A Practical Solution to Developing County Extension Director's Leadership Skills: Exploring the Design, Delivery and Evaluation of an Online Leadership Development Program

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Abstract

County Extension Directors (CED) are tasked with a myriad of responsibilities, many of which are directly related to leadership skills. Despite the identification of competencies and skills needed by CEDs in order to maintain successful programs, little research has been conducted on actual Extension leadership programming. Even more uncommon in the literature is the evaluation of CED leadership development programs that utilize online delivery. Thus, the purpose of this study was to explore the outcomes of a primarily online leadership development program with the goal of developing 21st century soft skills in CEDs. The Leadership Short Course was built upon the leadership development foundations of Moore and Rudd (2005), Owen (2004) and Sanders (2014), while the program evaluation framework utilized the Kirkpatrick (1976) model to evaluate program participant reactions, learning, and behavior changes. Key findings indicate that the design and delivery of the program resulted in high participant satisfaction and significant increases in leadership knowledge and skill level. Positive outcomes in this type of online programming has implications for the design and implementation of future CED leadership programs.

Keywords: leadership, Extension, County Extension Directors

Introduction

Leadership development programs are a recognized way to increase an individual's capacity to address unforeseen problems, initiate change, or effectively engage in the process of leading others (Day, 2000; McKee, Odom, Moore, & Murphrey, 2016). These programs are critical to the success of County Extension Directors (CEDs) who provide leadership at the local level with regards to developing and implementing programs, managing budgets, addressing stakeholders needs, attending to policy, and serving as the link between Extension agents and upper levels of Extension administration (Jayaratne, Owen & Jones, 2010; Sanders, 2014). Furthermore, the anticipated challenge of replacing a large number of CEDs in the future, due to the retirement of the baby boomer generation, highlights the importance of having effective leadership programs established to develop the needs of new leaders. (Jayaratne et al., 2010; Moore & Rudd, 2005)**.** As

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a system that primarily promotes from within (Jayaratne, Owen & Jones, 2010; Moore & Rudd, 2005)**,** internal programming can aid in cultivating and sustaining effective leadership.

It is commonly recognized that developing the competencies and skills of CEDs is a critical priority for Extension (Jayaratne, Owen & Jones, 2010), yet few CEDs have the leadership competencies needed to be effective in their administrative position (Sanders, 2014). This may be due to a number of factors impacting the successful design and implementation of CED leadership development programs. First, research from Campbell, Grieshop, Sokolow and Wright (2004) suggests CEDs are inadequately supported in their leadership roles. Additionally, as funding is cut or restricted, often the first programs to be eliminated include those associated with professional development. Finally, leadership development often competes against other tasks with greater perceived importance as CEDs try to manage the various demands on their time. This, once again, puts the development of CED leadership skills on the back burner.

An increasing need for systematic evaluation of leadership programs to measure and communicate the program's worth places added pressure on CEDs to make sure their resources are being utilized effectively. As Jayaratne, Owen, and Jones (2010) point out, "when resources are scarce and funding agencies are demanding program impacts for accountability, the demand for evaluation is obvious" (p.18). However, few leadership programs in general are evaluated and even fewer programs publish their findings so others in the field can learn and build off their results. This is especially true concerning Cooperative Extension based leadership programs, where a dearth in the research exists. The Agricultural Education National Research Agenda (Roberts, Harder, & Brashears, 2016) emphasizes the importance for agricultural educators to "determine the most effective means for incorporating and assessing soft skills development in both formal and nonformal settings" (p.30). The authors of this paper aim to contribute to the current base of research on Extension-based leadership development programs by exploring the design, delivery, and evaluation of an online CED leadership program designed to develop 21st century leadership skills.

Conceptual Framework

Over the past 50 years in Extension research, there has been an interest in the leadership skills critical for a County Extension Directors success. In 1977, Rodgers completed a dissertation examining the competencies critical to the administrative role of the County Extension Chairman. In the study, Rodgers found that four administrative functions: personnel management, program management, financial management, and office management, were important to the role of Georgia County Directors. Additionally, Rodgers identified 28 unique managerial competencies that corresponded with the four administrative areas such as communication, motivating, problem-solving, leading, planning, relationship building, and establishing work flow to name a few. Ten years later, the Georgia Extension Service conducted a study of skills essential to performing the managerial role of county directors (Whiteside & Bachtel, 1987). Of the 34 skills found in the study, the 10 most important skills for CED success included communicating, public relations, leading, planning, establishing and maintaining a good office image, budget accountability, decision making, evaluating, staff support, and motivating others.

As evidenced in more recent Extension research, similar skills have been associated with leadership competence. Moore and Rudd's (2005) study identified six leadership skill levels of senior Extension leaders: human, conceptual, technical, communication, emotional intelligence, and industry knowledge skills. In addition, Owen (2004) studied CEDs from North Carolina Cooperative Extension and found 38 sub-competencies were important to CED long-term success, such as interpersonal relationships, emotional intelligence, conflict management, and

understanding self and others. Most recently, Sanders (2014) completed a study examining the leadership competencies and needs of CEDs in Florida Extension. In this research, Sanders (2014) points out:

> The majority of CED professional development needs focus on human skills. These include conflict resolution, saying no when warranted, time management, listening, creating a supportive work environment, and relationship building. The highest priority conceptual skills for professional development programming include extension marketing, change implementation, and visioning. (p. 134)

Although this research has helped those in Extension better understand the skills and competencies critical to CED leadership success, the research into programs developing these skills, including program design, implementation and evaluation, is rare. One example comes from the research of Jayaratne et al. (2010) exploring a new and aspiring CED leadership education program. Utilizing both qualitative and quantitative analysis, the authors examined how the design and delivery of a leadership education program helped build CED leadership skills and behaviors. Recommendations from the research included more hands-on activities, team building exercises, problem solving sessions and a shorter time frame than nine months.

Even more uncommon in the literature is evaluation of CED leadership development programs that utilize online delivery. However, these types of programs are critically important for a few reasons. As Hall and Broyles (2015) suggest, "State Cooperative Extension budgets are tight and Extension administrators are looking for ways to compensate for reductions in funding" (p. 197). **Sondgerath** (2016) points to online leadership development programs as a way to reduce the cost associated with travel expenses and training materials. Additionally, CEDs have numerous demands on their time and often find it difficult to juggle all of their different roles (Sanders, 2014). Finding time to travel to a training and dealing with the demands of an inflexible training schedule often requires CEDs to eliminate these developmental opportunities for the good of their primary responsibilities. Online training, however, requires no additional travel time and provides an asynchronous program design.

Evaluation Framework

It is important to provide a systematic evaluation of agricultural leadership development programs to justify the costs and resources associated with the program delivery to key stakeholders (McKee et al., 2016). Evaluation also provides an opportunity to address feedback and make needed changes to increase the leadership program's future success. One of the most extensively used approaches to evaluate leadership development programs is Kirkpatrick's four 'levels' of criteria (1976). These four levels of training outcomes include:

- Level 1: Reaction – This level assesses the participants' reaction to the leadership development program. Reaction questionnaires are most often utilized to measure participants' affective responses to the training. This can include satisfaction with the training facilitator, content or the program overall;
- Level 2: Learning – At this level, participants' learning is measured, based on changes in a participant's knowledge, attitudes, skills, confidence or commitment. This change is driven by the goals and objectives outlined in development of the program. Level 2 can be assessed by utilizing performance tests or pre-post assessments;
- Level 3: Behavior – In the model, level three assesses changes that happen in participants' behavior on the job and the extent to which learning from the program

has been applied to the participants' jobs. Evaluation is completed through the use of observation, interviews, or collecting productivity data; and

- Level 4: Results – The final level assesses the impact the development program has had on the bottom-line of the broader organizational goals. The methods for assessment include measuring costs, quality, retention, and return on investment (ROI).

There are a few reasons the Kirkpatrick model has been utilized as a primary tool for evaluating leadership development programs over the past three decades (Bates, 2004). First, the model presents evaluation in a systematic way, which provides numerous data points. These different measures can also be utilized to address a diverse set of stakeholders' interests (Bates, 2004). Finally, the model simplifies the complex process of leadership program evaluation. By dictating particular questions to address specific criteria and limiting the demands of numerous measurement points, the Kirkpatrick model streamlines the evaluation process (Bates, 2004).

Although the Kirkpatrick model is both a popular and straightforward evaluation tool, typically programs only target the two lower levels of the model. According to Kirkpatrick and Kirkpatrick (2016), approximately 58 percent of online programs measure level one, while level three is only measured 17 percent of the time. Furthermore, even when levels three and four are being assessed, the measures and questions used are more appropriate for level one outcomes (Kirkpatrick, & Kirkpatrick, 2016). More extensive evaluation at levels three and four provide an opportunity to collect valuable data that can be used by the organization to address organizational goals and to determine what programming elements add significant value.

Description of Program

Taking into account the general literature on CED leadership skills and focusing more specifically on the findings of Moore and Rudd (2005), Owen (2004) and Sanders (2014), the leadership development program offered leadership sessions that explored: (a) role of the leader; (b) leader identity; (c) building strong relationships with others; (d) creating an extraordinary leadership environment (e) best practices in leadership; and (f) continued leadership learning. The specific topics covered in these sessions are outlined in Table 1.

Table 1

Session Titles and Descriptions of the Leadership Short Course

Session Title	Sections Covered in the Session
Roles of a Leader	Understanding the power of perception; establishing purpose; defining leadership priorities
Leader Identity	Developing humility, optimism, and continued learning mindset; appreciating differences (Myers Briggs Type Indicator personality inventory), understanding the power of emotions
Building Strong Relationships with Others	Authentic communication; conflict resolution and stress management
Creating an Extraordinary Leadership Environment	Reframing leadership; accountability and discipline; creating a culture of change
Leadership Best Practices	Cultivating creativity; teamwork and psychological safety; providing feedback and recognition
Developing a Leadership Development Plan	360-degree feedback

Based on participant feedback and suggestions to further improve the leadership program, Jayaratne, Owen and Jones (2010) recommended after conducting their CED leadership program to condense the overall length of the program from nine to four months. Keeping this in mind, the Leadership Short Course extended over three months while also providing two weeks between developmental sessions to encourage participants to practice what they learned during each session. The first five sessions were delivered online, while the final session was delivered in a face-to-face format reviewing the participants' 360 evaluations. Program participants received a leadership program certificate for completion of the course.

Purpose and Objective

The purpose of this study was to explore the outcomes of a primarily online leadership development program with the goal of developing 21st century soft skills in CEDs. The research objective was to evaluate participants' satisfaction, learning outcomes, and behavior changes from the Leadership Short Course.

Methodology

The Leadership Short Course took place from February through April, 2017. The target audience for program participation was Florida County Extension Directors. Program participants were selected via nomination from his/her District Extension Director. Selected participants were characterized as emerging leaders, risk takers, and exhibiting enthusiasm to advance themselves and UF/IFAS Extension. Out of 64 Florida CEDs, twenty-two were nominated and began the course; however, program participants were expected to stay engaged and complete the assignments, otherwise they would be removed from the course. Five program participants were removed during the first quarter of the course, ending with a program cohort completion rate of 77% ($n = 17$). Table 2 provides a brief description of final program cohort participants.

Two instruments were created to satisfy Kirkpatrick's (1976) levels of training outcomes, both of which were sent via Qualtrics. The items and open-ended questions stemmed from the program objectives of the Leadership Short Course. Only the first three levels of the model were evaluated for this study, as not enough time had passed to satisfy the criteria of level four outcomes. The first instrument concentrated on the first two levels: reactions and learning outcomes. There were 17 statements pertaining to the learning outcomes using a retrospective pretest and a traditional posttest. Retrospective pretests asked respondents to recall their perceptions prior to engaging in the treatment at the same time they evaluate their perceptions after completing the treatment (Pratt, McGuigan, & Katzev, 2000). The next 10 statements pertained to their reactions to the online course format and satisfaction. The second instrument evaluated the third level, behavior change, using a mixed methods approach. The first 21 statements regarded whether the participants have seen a change in their own leadership competencies and how often they use the competencies developed from the program. Several open-ended questions solicited more detailed input from respondents.

Table 2

Characteristics of Participants

	f	*%*
Years working in Extension		
1-5 years	8	47%
6-10 years	3	18%
11-15 years	2	12%
16 years or more	4	23%
Years serving as a County Extension Director		
1-5 years	14	82%
6-10 years	2	12%
11-15 years	1	6%
Held a leadership position prior to joining Extension		
Yes	13	77%
No	4	23%

An expert panel was used to establish the instrument's face and content validity. The selected experts were chosen based on proficiency in program evaluation and leadership development. Following the completed program evaluation, the researchers calculated post-hoc reliability for each level of evaluation using Cronbach's alpha. Level one had a Cronbach's alpha of 0.87, level 2 had a Cronbach's alpha of 0.94, and level three had a Cronbach's alpha of 0.87. All three levels of evaluation were deemed reliable as all were above the 0.70 alpha level as noted by Cronbach (1971).

Using SPSS 24.0, data were analyzed using descriptive and inferential statistics for the first instrument and part of the second instrument to analyze the Likert-type scale statements. The constant comparative method (Merriam, 1998) was used to reduce data from the open-ended questions into identifiable, recurring themes (Lincoln & Guba, 1985). An audit trail was maintained throughout the data analysis, while direct quotes from respondents were used to create a thick description of the findings. Bias from the researchers can affect the way qualitative data is analyzed and interpreted. For the study reported here, one of the researchers is a state specialist with prior experience in Extension. The other two researchers are state specialists with expertise in leadership development. Previous face-to-face leadership trainings had been offered to the Extension population by two of the three researchers over the past two years, as part of their extension appointment.

The researchers followed the Tailored Design Method (TDM) by Dillman, Smyth, and Christian (2009). The TDM is described as "using multiple motivational features in compatible and mutually supportive ways to encourage high quantity and quality response to the surveyor's request" and yields high response rates, reduces sampling error, develops trust with the respondents, and allows the researcher to follow survey procedures that are scientifically founded (Dillman et al., 2009, p. 16). IRB approval was received prior to executing the program. Qualtrics was the mode of delivery chosen for the online questionnaires. The advantages to using an online survey for this study were low cost, anonymity, quick response time, and ease of distribution and submission (Ary, Jacobs, Razavieh, & Sorensen, 2006; Dillman et al., 2009). The first survey, which was sent one week after the program ended, yielded a response rate of 100% ($n = 17$). The second survey, which was sent 6 months after the program ended, yielded a responses rate of 88% ($n = 15$).

Findings

Level One Results

Respondents indicated a high level of satisfaction with the online-delivery format (see Table 3). Participants indicated their highest level of satisfaction with the communication from the instructor ($M = 4.76$, $SD = 0.44$) and engagement of the instructor ($M = 4.71$, $SD = 0.47$). Reichheld (2003) suggests that one of the most significant measures of satisfaction and growth can be measured by a "would recommend" question. As Reichheld suggests, "By asking this one question, you collect simple and timely data that correlate with growth. You also get responses you can easily interpret and communicate" (2003, p. 1). The participants reported they would participate in a similar type of training program in the future ($M = 4.53$, $SD = .87$) and recommend this program to a colleague ($M = 4.71$, $SD = .59$) (see Table 4).

Table 3

Participants' Satisfaction of the Leadership Short Course

	M	SD
Overall course satisfaction	4.41	.62
Organization of online modules	4.41	.71
Navigation of online modules	4.29	.85
Engagement of the online modules	4.47	.51
Content of online modules	4.35	.49
Flexibility of the course	4.41	.80
Course deadlines	4.13	.81
Course work (assignments)	4.00	.71
Engagement of the instructor	4.71	.47
Communication from the instructor	4.76	.44

Note. Respondents were asked to rate their level of satisfaction about the course on a Likert-type scale (1 = *Very dissatisfied*, 2 = *Dissatisfied*, 3 = *Neither satisfied nor dissatisfied*, 4 = *Satisfied*, 5 = *Very satisfied*).

Table 4

Participation in Future Online-Delivered Programs and Recommendations to Colleagues

	M	SD
I would participate in training programs like this one in the future	4.53	.87
I would recommend this program to my colleagues	4.71	.59

Note. Respondents were asked to rate their level of agreement with the above statements on a Likert-type scale (1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Neither agree nor disagree*, 4 = *Agree*, 5 = *Strongly agree*).

Level Two Results

Respondents indicated significant changes in many of their leadership skills after completing the Leadership Short Course (see Table 5). Fifteen of the seventeen leadership skills were statistically significant. The four leadership skills to exceed Cohen's (1988) convention for a large effect were understanding the importance perceptions play in leadership development, t (16) = 4.66, $p < 0.05$, $d = 1.13$, understanding the role environment plays in leadership, t (16) = 3.66, $p < 0.05$, $d = 0.91$, recognizing the importance of experience on both perception and leadership, t (16) = 3.50, p < 0.05, d = 0.85, and recognizing the different frames of organizational perspective, t (16) = 3.45, p < 0.05, $d = 0.84$.

Table 5

Paired Means and Statistical Significance of Leadership Skills

Leadership Skills	Before		After				
	M	*SD*	*M*	*SD*	*t*	*p*	*d*
Understand the importance perceptions play in leadership development	3.47	.72	4.35	.70	4.66	.00	1.13
Recognize the role purpose plays in leading others	3.59	.62	4.12	.70	2.30	.03	0.56
Recognize the importance of experience on both perception and leadership	3.53	.72	4.06	.66	3.50	.01	0.85
Identify the difference between primary and secondary dimensions of diversity	3.24	.97	3.71	.99	2.22	.04	0.54
Compare and contrast your personality type to others	3.59	1.07	4.53	.62	3.11	.01	0.75
Identify my overconfidence and optimism bias	3.25	.86	3.69	.95	1.39	.19	0.35
Recognize factors associated with effective communication	3.71	.92	4.24	.83	2.31	.03	0.56
Recognize the different dimensions of emotional intelligence	3.18	.11	3.82	.95	2.40	.03	0.58
Utilize different approaches to conflict resolution	3.06	.93	3.94	.68	3.05	.01	0.76
Understand the role environment plays in leadership	3.31	.70	4.19	.83	3.66	.00	0.91
Recognize the different frames of organizational perspective	2.71	.99	3.59	1.00	3.45	.01	0.84
Identify costs and benefits to conflict in organizations	3.18	.95	3.94	.43	2.62	.02	0.64
Analyze the barriers to change in organizations due to particular organizational frames	2.88	1.05	3.82	.53	3.11	.01	0.75
Recognize factors associated with effective email communication	3.65	.79	4.06	.56	1.60	.13	0.39
Understand the importance of recognizing others	4.12	.78	4.59	.62	2.06	.06	0.49

Table 5 (continued)

Paired Means and Statistical Significance of Leadership Skills

Leadership Skills	Before		After				
	M	*SD*	*M*	*SD*	*t*	*p*	*d*
Identify elements of building an effective team	3.53	.72	4.24	.67	2.95	.01	0.72
Recognize the different steps to running an effective meeting	3.59	.80	4.18	.64	2.58	.02	0.63

Note. Respondents were asked to rate their knowledge level of leadership concepts and ability to apply them before and after participating in the Leadership Short Course on a Likert-type scale: (1 = *Very low*, 2 = *Low*, 3 = *Average*, 4 = *High*, 5 = *Very high*).

Level Three Results

Overall, respondents reported moderate to high levels of behavior change from their participation in the Leadership Short Course (see Table 6). The highest levels of behavior changes reported were their perception of their leadership role (*M* = 3.20, *SD* = 1.03), providing feedback (*M* = 3.17, *SD* = 1.03), paying attention to different personality types (*M* = 3.07, *SD* = 0.92), placing importance on understanding and appreciating differences (*M* = 3.00, *SD* = 1.00), and cultivating creativity (*M* = 3.00, *SD* = 1.29).

Table 6

CED Behavior Changes Six Months after Completion of Leadership Short Course

	M	*SD*	*N*
The perception I have of my leadership role	2.36	0.81	11
The priority I place on leadership related activities	2.58	1.08	12
The amount of time I take to coach others	3.20	1.03	10
The importance I place on understanding and appreciating differences	3.00	1.00	13
The attention I pay to different personality styles in leading others	3.07	0.92	14
Being aware of my overconfidence or over optimism	2.27	1.01	11
Am more emotionally in control of thoughts and actions	2.27	0.79	11
Handle conflict more effectively	2.29	0.76	7
Better understand the role the environment plays in my leadership effectiveness	2.67	0.86	9
Use the different frames to help lead more effectively	2.13	1.25	8

Table 6 (continued)

CED Behavior Changes Six Months after Completion of Leadership Short Course

	M	*SD*	*N*
Ask for conflicting ideas to get to better solutions	2.63	1.19	8
Use critical thinking (including the frames) to address problems in the organization	2.89	1.17	9
Write more effective emails	2.50	1.00	12
Communicate with others more effectively	2.58	0.90	12
Work with teams more effectively	2.58	1.08	12
Run more effective meetings	2.64	1.12	11
Cultivate creativity	3.00	1.29	7
Encourage psychological safety	2.89	1.05	9
Provide feedback to others	3.17	1.03	12
Provide recognition	2.85	0.98	13
Work on particular leadership competencies	2.75	0.97	12

Note. Respondents were asked to rate the degree to which their behavior has changed due to their participation in the Leadership Short Course on a Likert-type scale (1 = *Not at all*, 2 = *A moderate amount*, 3 = *A lot*, 4 = *A great deal*).

Respondents were asked what had been the biggest difference with their ability to lead as a result from their participation in the Leadership Short Course. Ninety-three percent (*n* = 14) of respondents provided an explanation. Increased confidence (*n* = 3) and communication (*n* = 3) were common themes reported, such as "less trepidation to assume a leadership role in my office and with colleagues" and "listening to staff concerns, prioritizing, and making decisions for the greater good of the department". Another respondent stated, "my willingness to accept different opinions and different ways of doing things; using the differences to make better decisions for the entire office".

Finally, respondents were asked if their confidence level had changed due to their participation in the Leadership Short Course. Eighty-seven percent (*n* = 13) of respondents reported a change in their confidence to lead. When prompted to describe in what ways their confidence changed, respondents replied "I feel that I am paying better attention to others, so when I make a decision, it is more applicable to everyone" and "I feel more comfortable and take the time to let people know I appreciate them". Another respondent stated, "I feel more confident in communicating now that I know the communication preferences of my team members. Knowing this info allows me to tailor my message to my audience".

Conclusions

It is critically important to find innovative ways to deliver and develop the skills and behaviors of County Extension Directors in the area of leadership. Though there are leadership development programs, which assume this responsibility, the research on the success of these programs is scarce. This paper is the first to look at the design and evaluation of a primarily online CED leadership program. The Kirkpatrick model (1976) of program evaluation was used to better understand the impact the program had on participants.

Kirkpatrick's first level measures participant satisfaction with the different course components. Overall, the participant were satisfied in all areas evaluated. The highest level of satisfaction from participants were in the areas of engagement with instructor and communication from instructor. In face-to-face training, the variability that could emerge based on the particular instructor would be concerning. However, one of the strengths of an online format is that most engagement and communication was made using videos, emails and postings, which can be replicated in all future courses guaranteeing consistency.

The high level of engagement in the class also likely impacted other ratings of satisfaction. Although the participants' responses were still in the satisfied range, the participants rated course work/assignments and course deadlines as the two lowest levels of participant satisfaction. Based on the qualitative responses, this was related to the short time frame the participants had to complete assignments rather than the difficulty or dissatisfaction with the assignments. However, these findings are inconsistent with participant's views concerning the length of time for program delivery. The current program utilized a three-month timeframe to deliver course content via online and face-to-face following Jayaratne et al.'s (2010) recommendation for limiting leadership development programs to less than four months. When asked about whether the course should be kept the same length, shortened, or increased, 59% ($n = 10$) of respondents reported the program length was satisfactory. Twenty-nine percent ($n = 5$) reported shortening the course length, and 12% ($n = 2$) recommended increasing the program length.

Participants in the Leadership Short Course reported a high likelihood they would recommend the program to colleagues. Since the program is still in its infancy, the recommendations from these early adopters will be critically important to the recruitment success of future cohorts. Additionally, participants in the program suggested they would be likely to participate in a program like this in the future. This may have implications on additional leadership training opportunities and CED training in general. Finally, both of these quantitative results can be used to provide stakeholders with both satisfaction data on the course and the likelihood additional cohorts could be recruited using participant recommendations (Reichheld, 2003).

A retrospective pretest and a traditional posttest was used to measure the change in attitudes, knowledge, and skills learned by the participants of the Leadership Short Course. There was a significant increase in fourteen of the seventeen statements measuring perceived participant learning throughout the program. The learning that occurred during the program was the first step to transferring the competencies back into the work environment (Kirkpatrick & Kirkpatrick, 2016). Although seventy-seven percent of the participants held a leadership position prior to joining Extension, the learning of new perspectives and leadership tools could have aided the CEDs in feeling more confident, which was reported as a behavior change in the six-month behavior change survey.

The third level of evaluation that was completed addressed the changes to the CEDs behavior six months after the leadership program was completed. Based on the findings of the six-month post survey, it is evident the leadership development program had an impact on CED leadership behavior. All of the 21 behavior changes that were measured displayed significant increases from respondents. The strongest impact can be seen in the CED behavior of coaching and providing feedback, indicating the program is having an impact on both the behaviors of the CEDs and also the Extension agents they supervise. The majority of respondents also indicated they saw an increase in their confidence to lead, and their communication styles changed according to which styles their team members prefer, both of which were identified by both Owen (2004) and Sanders (2014) as important competencies for CEDs to possess.

When comparing the level two learning outcomes to the level three behavior changes, differences emerged among two of the evaluation statements. First, *identify my overconfidence and optimism bias* was rated low from both levels two and three, providing important feedback about this particular section of the course. Moving forward, this section will need to be revised for both initial learning and post-training transfer. Second, *recognize the different frames of organizational perspective* was rated high ($M = 3.59$) in the post training learning evaluation but these tools did not transfer into new behaviors on the job. This will also need to be re-evaluated and more focus should be placed on helping participants take what they have learned and apply it to their leadership opportunities.

Implications and Recommendations

The study explores the impact of an online leadership program on Florida CEDs' satisfaction, learning, and behavior change. The results suggest three major implications for extension, online leadership development, and program evaluation. As **Sondgerath** (2016) suggests, "With Cooperative Extension budgets shrinking at federal, state, and local levels, it is incumbent on state Extension systems to explore innovative ways of delivering professional development content as efficiently as possible while still providing content relevant to field educator/agent needs." The first implication of this study is that online leadership programs can provide an innovative way to address the leadership developmental needs of CEDs, while also providing increased flexibility in participation and cost saving associated with travel expenses.

A second implication of the current study is the contribution it makes to the body of research pertaining to online leadership development program evaluation. The research provides a template to measure outcomes associated with participant satisfaction, learning, and behavior changes. This research also contributes to the scare literature on Kirkpatrick's third level of evaluation, addressing CED behavior change six months after the online leadership program concluded. With this said, this study also provides valuable insight into level two and three outcomes, which need to be adapted in order to demonstrate better increases in specific sections.

The final implication of this current study includes the overall satisfaction, learning and behavior change results of the program. The day-to-day leadership responsibilities of a CED, along with the changing landscape of Extension, have presented new leadership challenges for CEDs to overcome (Sanders, 2014). Previous research suggests that very few Extension leaders have the leadership competence appropriate for today's Extension organization (Sanders, 2014). Additionally, "several studies have shown that Extension professionals perceive their own management abilities as deficient," which can have a negative impact on leader self-confidence **(Sondgerath, 2016).** The online Leadership Short course demonstrates results that address CED satisfaction with the training, perceived learning to impact leader self-confidence, and actual behavior change on different leadership competencies.

As Extension explores the option of online leadership development, there are also a few recommendations that should be considered when conducting future research on CED online leadership development programs. First, more research is needed examining online leadership development programs, specifically observing different program structures and in other contexts. The current research is limited due to the participants studied being CEDs from a single state's Extension system. The second recommendation is to examine the impact these programs have on those who are supervised by CEDs. With the program encouraging the most significant changes in coaching and feedback, it would seem the program also had an impact on the Extension agents supervised by the course participants; however, the course evaluations did not include this audience. Future course evaluations should include an instrument for supervisees to measure

perceived changes to program participant behaviors related to key leadership skills addressed in the online program. The third recommendation is to explore the impact the online program had on the UF/IFAS Extension system, which is also the criteria for level four evaluation under Kirkpatrick's model (1976).

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