculty professional development training process as well as provide a time frame for incorporating each competency/skill into the training process.

Methodology

Data for the study reported here were collected following the Delphi method. This method can be used when information about a problem is lacking. It relies on achieving consensus from experts in that particular problem (Holey, Feeley, Dixon, & Whittaker, 2007; Adler & Ziglio, 1996; Delbecq, Van de Ven, & Gustafson, 1975). The Delphi is a systematic process made up of rounds of opinion surveys. The number of rounds is dependent on the needs of the research (Skulmoski, Hartman, & Krahn, 2007). Delbecq, Van de Ven, and Gustafson (1975) suggest two to three rounds are adequate for most studies. Each round is developed with statements that are based on the results of the previous round. Rounds continue until consensus (Caws, 1991) or agreement is reached (Danjani, Sincoff, & Talley, 1979).

The panel of experts for the study was the 92 Extension agents (including those on courtesy appointments) hired between January 2005 and May 2008 in Florida and Florida's 66 county and district Extension directors. The Delphi instrument used in the study was a two-round online, asynchronous questionnaire. Round 1 was conducted over a 5-week period. It consisted of seven open-ended questions asking all participants what they considered the three most important skills or competencies over a period of time from 1 month to 3 years. Answers for all questions were coded into strands or themes and used to generate questions for the second round. Round 2 consisted of 19 close-ended questions and was conducted 3 months later among the entire population (regardless of whether they had participated in Round 1) over a 2-week time period.

The study was done through the University of Florida's Institute of Food and Agricultural Science (IFAS). The population was all new county professionals hired in the previous 6 years and all county and district administrators. Participants, located across the state of Florida, were notified of the online surveys via email, with two follow-up reminder emails prior to each survey closing. In Round 1 the response rate was 37% among agents (n=35) and 34% among administrators (n=23). In Round 2, the response rate was 28% among agents (n=26) and 22% among administrators (n=15). More than 60% of Round 2 participants also participated in Round 1. Data from both rounds were analyzed using thematic analysis for qualitative data (Boyatzis, 1998) and descriptive statistics for quantitative data.

The demographic profile of the population surveyed was as follows: 52% were female; 33% were under 40, 52% were age 40-59, 13% were age 60 or older; 57% had master's degrees, 28% had bachelor's degrees, and 10% held doctoral degrees; 50% had 3 years or less experience in Florida Extension. The demographics of the respondents closely matched that of the population with the exception of gender and experience. Whereas the population is nearly evenly divided between male and female, two-thirds of the survey respondents were female.

Findings & Discussion

In Round 1, respondents were asked open-ended questions about what they considered the three most important skills or competencies to master at certain points in the career of an agent—at 1 month after hire, at

6 months after hire, the end of the first year, the end of the first 18 months, and the end of the first 3 years. The responses were coded and grouped into one of 12 categories. Table 1 provides a list of the categories and the description used in the Round 2 survey for each career stage. The descriptions came from the open-ended responses to the questions in Round 1.

Table 1.
Description of Skills and Competencies¹ by Career Stage

	First Month of Hire	End of First Six Months	End of First Year	End of First Eighteen Months	End of First Three Years
Roles & Responsibilities of Agent	Knowing what is expected of me				
Understanding Extension	Learning the structure, mission, hierarchy, policies				
Office Know-how	Learning how office operates, entering time, leave policies, email, phones				
Networking	Meeting other agents, community leaders, clientele, and mentor	Work with other agents, UF faculty, community leaders to help build program; Solid relationship with mentor	Solid contact and collaboration with specialists, other faculty, local government, other key individuals	Involvement in [UF/IFAS] focus teams, state and local organizations, professional associations	Active involvement in professional associations and state/local organizations
Professional Growth	Communication, presentation, technical, research and writing skills	Learn communication and teaching techniques and technologies; Managing volunteers; marketing; media relations	Fine-tune writing, communication, marketing and teaching skills; Develop grant writing, management, and survey skills	Skilled in communication, teaching, marketing, report writing, evaluation; Current in research; Know what is necessary for promotion	Published and presented professionally; Pursue degree; Written grant; Successful marketing of programs; Mentoring others

Personal Growth	Listening, flexibility, organizational skills; Time management; Professional scheduling; Work/life balance	Time management; Work/life balance; Professional scheduling, Organizational skills		Display leadership, confidence, focus and competence in program area or areas; Successful at time management, balance-ing work/family	Team player, dedicated, committed, visionary; Lifelong learner
Programming		Getting started; Learning what has been done in the past; Begin presentations or hosting event	Needs assessment; Planning a program or programs; understand logic model; Collaboration with others	Successful programs implemented; Collaborating with others; Strategic planning and innovation	Multiple successful programs; Multi-state or multi-county activity; Clear SMART objectives and impacts; New curriculum
Advisory Committees		Begin to develop committee	Recruit new members or establish new committee; Utilize committee		
Utilizing Resources		Identifying who and what you need to have a successful program			
Evaluation/ Accountability		Begin writing SMART objectives; Learn evaluation tools and various methods	Develop evaluation protocol; Effectively measure program success		
Reporting/ Data Collection		Begin POW, Affirmative Action, how to fill out required reports or use accountability system,	Write effective POW, Learn ROA, Record-keeping and maintenance procedures in place	Start on 3-year packet, written program goals and objectives, effective POW process, created ROA	

		formerly Unifas			
Competency in Field					Recognition as an expert, Successful 3-year packet, Successful annual review, receive grants or awards

¹ This table contains the exact wording used to describe the skill or competency in the survey of Delphi participants. Some of the terminology is specific to the Florida Cooperative Extension. In the Reporting/Data Collection area, POW and ROA refer to the annual reports - Plan of Work and Report of Accomplishments-submitted by Extension Agents to their supervisor. Entering time, in the Office Know-how section, refers to faculty who adjust their hours worked in the online payroll system. In the Evaluation and Accountability section, Unifas refers to an application formerly used at UF/IFAS (University of Florida/Institute of Food and Agricultural Sciences) to collect clientele contacts and other accountability data used for federal and state reports. SMART objectives are guidelines created by UF/IFAS faculty to help Extension agents measure the success of their programs.

Description of New Agent Career Stage

This summary of descriptions provided by the agents and administrators illustrates the growing complexity and breadth of a skill over time. For example, the category "networking" means something very different at one month than it does at 3 years. Early on, respondents describe it as getting to know their county, clients, stakeholders, and colleagues. By the third year, they portray it as active involvement with other UF faculty and faculty at other universities.

In Table 2 we provide an overview of the top three skills and competencies identified by respondents as important to master within each early career stage. For the first measure (i.e., top skills and competencies) the points in brackets are based on weighting the responses according to their rank placement by each individual respondent. First place is equal to one point, second place to one-half a point, and third place is one-quarter of a point. Each time a category was ranked first, second, or third it received a whole or partial point. The researchers then summed the points for each category within a given early career marker to rank order the top three. The second measure, most important skills and competencies, is based on the percentage of respondents who indicated that particular measure was their top choice.

Table 2.
Critical Competencies Required Within First 3 Years

	First Month	First Six Months	First Twelve Months	First Eighteen Months	First Three Years
Top Skills or Competencies	Roles & Responsibilities [26.0]	Programming [21.0]	Programming [24.0]	Programming [23.8]	Programming [22.5]

	Networking [19.3] Office Know-How [18.0]	Networking [16.5] Utilizing Resources [12.3]	Advisory Committees [12.8] Report/Data Collect. [12.0]	Professional Growth [17.8] Report/Data Collect. [11.5]	Competency in Field [19.0] Professional Growth [15.3]
Ranked Most Important	Roles & Responsibilities (45%) Networking (26%) Office Know-How (24%)	Programming (40%) Networking (26%) Utilizing Resources (12%)	Programming (44%) Advisory Committees (14%) Report/Data Collect. (12%) Networking (12%)	Programming (42%) Professional Growth (21%) Networking (14%)	Programming (37%) Competency in Field (26%) Professional Growth (21%)
Needs Greatest Improvement	Roles & Responsibilities (67%) Networking (12%) Understanding Extension (9%)	Programming (26%) Utilizing Resources (19%) Evaluation/Accountability (19%)	Programming (30%) Report/Data Collect. (26%) Evaluation/Accountability (19%)	Programming (37%) Report/Data Collect. (28%) Professional Growth (21%)	Professional Growth (36%) Competency in Field (31%) Programming (24%)
<p>¹ The Top Skills score in brackets is based on combined weighted counts - first choice = 1 pt.; second choice = .5 pt.; third choice = .25 pt. The Most Important and Greatest Improvement scores in parentheses are based on the percentage of respondents who chose this particular competency.</p>					

In the first month, "roles and responsibilities" of an agent receives the highest point score of all skills and competencies. This is the highest rated competency in any given time period. After the first month, "programming" skills and competencies dominate their training needs, followed by "networking." Advisory committees, reporting, and evaluation become more important toward the end of the first year according to the study participants. "Professional growth," such as writing, research, and communication skills and being recognized as an expert in one's field, are deemed important in the last 18 to 36 months.

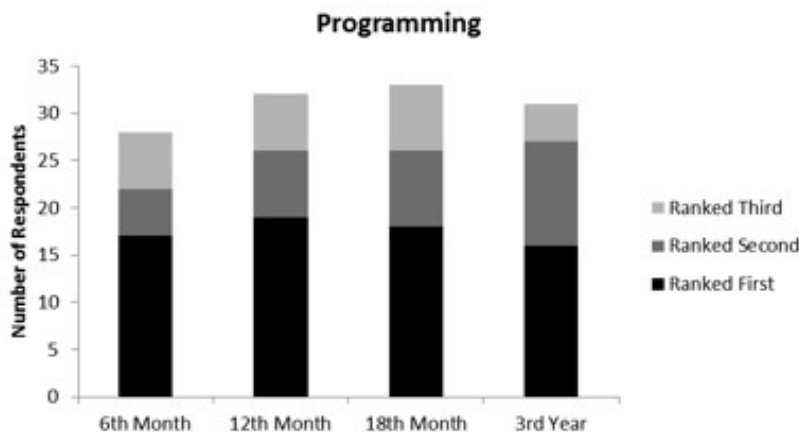
Respondents were then asked to indicate which of the top three skills or competencies they selected in each time period needed the greatest improvement in order to ensure new faculty are well prepared to perform their job duties. In the first month, two-thirds (67%) of the respondents feel that the area of "roles and responsibilities" needs the greatest improvement. From the first through eighteenth month a plurality indicate "programming" needs the most improvement, followed closely by "reporting and evaluation." Closer to their

third year of hire, more than a third (36%) believe the area most in need of improvement is "professional growth" in terms of publishing, grant writing, mentoring, and marketing of programs. An additional 31% mention they would like to see more improvement in training and professional development geared toward a successful annual review or three-year packet.

Relative Importance of Competencies Over Time

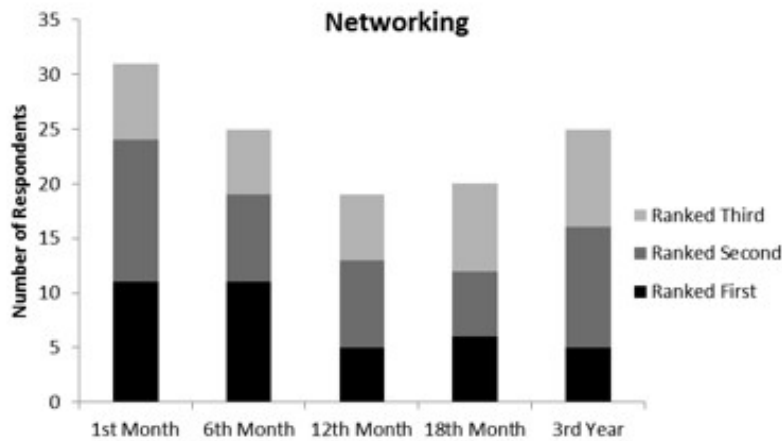
Several skills and competencies are seen as important by respondents throughout the 3-year period, but the breadth and depth changes greatly over time. By looking at the relative importance over time we feel this will help in developing a successful training program for new faculty. As we found throughout the study, "programming" knowledge and skills are critical at all levels. Figure 1 illustrates how consistently "programming" is ranked among respondents over the first 3 years of employment. Sixty-five to 75% of all respondents (28-33 out of a total of 43) rank "programming" as a top three competency in each of the four career stages in which it was measured. Programming's consistent number one rank over time underscores the importance of providing some type of training in this area throughout an agent's early career.

Figure 1.
Rank Given to Programming Category by Respondents at Career Stage



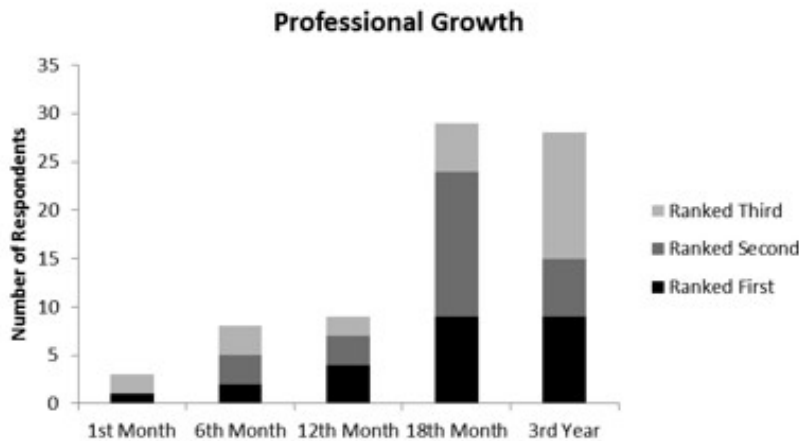
The "networking" category also receives significant interest from respondents (Figure 2). Results indicated it is most critical in the early career months where the emphasis is on meeting other Extension agents, coworkers, and state specialists. Eleven out of 43 respondents, nearly 25%, rank "networking" as their number-one priority in the first 6 months of employment. Between the eighteenth month and the end of third year, interest in networking, with a focus on involvement in professional organizations, begins to pick up again but with less intensity (i.e., fewer give it the top rank).

Figure 2.
Rank Given to Networking Category by Respondents at Career Stage



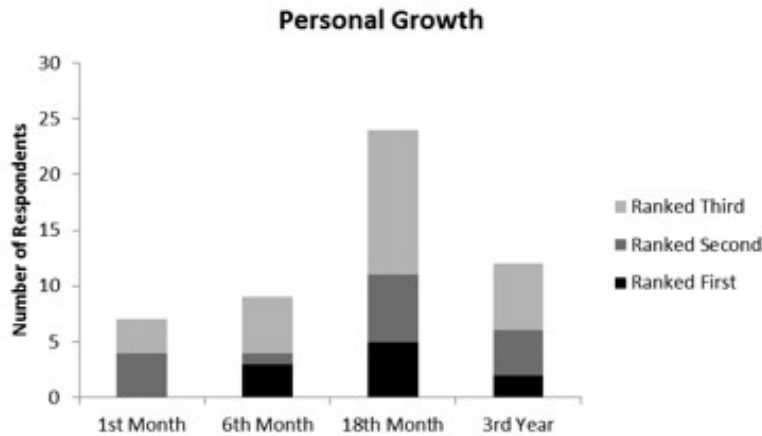
The last two areas we focused on are "professional growth" and "personal growth." Both categories are much broader than the others, encompassing a wide variety of skills and competencies. "Professional growth," namely communication, presentation, technical, research and writing skills, was mentioned by Round 1 respondents as relevant in an agent's early career and on through the third year and thus was asked about at every career stage in Round 2 (Figure 3). Compared to other areas (such as programming, learning one's roles and responsibilities, and networking), "professional growth" appears to rate as relatively insignificant to agents and administrators until the second and third years of employment.

Figure 3.
Rank Given to Professional Growth Category by Respondents at Career Stage



"Personal growth" also receives relatively little attention (Figure 4) from respondents early in their career. By the end of the eighteenth month, personal skills such as time management and finding work/life balance are viewed as more critical to an agents' job success.

Figure 4.
Rank Given to Personal Growth Category by Respondents at Career Stage



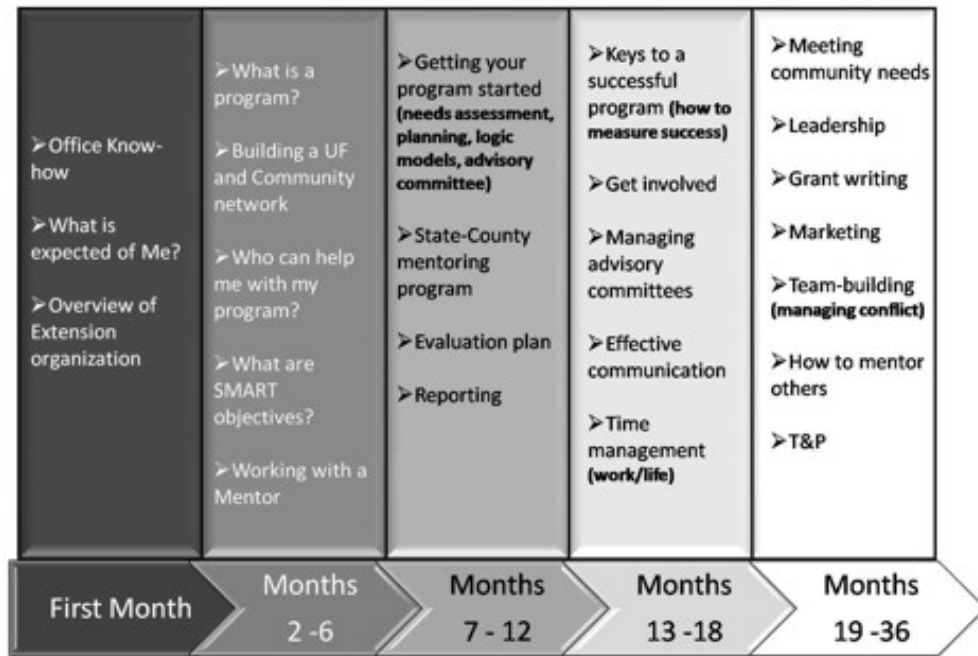
Conclusions

The study reported here provided competency and skill data that can be compared to findings in other studies to provide support in identifying the most crucial competencies that can lead to job success and job satisfaction. These results also reinforce some previous studies in areas of organizational socialization (i.e., role clarity, co-worker support).

Of significance to the study was the finding that certain competencies change in definition depending on the time frame in which they are incorporated into the training process (e.g., differences in the meaning of networking between 1 month of hire and 18 months of hire). It also becomes clear from the study that not only must the skills and competencies be clearly defined as the time frames change, but there are also specific times during the first 3 years when competencies should be introduced to increase both understanding and job satisfaction. For example, Extension programming, which is unique to the Extension organization, is important to faculty from the time of hire but is better understood and appreciated after they comprehend roles and responsibilities, have completed networking within their communities, and are comfortable in their office environments.

What appears to be important then is not just when to teach competencies but also to clarify the meaning of what needs to be learned and at what time frame for maximum job success and job satisfaction. Based on the findings of the study, a training program was developed that capitalizes on these results that might look something like the graph (Figure 5) depicts below.

Figure 5.
Florida Extension Entry Level Competencies/Skills Training Model



Note: T&P is tenure and promotion; UF refers to the University of Florida, SMART objectives (specific, measurable, achievable, relevant and time bound).

Implications

If Extension is to improve the retention of agents, it must better understand the needs of new faculty through organizational socialization during the first 3 years of hire. This includes reviewing existing training programs and modules, and basing them on a competency model and time frame that provides the optimum learning at the most crucial stage. To accomplish this aim, administrators and others involved in developing socialization strategies and improving retention should take into consideration the following points.

1. Twelve competencies and skills related to role clarity, performance proficiency and critical foundation skills were identified as being e critical to job satisfaction and successful job performance. The identification of these skills and competencies continues to reinforce the study by Beeman, Cheek, McGee, and Grygotis in 1979 that showed there are increasing numbers of competencies needed to reach what the county professional sees as the "expert level."
2. These identified skills and competencies can be used to create a training model to build a series of sequential organizational strategies that can improve performance and increase job satisfaction.
3. Professional and personal competencies are important, but for all competencies there is a time element involved in at what stage of new faculty training they should be implemented. This information can be used to further develop a training model that includes a series of sequential organizational strategies that can improve performance and increase job satisfaction.
4. Related to the sequential strategies, the meaning of some competencies and skills change at different stages of new hire development. It is important to understand these differences and incorporate these

changes into the training at the appropriate time.

Limitations

The study reported here was conducted at only one land-grant university and with a limited number of participants. For these reasons, the conclusions and implications are not meant to be generalized to larger populations but rather transferred by the informed reader into similar contexts where they may be applicable. Also, the Delphi format used, although containing two rounds, which is acceptable, still limits the data to a specific moment in time. The study of retention is a complex subject, and there are many facts that can affect turnover. The identification and inclusion of competencies/skills in a training program should be seen as only part of a larger picture. Caution must therefore be exercised in making assumptions without further research in this area.

References

- Adler, M., & Ziglio, E. (Eds.). (1996). *Gazing into the oracle: The Delphi method and its application to social policy and public health*. London: Jessica Kingsley.
- Allen, D. G. (2006). Do organizational socialization tactics influence newcomer embeddedness and turnover? *Journal of Management*, 32, 237-256. doi:10.1177/0149206305280103
- Beeman, C., Cheek, J., McGhee, M., & Grygotis, E. (1979). *Professional competencies needed by Extension agents in the Florida Cooperative Extension Service: A report of research*. Gainesville: University of Florida, Institute of Food and Agricultural Sciences.
- Boyatzis, R. E. (1998). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage.
- Caws, P. (1991). Committee and consensus: How many heads are better than one? *Journal of Medicine and Philosophy*, 16, 375-391. doi:10.1093/jmp/16.4.375.
- Chandler, G. D. (2005). *Organizational and individual factors related to retention of county Extension agents employed by Texas Cooperative Extension*. Dissertation Abstracts International, 65(12), 4432A. (UMI No. 3157047)
- Cooper, A. W., & Graham, D. L. (2001). Competencies needed to be successful county agents and county supervisors. *Journal of Extension* [On-line], 39(1) Article 1RIB3. Available at: <http://www.joe.org/joe/2001february/rb3.php>
- Danjani, J. S., Sincoff, M. Z., & Talley, W. K. (1979). Stability and agreement criteria for the termination of Delphi studies. *Technology Forecast*, 13, 83-90. doi:10.1016/0040-1625(79)90007-6.
- Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning: A guide to nominal group and Delphi process*. Glenview, IL: Scott, Foresman.
- Extension Committee on Organization and Policy. (2005). *2005 report*. Washington D.C.: Leadership Advisory Council, National Association of State Universities and Land-Grant Colleges.
- Feldman, D. C. (1976). A contingency theory of socialization. *Administrative Science Quarterly*, 21,

433-452. Retrieved from <http://www.jstor.org/stable/2391853>

Gamon, J. A, Mohamed, I., & Trede, L. D. (1992). Self-perceived orientation training needs of Extension professionals in Iowa. *Journal of Agriculture Education*, 33(4), 24-30.

Gibson, J. D., & Hillison, J. (1994). Training needs of area specialized Extension agents. *Journal of Extension* [On-line], 32(3) Article 3FEA3. Available at: <http://www.joe.org/joe/1994october/a3.php>

Harder, A., Place, N. T., & Scheer, S. D. (2010). Towards a competency-based Extension education curriculum: A Delphi study. *Journal of Agricultural Education*, 51(3), 44-52. doi:10.5032/jae.2010.03044

Holey, E. A., Feeley, J. L., Dixon, J., & Whittaker, V. J. (2007). An exploration of the use of simple statistics to measure consensus and stability in Delphi studies. *BMC Medical Research Methodology*, 7: 52. doi:10.1186/1471-2288-7-52

Katzell, M. E. (1968). Expectations and dropouts in schools of nursing. *Journal of Applied Psychology*, 52, 154-157. doi:10.1037/h0025643

Keita, D., & Luft, V. (1987). Professional competencies needed by beginning Cooperative Extension agricultural agents in Minnesota, North Dakota and South Dakota. *Journal of Agriculture Education*, 28(4), 40-49.

Kutilek, L. M. (2000). Learning from those who leave. *Journal of Extension* [On-line], 38(3) Article 3IAW2. Available at: <http://www.joe.org/joe/2000june/iw2.php>

Louis, M. R. (1980). Surprise and sense making: What newcomers experience in entering unfamiliar organizational settings. *Administrative Science Quarterly*, 25, 226-251. Retrieved from <http://www.jstor.org/stable/2392453?seq=26>

Phillips, J. J., & Connell, A. O. (2003). *Managing employee retention: A strategic accountability approach*. Burlington, MA: Elsevier.

Pinkovitz, W. H., Moskal, J., & Green, G. (2003). *How much does your employee turnover cost?* Retrieved from <http://www.uwex.edu/ces/cced/publicat/turn.html>

Ramlall, S. (2004). A review of employee motivational theories and their implications for employee retention within organizations. *Journal of American Academy of Business, Cambridge*, 5, 52-63.

Rennekamp, R. A., & Nall, M. A. (1994). Growing through the stages: A new look at professional growth. *Journal of Extension* [On-line], 32(1) Article 1FEA2. Available at: <http://www.joe.org/joe/1994june/a2.php>

Ross, I. C., & Zander, A. F. (1957). Need satisfaction and employee turnover. *Personnel Psychology*, 10, 327-338. doi:10.1111/j.1744-6570.1957.tb00786.x

Safrit, R. D., & Owen, M. B. (2010). A conceptual model for retaining county Extension program professionals. *Journal of Extension* [On-line], 48(2) Article 2FEA2. Available at: <http://www.joe.org/joe/2010april/a2.php>

Skulmoski, G. J., Hartman, F. T., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education*, 6, 1-21.

Stone, B. B. (1997). A system's approach to professional development. *Journal of Extension* [On-line], 35(2) Article 2TOT2. Available at: <http://www.joe.org/joe/1997april/tt2.php>

Stone, B. B., & Bieber, S. (1997). Competencies: A new language for our work. *Journal of Extension* [On-line], 35(1) Article 1COM1. Available at: <http://www.joe.org/joe/1997february/comm1.php>

Stone, B., & Coppernoll, S. (2004). You, Extension and success: A competency-based professional development system. *Journal of Extension* [On-line], 42(2) Article 2IAW1. Available at: <http://www.joe.org/joe/2004april/iw1.php>

Strong, R., & Harder, A. (2009). Implications of maintenance and motivation factors on Extension agent turnover. *Journal of Extension* [On-line], 47(1) Article IFEA2. Available at: <http://www.joe.org/joe/2009february/a2.php>

Wanous, J. P. , & Reichers, A. E. (2000). New employee orientation programs. *Human Resource Management Review*, 10, 435-451. doi:10.1016/S1053-4822(00)00035-8

Copyright © by *Extension Journal, Inc.* ISSN 1077-5315. Articles appearing in the Journal become the property of the Journal. Single copies of articles may be reproduced in electronic or print form for use in educational or training activities. Inclusion of articles in other publications, electronic sources, or systematic large-scale distribution may be done only with prior electronic or written permission of the *Journal Editorial Office*, joe-ed@joe.org.

If you have difficulties viewing or printing this page, please contact [JOE Technical Support](#).