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## Evaluating Utah's Rural Online Initiative: Empowering Organizational Leaders Through Remote Work

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**Abstract.** Compared to urban counties, Utah's rural counties experienced high levels of unemployment. Informed by a statewide needs assessment, Utah State University Extension developed a remote work leadership course to equip business leaders with knowledge and skills to create remote jobs as a solution to rural unemployment. This descriptive evaluation study collected data from course participants (N = 62). Findings showed short-term outcomes were achieved; participants experienced increases in knowledge and skills and had more positive intentions toward creating remote jobs and hiring employees from rural counties. Extension professionals can design and evaluate their programs using the framework in this study.

### INTRODUCTION

Extension has a rich history of developing relevant, research-based programs for communities (Gagnon et al., 2015). Research demonstrates that program outcomes are enhanced when delivery is both localized and pertinent (Durlak & DuPre, 2008). In this regard, Extension professionals should conduct and use need assessments to identify community needs, which will in turn inform program design and delivery (Graham et al., 2016). Garst and McCawley (2015) detailed the importance of applying need assessments to direct Extension programming. In a strategic effort to understand the needs of rural and urban counties, Utah State University (USU) Extension conducted a statewide needs assessment (Narine, 2019).

Findings from this needs assessment identified a lack of job opportunities in rural areas as a concern among rural residents. Studies have also associated high unemployment rates in rural areas with rural-urban migration patterns (Harris & Perlich, 2019; Kumar, 2018; Parker et al., 2018). In Utah, the top three priority areas found among rural counties were needs for well-paying jobs, quality public schools, and steady jobs (Narine, 2019). USU Extension developed the Rural Online Initiative (ROI) program to address the needs of well-paying and steady jobs in an endeavor to stimulate rural economies. The Utah Legislature funded the ROI program in

2018 as an innovative solution to rural-urban migration and unemployment.

The program's aim was to retain the rural workforce through specialized training in remote work and job search skills (Noel & Hinkins, 2018). One specialized training developed within the ROI program was the Certified Remote Work Professional (CRWP) course. This 30-hour, one-month course combined online work with interactive virtual workshops. The course was designed to equip rural residents with the tools and skills needed to transition from on-site work to a virtual career through experiential learning. When placing CRWP certificate holders in remote jobs (in business, education, and health and medical fields), ROI program planners determined that fewer than 10% were finding jobs with businesses based locally in Utah.

Despite a healthy economy, specialized training, and tax incentives for hiring remote workers in rural counties, remote job opportunities in Utah were still in short supply. At the same time, Utah's urban counties were experiencing a talent shortage. Interestingly, demand for remote jobs continued to grow rapidly nationwide (Andra, 2018; Reynolds, 2020). To further investigate the gap between talent shortages and job opportunities for remote work, a needs assessment was conducted with Utah organizational leaders. The purpose of this needs assessment was to determine if a gap in knowledge existed among organizational leaders in Utah concerning remote work.

Results indicated that business leaders lacked knowledge regarding the research-based best practices for creating remote work environments within their organizations. In addition, they expressed interest in learning how to create remote work positions, manage remote employees, and develop remote work plans (Hill, Kesler, et al., 2019). Therefore, the ROI program developed the Certified Remote Work Leader (CRWL) course as a pilot intervention to assist in increasing the supply of remote jobs in Utah. As such, the purpose of this study was to determine if the CRWL course was a viable solution to address remote job creation in Utah. The objective of this research was to conduct a preliminary evaluation of the short-term outcomes of the course.

### THE CERTIFIED REMOTE WORK LEADER (CRWL) COURSE

The CRWL course teaches organizational leaders the research-based best practices and core skills for effectively creating remote work environments to manage remote employees. After careful review of the needs assessment results from organizational leaders, the ROI’s program planning team conducted a literature review and consulted experts with decades of experience managing distributed organizations. The result was a 7-module, one-month course with the topics noted in Table 1. These modules are tailored to creating remote environments and managing hybrid and remote employees. Participants complete the modules asynchronously at their own pace. There is also a structured component where participants are required to meet synchronously for virtual workshops.

Each module includes interactive core content, assigned quizzes, knowledge checks, and self-assessment activities. Participants are required to complete all course assignments and earn an average score of 80% or higher to receive a certificate. Overall, the course intends to increase: (a) participant awareness and interest in creating a remote work environment, (b) their ability to implement a supportive remote work environment in their organization, and (c) their ability to lead hybrid-remote and fully distributed employees. Table 1 summarizes the CRWL course modules and content.

Figure 1 shows the logic model for the CRWL course. It provides a graphical representation of how the course is intended to work. It aligns to the Targeting Outcomes of Programs model (discussed in the theoretical framework) and provides an evaluation blueprint from program implementation to measuring program outcomes.

### THEORETICAL FRAMEWORK

The primary objective of our study is to evaluate the outcomes of the new CRWL course. As a pilot, the course required

**Table 1.** Module Summary of the CRWL Course

Module	Content Description
Vision	Identifies components of a compelling company vision and provides strategies on how to develop an effective vision statement.
Culture	Explains how to identify, assess, and engage with company culture. This includes communication, activities, and expectations.
Communication	Explains the unique strategies and requirements of virtual communication. This includes communication styles, tools, and empathy.
Performance Management	Simplifies the processes of performance management. These include assignments, tracking, reporting, and evaluating employee performance.
Conflict Management	Examines the primary causes of conflict in remote work and how to resolve conflict in virtual channels empathetically.
Change Management	Reviews the process of communicating, tracking, and evaluating a five-phase change management process.
Learning and Development	Explains the learning and development risks unique to remote workers, as well as components of a thriving virtual learning culture.

investment of resources including time, staff, and funding. A summative evaluation approach was used to determine the extent to which resources were effectively used to achieve the program’s intended benefits (Rossi et al., 2004). Results of a summative evaluation can assist planners in decisions about program continuation. Following a summative approach, our evaluation followed Rockwell and Bennett’s (2004) Targeting Outcomes of Programs (TOP) model. The TOP model aligned well with the study’s logic model, which provided a strong evaluation plan.

The TOP model evolved from Bennett’s original Chain of Events model (Bennett, 1979). Bennett’s early work provided the foundation for the frequently used linear logic model and the outcome sequence model (Hatry, 1999; Israel, 2010). It also paved the way for other conceptual frameworks to assess program outcomes and impact, such as Kirkpatrick’s four-level model (Kirkpatrick, 1994; Kirkpatrick & Kirkpatrick, 2006) and the impact theory model (Rossi et al., 2004). The

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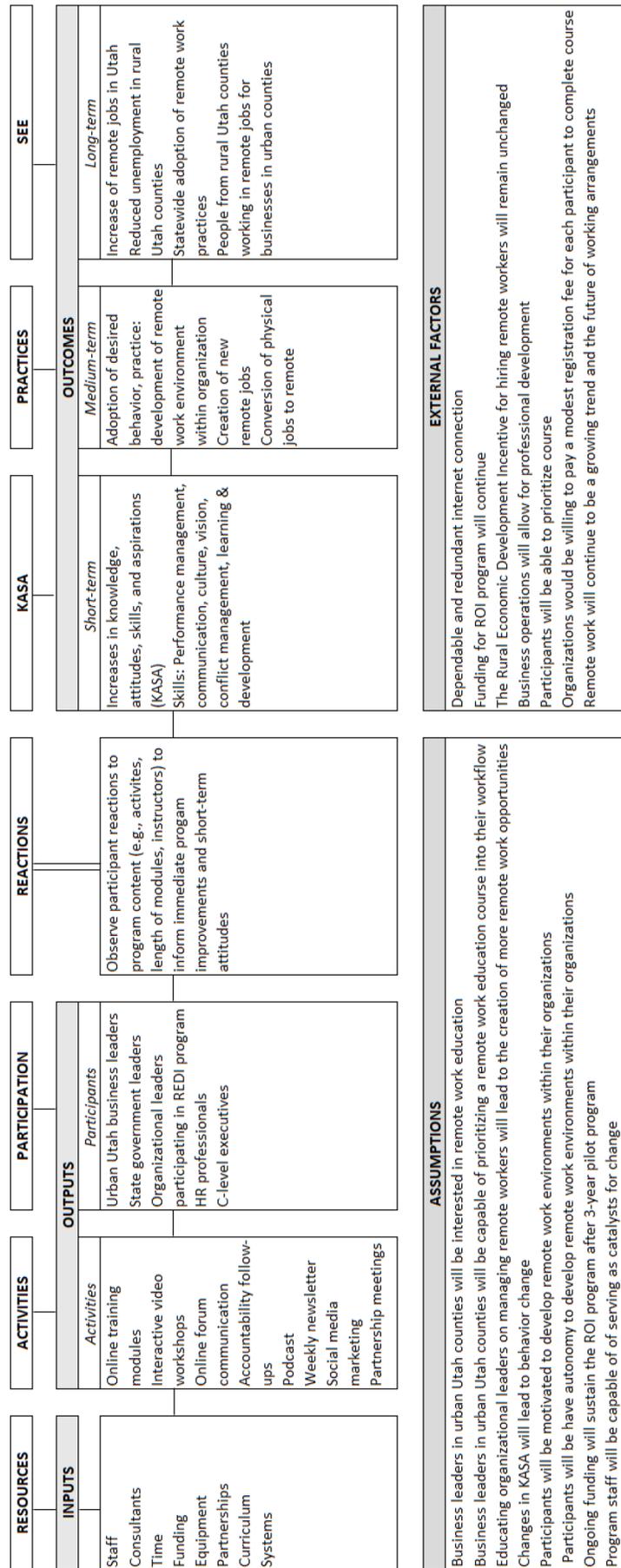


Figure 1. Logic model for the CRWL course.

updated TOP model put forth by Rockwell and Bennett (2004) demonstrated a direct link between program planning and evaluation—a relationship evident in major evaluation approaches such as Stufflebeam’s (2000) Context, Input, Process, and Product (CIPP) evaluation model. The TOP model integrates program planning and program evaluation in seven identical levels, assuming the steps in program planning can be mirrored in program evaluation (Rockwell & Bennett, 2004).

The seven levels of program planning and evaluation in the TOP model are: (a) social, environmental, and economic (SEE) conditions; (b) practices; (c) knowledge, attitudes, skills, and aspirations (KASA); (d) reactions; (e) participation; (f) activities; and (g) resources. However, the steps in the evaluation process (or program performance component) of the TOP begin with resources (lowest level) and progress upwards toward the SEE conditions. The TOP model further divides the program performance component into two categories: (a) implementation (i.e., program fidelity) and (b) outcomes (Rockwell & Bennett, 2004). It aligns the first four levels of program performance (i.e., resources, activities, participants, and reactions) to program fidelity or implementation, and the subsequent three levels (i.e., KASA, practices, and SEE) to outcome evaluation. In this study, our summative evaluation focused on outcomes through an assessment of the fifth level, KASA, which is described as the CRWL’s short-term outcomes; these are participants’ knowledge, attitudes, skills, and aspirations toward creating a remote work environment in their organization after course completion.

Following the TOP model, participants are more likely to create a remote work environment in their organization if they: (a) increase their knowledge on best practices regarding remote work, (b) have positive attitudes toward creating a remote work environment in their organization, (c) progress in their abilities to create a remote work environment, and (d) have positive intentions to create a remote work environment in their organization. Guided by the TOP model, we assume that favorable short-term outcomes likely lead to participants creating a remote work environment in their organization, which likely leads to the provision of job opportunities for rural communities (Rockwell & Bennett, 2004).

## METHODS

### PARTICIPANTS AND RECRUITMENT

The target population was CRWL participants enrolled in the April and June 2020 cohorts. Participants ( $N = 62$ ) were sent a survey which included demographic and telework experience questions. Overall, most participants were female (72%), had remote work leadership experience (68%), a graduate or professional degree (60%), and were, on average, 45 years old.

### PROCEDURE

We used two instruments for data collection, a pre-and posttest to measure changes in knowledge, and an exit questionnaire to assess participants’ attitudes, abilities, and intentions/aspirations toward creating a remote work environment in their organization. Pre- and posttest questions were based on module content (see Table 1 for the seven leadership modules). An entry survey was also used to filter applicants based on the following criteria: (1) access to a laptop or desktop with a webcam and microphone, (2) access to broadband or fiber internet, and (3) the possession of basic computer skills.

### MEASURES

A panel of experts reviewed questionnaires to verify construct validity. We used Cronbach’s alpha ( $\alpha$ ) to determine appropriate internal consistency for each construct variable. Each construct variable is based on the learning objectives for each course module. As such, there were seven construct variables. Each variable contained 6–7 similar items, adjusted to reflect the relevant module content. For example, items included in the construct variable for Vision were to:

- Articulate the importance of leading with a remote work vision
- Identify components of compelling visions in a remote work environment
- Identify steps to address creativity blocks
- Assess my current vision for my team
- Communicate my remote work vision to my team
- Develop a remote work vision for my team
- Evaluate a remote work vision

An alpha value of 0.7 and higher was considered sufficient (Field, 2006; Johnson & Christensen, 2017), and all construct variables had acceptable internal consistency (see Table 2). A five-point Likert-type scale assessed individual items under each construct, and overall mean scores ( $M$ ) for each construct was interpreted using the following improvement scale: 1.00–1.49 = *much worse*, 1.50–2.49 = *somewhat worse*, 2.50–3.49 = *stayed the same*, 3.50–4.49 = *somewhat better*, and 4.50–5.0 = *much better* (Gliem & Gliem, 2003; Harder et al., 2019).

### ANALYTIC STRATEGY

A paired sample  $t$  test determined changes in knowledge. We used descriptive statistics to determine participants’ attitudes, abilities, and intentions toward creating remote work environments based on the seven leadership modules. Examples included, ‘How important is remote work/telework in the future of talent-acquisition?’ and ‘How likely are you to create remote/telework job positions in your organization?’

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**Table 2.** Descriptive Statistics and Internal Consistency Results for Skill Constructs

Skill constructs	<i>M</i>	<i>SD</i>	Cronbach's Alpha ( $\alpha$ )
Vision	4.65	0.46	0.98
Culture	4.70	0.36	0.96
Communication	4.69	0.38	0.98
Performance Management	4.64	0.48	0.99
Conflict Management	4.57	0.46	0.97
Change Management	4.61	0.50	0.99
Learning & Development	4.57	0.57	0.99

## RESULTS

Of the 62 participants enrolled in the April and June cohorts, 47 completed ( $n = 47$ ) all course requirements to earn certificates, resulting in a completion rate of 76%. The average age of participants was 45 years, with the majority (72%) being female. Race categories among participants were close to the U.S. Census Bureau (2019) reports for Utah, with 85% white, approximately 9% Latino, and 4% of two or more races. Ninety-two percent of participants were employed by businesses with headquarters in Utah, with 61% located in urban Utah counties. Most participants (80%), on average, managed 15 employees who worked remotely. Roughly 36% of participants worked in mid-level management positions (e.g., general, regional, or district manager), while 34% held frontline management positions (e.g., office or department manager, or supervisor), with 15% working as top-level executives (e.g., CEO, CFO, or COO). Most of these leaders (61%) held these positions for four or more years.

Nearly all participants earned a degree from a higher education institution, with 60% reporting a graduate or professional degree (e.g., MS, MBA, JD, or PhD), and 34% reporting a bachelor's degree as their highest level of education. In addition, most participants (68%) had remote work leadership experience. However, participants without this experience felt it was important to obtain remote work leadership skills. Before taking the CRWL course, about 69% of participants believed their competitors hired remote workers. All program participants who successfully completed the course ( $n = 47$ ) answered the exit questionnaire assessing attitudes, skills, and intentions. However, demographic data were reported for all enrolled participants in the CRWL course ( $N = 62$ ). For knowledge gain, results showed statistically significant differences between pre- and

posttest scores for all seven modules. These results indicated increases in participants' knowledge from the beginning to the end of the course (see Table 3).

In reference to skills, participants had increased mean scores for each construct variable: vision, culture, communication, performance management, conflict management, change management, and learning and development. It should be noted that the data for skill constructs are not expected to be normally distributed since our sample only contains program participants and is not reflective of a population of adult residents in Utah. Results suggested that after completing the CRWL course, participants perceived they had improved their ability to: (a) communicate organizational vision to their team, (b) develop a communication plan to digitize and build company culture, (c) assess existing communication practices, (d) identify areas of strength and opportunities for both self and team, (e) evaluate current conflict management strategies, (f) evaluate current change management processes, and (g) create a workforce learning and development plan to deal with self and team deficiencies (see Table 2).

After completing the CRWL course, 92% of participants reported they were more likely to create remote work positions in their organization, and 79% indicated they were more likely to hire qualified residents from rural Utah. Almost all participants (97%) believed remote work was important to the future of talent acquisition, and 82% reported that their organization facilitated a remote work environment. All participants also believed the creation of a remote work environment was important in their organization. Additionally, 87% agreed that creating a remote work environment was beneficial for a sustained competitive advantage. All participants felt their value as a leader of remote employees improved upon completing the course.

**Table 3.** Paired t Test Results Assessing Changes in Knowledge of Remote Work Principles

Modules	*M	SD	t	df	p (one-tailed)
Vision	2.94	2.40	9.02	53	< .001
Culture	3.59	3.22	8.11	52	< .001
Communication	0.96	2.19	3.11	49	< .05
Performance Management	1.12	1.67	4.73	49	< .001
Conflict Management	3.10	2.71	8.01	48	< .001
Change Management	2.65	2.50	7.44	48	< .001
Learning & Development	1.96	2.11	6.37	46	< .001

Note. \*M indicates the mean difference between posttest and pretest scores.

There are two limitations of this study. First, it is assumed that all participants answered quiz questions and surveys completely and truthfully. Second, it assumed an appropriate sample size.

## CONCLUSIONS

The long-term aim of the CRWL course is to increase the supply of remote jobs in Utah and reduce unemployment levels in rural counties; however, this study assessed the short-term outcomes of the CRWL course. Early results from our study achieved the intended short-term outcomes of the course. Increases in knowledge among course participants in all learning modules were achieved, as well as in participants' perceptions of their abilities to perform remote work leadership skills. Most participants also had strong intentions and motivations to develop remote work leadership skills and create remote work environments within their organizations.

Overall, preliminary results indicated organizational leaders had a better understanding of the skills needed to leverage remote work arrangements in their organizations, with the intent of creating remote positions in their organization. Based on short-term outcomes, the CRWL course showed positive preliminary results as a pilot economic development strategy in a longer-term effort to increase the supply of jobs in rural Utah. Assessing medium-term outcomes over the next 3–5 years may demonstrate larger increases in the supply of remote jobs in rural areas. The long-term impact would be reduced unemployment in rural counties as remote positions and rural hires increase.

## IMPLICATIONS FOR PRACTICE FOR EXTENSION PROFESSIONALS

With shifting community needs, Extension professionals could adapt their programming efforts to address priority needs. Since the CRWL course supports economic diversification in rural areas, it demonstrates how Extension can develop innovative solutions for addressing unemployment challenges faced by rural communities. In this case, the course was designed to address the critical issue of well-paying and steady jobs in rural Utah by targeting business' professional development in creating remote work environments and their intentions to hire qualified remote workers residing in rural Utah. Understanding participants' experiences in the CRWL course is essential in building an enduring program that fills the need of well-paying and steady jobs that will sustain rural economies.

## RECOMMENDATIONS

From our study, we recommend ongoing formative evaluation for continued improvement of the CRWL course. We also recommend the implementation of follow-up summative evaluations to measure participants' success in creating remote job opportunities that are filled by qualified talent from rural counties. To inform future programmatic efforts, a triangulated mixed-method study is recommended to provide complementary results to better understand how program objectives are achieved (e.g., the ability to implement a supportive remote work environment in organizations). Using an explanatory mixed methods design offers a direct

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comparison of quantitative and qualitative results to expand the understanding of quantitative findings (Creswell & Plano Clark, 2011). By including a qualitative element to future studies, we would expect to gain added insights into participants' motivations to enroll in future cohorts, the details of their experience, and challenges they may face. These insights would provide valuable information that could inform recruitment efforts, curriculum modifications, and gaps in content knowledge and relevant outcomes.

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# A Case of Shifting Focus Friction: Extension Directors and State 4-H Program Leaders' Perspectives on 4-H LGBTQ+ Inclusion

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**Abstract.** Contemporary Lesbian, Gay, Bisexual, Transgender, Queer/Questioning (LGBTQ+) youth are identifying and communicating their identities earlier in childhood than generations before as a result of more awareness and more acceptance of gender identity and sexual minorities by society. A qualitative study of U.S. 4-H program leaders and Extension directors generated an emergent theme around the importance of serving LGBT youth and the resulting implementation challenges. The administrators of 4-H, the largest youth serving organization in the country, recognize the presence of LGBTQ+ youth in 4-H and believe the organization must be inclusive. But challenges remain in ensuring youth experience inclusion at all levels of the organization and to manage political and societal pressures resulting from shifting focus friction.

## INTRODUCTION AND REVIEW OF THE LITERATURE

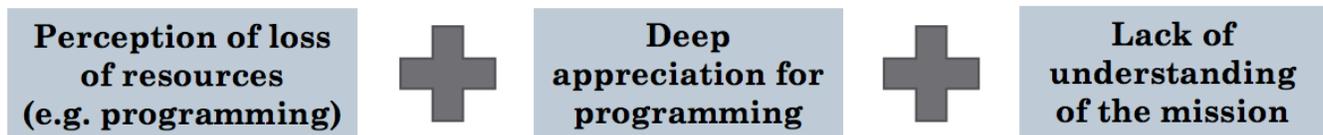
Lesbian, Gay, Bisexual, Transgender, Queer/Questioning (LGBTQ+) youth have emerged as a visible adolescent identity-based group in the United States, and contemporary youth are among the first to come out as LGBTQ+ in large numbers (Russell & Van Campen, 2011). Anti-LGBTQ+ harassment is a common experience for contemporary youth that is linked to significant health risks (Bontempo & D'Augelli, 2002; D'Augelli, et al., 2002; Poteat & Espelage, 2007) including increased risk of being bullied, experiencing violence, and poorer mental health (CDC, 2017). Despite the increased health risks and the scale of the potential risk for this population, 4-H, like other youth organizations, does not yet have a framework for understanding, incorporating, and serving LGBTQ+ youth (Russell, 2002).

A preliminary investigation of a small sample of 4-H LGBTQ+ alumni found that youth did not perceive the 4-H organization as discriminatory. Yet, because of the grassroots nature of the organization, the 4-H club program reflects prevailing dominant cultural norms and attitudes in local communities (Elliott-Engel et al., 2019; Rand et al., 2021). A review of the literature found only limited publications on the topic of LGBTQ+ inclusion within Cooperative Extension, 4-H, or youth work in general. Myers (2008) provided a personal perspective of the stigma felt by lesbian, gay, and

bisexual colleagues within Extension and recognized that "it is a very uncomfortable subject for many" (pp. Abstract). Gonzalez et al. (2020) outlined an initial framework for LGBTQ+ inclusion practices for youth development professionals. The need for LGBTQ+ inclusion in the 4-H program was recognized by Ingram (2006) as well as Walter and Grant (2011). Soule (2019) introduced appropriate terminology and other basic information for Extension youth serving professionals in the *Journal of Human Sciences and Extension*. The *Journal of Youth Development* published four articles (Allen, 2014; Diaz & Kosciw, 2011; Lapointe et al., 2018; Regan et al., 2007) on LGBTQ+ youth development experiences in non-4-H contexts.

Yet, the need for LGBTQ+ inclusion in the 4-H program is increasingly recognized (Ingram 2006; Rand et al., 2021; Walter & Grant, 2011). Soule (2019) introduced appropriate terminology and other recommendations for how Extension professionals serving youth to create inclusive and welcoming environments. There is also a growing discourse on LGBTQ+ youth-development experiences in non-4-H contexts (e.g., Allen, 2014; Diaz & Kosciw, 2011; Lapointe, et al., 2018; Regan, et al., 2007).

Nevertheless, serving LGBTQ+ youth can be experienced as a culturally and politically risky decision (Payne & Smith, 2012). Shifting focus friction (SFF) is a behavior demonstrated by important stakeholders in the organization (Elliott-Engel,



**Figure 1.** Shifting focus friction. Reprinted from “State Administrators’ Perceptions of the Environmental Challenges of Cooperative Extension and the 4-H Program and Their Resulting Adaptive Leadership Behaviors” by Elliott-Engel, Doctoral dissertation. Copyright 2018 by VTechWorks.

2018), often in the form of backlash, when organizational changes cause the stakeholders to experience a loss of valued product or experience due to mismatched conceptions of the organization’s mission, see Figure 1 (Elliott-Engel, 2018). The stakeholders causing this friction are experiencing stress from a real or perceived loss brought about by a change in culture. Extension administrators have recognized that SFF is generated from a deep appreciation for the services provided by Extension paired with a lack of understanding about the organization’s larger mission, which causes the individuals demonstrating SFF to focus on preserving only the services they utilize and appreciate.

Established stakeholders, such as long-term volunteers, tend to resist organizational changes like the implementation of inclusive and welcoming programming for LGBTQ+ youth. Extension audiences with political power also use their relationships and connections to try to thwart shifts in the organization’s mission unless their special interest is maintained. Examples of responses administrators have observed include social media campaigns, personal attacks on administrators, and campaigns directed at legislators and university administrators (Elliott-Engel et al., 2021). Individuals within the organization who are non-adopters because they do not agree with the changes contribute to SFF.

The objective of this project is to share perspectives of state Extension directors and 4-H program leaders on serving LGBTQ+ youth in the traditional 4-H club program and the current status of the 4-H program in serving these audiences.

## METHODS

We designed a research project to explore the organizational environmental factors of Extension and the 4-H program. The topic of sexual and gender minority youth in 4-H emerged organically during this study (Elliott-Engel, 2018). The purpose of the larger study asks:

1. What environmental factors do Extension administrators perceive as being challenges for their Extension organization and the 4-H program?
2. How have Extension administrators responded to the organizational challenges they face?

## PARTICIPANTS AND DATA COLLECTION

We interviewed state Extension directors (n=7) and state 4-H program leaders (n=13) as part of this descriptive qualitative study. These participants were self-volunteers out of the 57 1862 land-grant university (LGU) institutions located in each state, U.S. territory, and the District of Columbia. The participants represent 15 states across all four Association of Public and Land-Grant Universities administrative regions. Because of the small number and public nature of our sample, we identify participants only by pseudonyms to ensure anonymity.

Participants were asked to complete a management assessment tool called a strength, weakness, opportunity, and threat (SWOT) analysis for both Extension and the 4-H program in their state. The SWOT Analysis was a mental prompt prior to interview data collection. Participants were asked questions in one-on-one, semi-structured interviews about their perspectives on the strengths, weaknesses, opportunities, and threats in the organizations as well as about leadership behaviors needed to address the environmental factors they faced. Interviews were conducted and recorded using video conferencing software. The interviews ranged in length from 45-120 minutes long.

## DATA ANALYSIS

Audio data from the interviews were transcribed verbatim. Data analysis commenced when we sensitized ourselves to the data by reading all interviews. The data were line-by-line open coded using Atlas.ti. According to Charmaz (2014), open coding is the process the qualitative researcher uses to break manuscripts into individual concepts or meaning units and to assign meaning to each unit. Code names and code definitions are established and adapted as analysis occurs in an iterative process. Open codes are then grouped into themes. Throughout the data analysis we wrote memos (Charmaz, 2014) and used an iterative and constant comparative process. We also conducted member checking to ensure transparency (Creswell & Poth, 2017). Two populations were used to provide triangulation (Corbin & Strauss, 2008).

# Extension Directors and State 4-H Program Leaders' Perspectives on 4-H LGBTQ+ Inclusion

## CONTEXT

It is important to note the context of data collection (May and June 2018). Guidance for 4-H LGBTQ+ inclusion (Soule, 2019) had been established at the state level, and an Extension peer-reviewed guide sheet affirming best practices for 4-H LGBTQ+ inclusion was placed on the U.S. Department of Agriculture (USDA) website. Soon after, the guidance was removed from the USDA website (Crowder, 2019), and the administrator who approved its publication was reassigned to a new role. Around the same time, a State 4-H program leader was removed by their director of Extension in response to conservative political pushback from posting the same inclusion document (Clayworth, & Crowder, 2018). The removal was accompanied by public statements blaming the individual for posting the LGBTQ+ inclusion document outside the chain of command (Clayworth & Crowder, 2018). These events raised concerns about the political implications of such decisions for Extension administrators and brought the topic of LGBT youth inclusion to the forefront of participants' minds.

## RESULTS

All of the 20 administrators we interviewed recognized the presence of LGBTQ+ youth in their program. They considered the 4-H program to be inclusive from their perspectives, but administrators acknowledged challenges persist. They were navigating external political forces and pushback from front-line adults (both volunteers and professionals) throughout implementation. Above all, these administrators expressed organizational commitment to 4-H inclusion efforts for LGBTQ+ youth.

We have chosen to leave the way administrators referenced lesbian, gay, bisexual, transgender, queer or questioning individuals, and other sexual and gender identities intact to transparently reflect the administrators' discussion. We chose to use LGBT as the heading title because administrators consistently used lesbian, gay, and transgender terminology to refer to the population.

### LGBT YOUTH ARE MEMBERS

All administrators recognized the presence of LGBT youth in their programs. They discussed the challenges their organizations face in serving those youths, and several mentioned efforts they have undertaken to make LGBT youths feel welcome. "Ryan," a 4-H program leader, provided a representative example summarizing the effect on 4-H of societal shifts resulting from more youth starting to publicly identify as LGBT at earlier ages:

They've been part of the program since before [4-H] started. They haven't felt as comfortable coming out and saying that they are trans or bisexual, that they

[are] lesbian [or that] they [are] gay. They haven't felt comfortable saying it [but] now . . . people are more comfortable and it's more of a social topic.

### ADMINISTRATORS BELIEVE THE 4-H PROGRAM IS INCLUSIVE

Every administrator discussed the need to be inclusive and serve LGBT youth in the 4-H program. Eighteen administrators identified their organization as being inclusive. "Rhonda" shared that:

In terms of the whole discussion around LGBTQ [+] . . . I believe we have an open and inclusive organization. I believe we offer a place where young people can feel safe in that space.

Another state's 4-H program leader relayed successes in serving LGBTQ+ youth. "Callie" discussed that in her state's program:

[We have] a lot of transgender youth, which is awesome! With all our event planning, we've had to shift and change a lot in terms of how we do overnight accommodations and how we [provide] support to [transgender youth]. Bathrooms is . . . the easiest [aspect] of [planning]. It's the overnight pieces where [the individual is] in the process of transitioning [that is hard to navigate]. [We are experiencing] a demographic shift [where we now have] different types of sexual orientation [and] also gender identities [participating]. I think . . . it's interesting. We've almost placed [LGBTQ+ inclusion] higher than race and ethnicity.

Even though administrators saw their organizations as being inclusive to LGBTQ+ youth, they each continued to call for further work toward increasing inclusion.

### PUSHBACK TO INCLUSION

LGBTQ+ youth inclusion efforts have experienced pushback. In Susan's state, she was working on efforts to be more intentional about LGBTQ+ youth inclusion, saying, "we are trying to better serve the LGBTQ[+] community." However, she continued, "there's a lot of icky sticky stuff around that in the media and in our counties." Susan uses the words icky sticky to refer to the prejudicial comments and pushback to LGBTQ+ inclusion policy. "A couple of the states have put out [the USDA LGBTQ+ 4-H inclusion guidance]. [That guidance] turned out to be picked up by the press as being very, very negative," relayed Extension director "Timothy." This pushback has occurred from external actors, including the conservative media. Pushback was also experienced from internal membership, as Susan shared above. Ryan shared an illustrative anecdote:

We got a letter a month and a half ago from a parent whose children were not in 4-H yet. They were Clover Kid ages [ages 5 to 8] and [the parent] said that we are taking a radical social agenda and pushing it down everyone's throats. And their kids weren't going to be members of 4-H because, when the adult was in 4-H, that wasn't the case and they don't feel like it's right for everyone... She actually sent this letter to the President of the University, and of course it found its way back down to me for a response. I said "4-H is for everyone. We accept everyone, and we can make modifications and adjustments [to] make sure that everyone feels welcome."

This parent felt the organization had changed and was upset about how she understood 4-H was supporting LGBTQ+ inclusion efforts. With SFF, the feedback loop is not always direct; instead, it often draws in other levels of the organization, as in this case, the university administration.

Pushback against 4-H LGBTQ+ inclusion policy has not only been at the local level. "Curt" shared:

In the last month [USDA] has been censored regarding work with our vulnerable population groups. They're not allowed to speak to us about this. ECOP [Extension Committee on Organization and Policy] issued a national statement reaffirming the land-grant support of working with LGBTQ+[+] youth and understanding that. It's just this reality of [USDA]—our federal partner, who I believe is not demonstrating our civil rights statement or mission. We are trying to grow the program and include all children, and yet, [USDA] is not allowed to support that.

Curt's sentiment was echoed by other 4-H program leaders in his concern about the response at both the federal level (e.g. USDA) and at the local levels.

### COMMITMENT TO INCLUSION

Despite internal and external pushback, the administrators we interviewed remain committed to youth inclusion efforts. However, as "David" notes below, it takes leadership to remain committed to the goal in the face of pushback:

We see some of [that pushback] happening right now in Extension and 4-H in ways that are just very alarming and troubling. So that's where leadership has to be willing to step up and make it clear who we are and what our values are.

Even in the face of pushback, it was recognized the work is and must continue because LGBTQ+ youth and families are present in the communities that Extension and the 4-H

programs serve. As "Karen" went through a list of youth populations in the 4-H program she leads, she said in regards to improving inclusion efforts:

I think, from the point of view of LGBTQ+[+] [identifying individuals], one of the things that is on my radar [is] the work we've [started] doing . . . on a national level—try[ing] to be [both] proactive and responsive . . . to youth who are already members in our community.

Karen was reflecting on the establishment of 4-H LGBTQ+ inclusion guidance and also noting the advancements the 4-H movement is making towards inclusion efforts.

## DISCUSSION

Our findings indicate that administrators are facing challenges to ensure the 4-H program is inclusive of LGBTQ+ youth. Administrators recognized the societal shift of an increased presence of LGBTQ+ visibility because more youth are starting to publicly identify at earlier ages about their respective gender identities and sexual orientations. Administrators recognized LGBTQ+ youth were present in their programs and believed they should be made to feel welcome.

Administrators expressed great concern about the USDA's removal of 4-H LGBTQ+ inclusion guidance from their website and about the removal of a 4-H program leader. These significant responses to stakeholder pushback caused concern that there was not a will to uphold the commitment to inclusion. Administrators were worried that the message from above (LGU administration and the USDA) was that 4-H should not be inclusive. The resulting internal conflict left 4-H leaders grappling with their leadership strategy to ensure they were signaling commitment to LGBTQ+ youth without raising SFF.

Inclusion efforts have been inconsistently welcomed by constituents and Extension professionals. While administrators were explicit in their position of support of LGBTQ+ inclusion, SFF was experienced through pushback from local stakeholders (e.g., parents), the media, and even from the federal government. The threat of SFF did not have to emanate from an Extension administrator's state for them to take note of the potential risk. Even when SFF was not directly experienced by a state, the experiences of other states influenced administrator decision making.

Despite the internal and external pushback, state 4-H administrators remain committed to youth inclusion efforts. Even in the face of pushback, they recognize the need for inclusiveness because LGBTQ+ youth and families are present in the communities served by Extension and 4-H programs. Administrators positioned their support of LGBTQ+ inclusion less as a radical and performative

act of transformative leadership and more as a pragmatic commitment to serving all youth. Thus, acknowledging LGBTQ+ youth and families have been and continue to be in the program is an attempt to build shared understanding with current stakeholders.

Inclusion efforts in some instances have indeed welcomed and promoted more LGBTQ+ youth participation. In others, it has caused significant SFF. With the pushback, states and national leadership recognize that a need remains for the 4-H youth development organization to build a framework for how volunteers and members are prepared to support LGBTQ+ youth, including procedures for how to designate gender on enrollment forms, housing youth at overnight events, and other system level structures that may result in barriers to participation if not addressed.

## IMPLICATIONS

As organizational and youth development leaders at land-grant universities, the individual interviewed during this project recognize LGBTQ+ youths are in their programs, and they want to ensure support for those individuals. Furthermore, 4-H can help provide a positive youth development environment that reduces the risk of being bullied, experiencing violence, and poorer mental health for LGBTQ+ youth.

There are still individuals in communities across the country that remain uncomfortable with efforts for active inclusion of LGBTQ+ individuals in Extension and its 4-H programs. Thus, 4-H has found itself on a cultural fault line. The SFF experienced as a result of inclusion efforts has placed Extension and 4-H administrators in a precarious social and political situation. Nevertheless, administrators remain adamant that their role is to stay committed to inclusion, and they intend to continue to advance efforts in the short term for the long-term benefit of LGBTQ+ youth and their families.

To moderate SFF, administrators will need to focus on building a shared understanding of the objective of 4-H. The objective of the 4-H program is to create positive development opportunities for all youth. Administrators will need to navigate the perceived loss stakeholders may feel when the 4-H program emphasizes welcoming individuals from different backgrounds into the club or when the 4-H program shifts from a focus on project work to a youth-centered focus. The SFF framework gives Extension professionals at all levels of the organization a tool to build better communication and organizational strategies as Extension seeks to be more inclusive.

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## Contributing or Clocking In: A Study of Work Engagement

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**Abstract.** While organizations benefit from lower operating costs resulting from higher quality and quantity of work when employees are engaged in their work, (Risher, 2018). This study used the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2004) to uncover the work engagement levels of county extension agents at one University. Findings suggest Extension agents report Florida Extension agents reported possessing high levels of self-perceived work engagement. These findings were consistent with other previous research (Abbott, 2017; Weyrauch, 2010) which likewise found Extension agents often or very often report dedication.

### INTRODUCTION

Employee turnover in Extension has many consequences, including a loss of institutional knowledge, suffered community relationships, decreased or inconsistent programming, additional strain on remaining staff, and increased costs to the organization to find and train replacement employees (Enslie, 2005; Strong & Harder, 2009). As of 2017, UF/IFAS Florida Extension agents had a turnover rate of 8.7%, more than double the national labor turnover rate at the time (Benge & Harder, 2017). A possible cause of Florida Extension agent turnover problem is low work engagement. Work engagement refers to an employee's psychological connection with his or her work (Bakker & Leiter, 2010). While work engagement is important for quality and quantity of work, reports suggest that only 44% of private sector employees and 38% of public sector employees are engaged in their work (Lavigna, 2017).

Most Americans spend approximately one-third of their waking hours at work (Saks, 2006). It is estimated that across all professions, more than 28% of workers will voluntarily leave their employment each year—but of this percentage, 77% could have been retained by their employers under different circumstances (Work Institute, 2018). Relevant literature has identified several factors which are linked to employee turnover. These include stress, burnout, gender, tenure, job satisfaction, low organizational commitment, and low work engagement (Bakker et al., 2008; Chong & Monroe, 2013). Since the 1990s, work engagement has become increasingly prominent in popular literature and research regarding employee (Schaufeli, 2013). Engaged employees produce

higher quality and quantity of work, and consequently, their organizations can incur lower operating costs (Risher, 2018). Fortunately, work engagement is malleable and can be intentionally increased (Bakker et al., 2008).

Very few studies have investigated work engagement among Extension agents (Abbott, 2017; Martin, 2013; Weyrauch et al., 2010). Russell et al.'s (2019) literature review of Extension burnout and work engagement research identified this notable gap in the research and suggested that more investigation of work engagement within Extension could help administrators design more supportive environments for professionals. This study focused on assessing the work engagement levels of UF/IFAS Extension agents. It is imperative that Florida Extension understand the self-perceived work engagement levels of employees.

### THEORETICAL FRAMEWORK AND REVIEW OF LITERATURE

Work engagement is divided into three dimensions: vigor, dedication, and absorption (Schaufeli et al., 2002). Vigor is characterized by effort and investment in one's work and persistency in the face of work-related difficulties (Schaufeli & Bakker, 2004). A vigorous employee may be characterized by physical and emotional strength, energy, and alertness (Schaufeli & Bakker, 2004).

Dedication corresponds to a sense of pride and meaning in one's work. Dedication is characterized by enthusiasm and inspiration. Employees who possess high dedication find significance in their work. Dedication functions as the opposite of cynicism in the burnout construct (Shirom, 2011).

Absorption refers to the ability to concentrate on their work in a positive manner (Schaufeli & Bakker, 2004). Absorption is evidenced by high levels of concentration and being absorbed in one's work (Schaufeli et al., 2002). Those possessing high absorption may become deeply immersed in work, sometimes accompanied by a difficulty in detaching from it (Mauno et al., 2007).

Vigor and dedication are considered the core dimensions of engagement, while absorption is a consequence of engagement (Bakker et al., 2008). Employee engagement is positively related to positive outcomes such as job satisfaction, organizational commitment, and organizational citizenship behaviors, and is negatively related to detrimental outcomes such as turnover intentions (Saks, 2006) and burnout (Schaufeli et al., 2002).

There are three types of employees in the workplace: engaged employees, not engaged employees, and actively disengaged employees (Crabtree, 2013). Engaged employees are those who find passion in their work and feel connected to their organization. Disengaged employees put the time into their work but do not emotionally connect. Actively disengaged employees are those that are unhappy with their work and act out their unhappiness. These employees may be found actively undermining other employees and the organization (Crabtree, 2013).

While at first glimpse a high degree of employee engagement is positive, detrimental work behaviors can mask themselves as engagement (Rothbard & Patil, 2011). It is possible to confuse workaholism, a detrimental behavior, for high levels of work engagement (van Beek et al., 2011). Workaholics tend to be the most likely to suffer burnout, followed by engaged workaholics, with engaged employees being the least likely to suffer burnout (van Beek et al., 2011).

Weyhrauch et al. (2010) found Extension agents' program areas to be significantly related to their levels of dedication and absorption. Family and Consumer Science agents had higher dedication levels than both Agriculture and Natural Resource agents and 4-H agents. Statistically significant differences were also found for absorption, with Family and Consumer Science agents reporting greater absorption than 4-H agents. No significant differences were found for vigor. In another study of work engagement in Extension, Abbott (2017) found that County Extension Directors (CEDs) possess average above average to high engagement. CEDs reported average vigor, high dedication, and high absorption. The results of the study also showed that CEDs had no significant differences in engagement based on gender, age, or years of service.

## PURPOSE

The purpose of this study was to identify the self-perceived work engagement levels among Florida Extension agents.

Specific objectives were to describe agents' perceptions of (a) vigor, (b) dedication, and (c) absorption.

## METHODS

Researchers used a descriptive research design to guide this study. The University of Florida Institutional Review Board (IRB) approved this study in December 2019. The target for data collection was a census of currently employed Florida Extension Agents. At the time of survey, the population consisted of 351 Extension agents.

The Utrecht Work Engagement Scale (UWES) instrument, developed by Schaufeli and Bakker (2004), was used to collect data. Since the introduction of the UWES, several studies have tested the validity of the relationship between burnout and workaholism, identified causes and consequences of engagement, and investigated how work engagement might impact an employee's health (Salanova et al., 2001; Schaufeli et al., 2002; Montgomery et al., 2003).

The lead researcher created an online version of the instrument managed through Qualtrics. The instrument included three sections. Section A asked participants to identify details of their employment. Participants identified Initiative teams with which they primarily worked (e.g., 4-H Youth Development, Agriculture and Natural Resources, etc.), and selected whether they were a county Extension agent, CED, or a regional or state specialized agent.

Section B consisted of items from the UWES instrument. The UWES instrument presents 17 statements relative to how employees might feel about their work (e.g., At my work I feel bursting with energy). These statements corresponded with one of the three facets of engagement (vigor, dedication, and absorption) (Schaufeli & Bakker, 2004). Participants were asked to rate each statement on a 7-point frequency scale (1 = *Never*, 2 = *Almost never/A few times a year or less*, 3 = *Rarely/Once a month or less*, 4 = *Sometimes/A few times a month*, 5 = *Often/Once a week*, 6 = *Very Often/A few times a week*, and 7 = *Always/Every day*) (Schaufeli & Bakker, 2004). Scores were interpreted as follows: 1.00 - 1.49 = *Never*, 1.50 - 2.49 = *Almost Never*, 2.5 - 3.49 = *Rarely*, 3.49 - 4.45 = *Sometimes*, 4.5 - 5.49 = *Often*, 5.50 - 6.49 = *Very Often*, and 6.50 - 7.00 = *Always*. Section C was one open-ended question which asked, "What do you like most about your job?" Section D addressed demographic questions of gender and age.

The UWES has undergone numerous tests for validity since its creation in 1999, and these tests support the assertion that work engagement is negatively associated with burnout (Schaufeli & Bakker, 2004). The scale has additionally been found to be highly internally consistent (Schaufeli & Bakker, 2004). Cronbach's alpha values for each measure are equal to or exceed .70, with most measurements ranging between .80 and .90 (Salanova et al., 2001). Likewise, the instrument is relatively stable with coefficients for vigor, dedication,

# Assessing Work Engagement of Extension Agents

and absorption at .30, .36, and .46 respectively (Schaufeli & Bakker, 2004). In this study using the UWES among Florida Extension agents, Cronbach's alpha values ranged from .91 to .92. According to George and Mallery (2003), a Cronbach's alpha value greater than .90 indicates excellent internal reliability.

The distribution of the survey was guided by Dillman et al.'s (2014) Tailored Design Method for web-based surveys. Data were collected in January 2020. A final response rate of 65% ( $n = 229$ ) was achieved. However, when deleting incomplete and unusable responses, a final usable response rate of 62% ( $n = 216$ ) was achieved.

The largest group of respondents reported to the 4-H youth Initiative team ( $n = 71$ , 33%), followed by the Agriculture and Natural Resources Initiative team ( $n = 60$ , 27.78%), and the Individual and Family Resources Initiative team ( $n = 34$ , 14.74%). Most respondents reported working as a county Extension agent ( $n = 166$ , 76.2%). The remaining 23.8% of the population was comprised of CEDs, regional specialized agents, and state specialized agents. Most respondents reported as female ( $n = 141$ , 64.7%) and tended to be 30 - 39 years ( $n = 51$ , 23.4%) or 40 - 49 years ( $n = 53$ , 24.3%) old. Those reporting any other age comprised 39.1% ( $n = 85$ ) of the population. Most respondents were white (81.0%,  $n = 171$ ). Asian was the second largest respondent group comprising 9.0% ( $n = 19$ ) of the population. Those reporting Hispanic or Latino ethnicity comprised only 6.0% ( $n = 13$ ) of the population.

Lindner et al. (2001) suggested that non-response issues be addressed any time less than an 85% response rate is achieved. Because this study achieved a 62% response rate, early and late respondents were compared using two-group independent  $t$ -tests. Early respondents were defined as the individuals who responded after the initial invitation and late respondents were defined as individuals who responded after the second reminder. Ary et al. (2006) and Miller and Smith (1983) stated that research has shown similarities usually exist between late respondents and non-respondents. The variables of interest used to compare early and late respondents were the three constructs of work engagement: (a) vigor, (b) dedication, and (c) absorption. No significant differences between early and late respondents were found for agents' levels of (a) vigor,  $t(155) = .55, p > .05$ ; (b) dedication,  $t(155) = 1.00, p > .05$ ; or (c) absorption,  $t(155) = -.78, p > .05$ . The lack of significant differences between early and late respondents suggests the results can be generalized to the target population (Lindner et al., 2001).

Researchers used descriptive statistics to describe the current levels of work engagement possessed by Florida Extension agents as determined by the UWES. They also calculated frequencies, percentages, means, and standard deviations for overall self-perceived employee engagement as

well as each of the three subscales of vigor, dedication, and absorption.

## FINDINGS

The purpose of the study was to describe the current levels of work engagement reported by Florida Extension agents as determined by the UWES. As shown in Table 1, respondents reported being engaged by their work with a tendency to *very often* exhibit dedication ( $M = 5.76, SD = .90$ ), and *often* exhibit absorption ( $M = 5.43, SD = .87$ ) and vigor ( $M = 5.41, SD = .90$ ).

Table 2 displays responses related to the construct of vigor. Responding agents tended to *often* experience vigor. Almost 70% of participants ( $n = 145$ ) responded *very often* or *always* to the statement, "I can continue to working for very long periods of time." Similarly, 67.47% of participants ( $n = 145$ ) responded *very often* or *always* to the statement, "At my work I always persevere, even when things don't go well."

Table 3 displays responses related to the construct of dedication. Respondents reported that they *very often* experience dedication. Over 80% of participants ( $n = 73$ ) responded *very often* or *always* to the statement, "To me, my job is challenging," while 72.72% of participants ( $n = 139$ ) responded *very often* or *always* to the statement, "To me, my job is challenging."

Table 4 displays responses related to the construct of absorption. Participants reported *often* experiencing absorption. Almost 70% ( $n = 147$ ) of participants responded *often* or *very often* to the statement, "Time flies when I am working." Responding agents were least affirmative to the statement, "It is difficult to detach myself from my job," with only 49.05% ( $n = 102$ ) responding *often* or *very often* to the statement, "It is difficult to detach myself from my work."

## CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Florida Extension agents reported possessing high levels of self-perceived overall work engagement. A composite of the average Florida Extension agent *often* experiences vigor, *very often* experiences dedication, and *often* experiences

**Table 1.** Levels of Work Engagement

Construct	M	SD
Dedication	5.76	.90
Absorption	5.41	.90
Vigor	5.43	.87

Note. Scale: 1 = Never, 2 = Almost Never, 3 = Rarely, 4 = Sometimes, 5 = Often, 6 = Very Often, 7 = Always.

**Table 2.** Respondents' Perceptions of Vigor

Question	Never	Almost Never	Rarely	Sometimes	Often	Very Often	Always
	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>
	%	%	%	%	%	%	%
At my work, I feel bursting with energy	2 .94	6 2.83	13 6.13	46 21.70	56 26.42	72 33.96	17 33.96
At my job, I feel strong and vigorous	1 .48	3 1.43	15 7.14	35 16.67	61 29.05	69 32.86	26 12.38
When I get up in the morning, I feel like going to work	3 1.44	3 1.44	16 7.66	34 16.27	44 21.05	84 40.19	25 11.96
I can continue working for very long periods of time	1 .48	2 .96	6 2.87	29 9.57	35 16.75	92 44.02	53 25.36
At my job, I am very resilient, mentally	1 .48	2 .96	11 5.29	29 13.94	48 23.08	81 38.94	36 17.31
At my work, I always persevere, even when things do not go well	1 .48	2 .48	6 2.87	20 9.09	35 22.01	92 37.80	53 29.67

**Table 3.** Dedication Individual Responses

Question	Never	Almost Never	Rarely	Sometimes	Often	Very Often	Always
	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>
	%	%	%	%	%	%	%
I find the work I do full of purpose and meaning	1 .47	0 0.00	5 2.36	21 10.38	38 17.92	93 44.34	51 25.43
I am enthusiastic about my job	1 .47	3 1.42	3 1.89	24 11.32	35 16.51	93 44.34	50 24.06
My job inspires me	2 .96	3 1.44	4 1.92	34 16.35	51 24.52	71 34.13	43 20.67
I am proud of the work I do	2 .96	0 0.00	0 0.0	10 4.78	26 12.44	63 30.14	10 51.67
To me, my job is challenging	4 1.91	1 .48	2 .96	32 15.31	31 14.83	95 45.45	44 21.05

**Table 4.** Absorption Individual Responses

Question	Never	Almost Never	Rarely	Sometimes	Often	Very Often	Always
	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>	<i>f</i>
	%	%	%	%	%	%	%
Time flies when I am working	1 .48	0 0.0	5 2.36	26 12.74	30 14.62	80 38.21	67 31.60
When I am working, I forget everything else around me	4 1.91	8 3.83	17 8.13	51 24.40	48 22.97	60 28.71	21 10.05
I feel happy when I am working intensely	2 .96	3 1.44	7 3.30	23 11.00	46 22.01	84 40.19	44 21.05
I am immersed in my work	1 .48	0 0.0	4 1.91	16 7.66	41 19.62	93 44.50	54 25.84
I get carried away when I am working	2 .96	1 .48	18 8.61	35 16.75	49 23.44	74 35.41	30 14.35
It is difficult to detach myself from my job	5 2.40	7 3.30	21 10.10	40 19.23	33 15.87	54 25.96	48 23.08

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absorption. These findings were consistent with previous research (Abbott, 2017; Weyrauch, 2010) which likewise found that Extension agents often or very often report dedication. Florida Extension agents in this study demonstrated more dedication and absorption than Extension agents in other states (Abbott, 2017).

This study found that many Florida Extension agents reported experiencing absorption often or very often. Florida Extension agents were least affirmative to the statement, “It is difficult to detach myself from my job.” This statement is indicative of the concept of workaholism and thus this is a positive observation that agents may be experiencing healthy levels of absorption, but not over-absorption to the point of burnout. Despite the many studies showing that agents are susceptible to burnout (Ensle, 2005; Harder et al., 2015; Peters et al., 2008; Russell & Liggans, 2020) the population of agents in our study appear to be avoiding unhealthy engagement associated with workaholism. Although these findings are encouraging, Florida Extension Administration should train supervisors and employees in how to identify and prevent workaholism to proactively ensure that agents maintain healthy levels of engagement.

While the typical Florida Extension employee possesses a high level of self-perceived work engagement, in any organization there are those who are less engaged. Approximately 13–19% of participants indicated they experienced vigor, dedication, or absorption *sometimes* or less frequently. Those who suffer from low engagement are not a lost cause, as engagement is malleable and can be increased (Bakker et al., 2008). Work engagement is contagious (Bakker et al., 2008), and thus the engagement of others in an employee’s office, cohort, or team can impact their individual engagement. Team engagement can be increased when team members are collectively involved in collaborative work duties and emotionally connected to teammates (Guchait, 2016). Recognizing this, Extension supervisors should be on the lookout for those who are less engaged and intervene as necessary.

The survey for this study closed in February 2020. Beginning in March 2020, the United States was faced with the COVID-19 pandemic, which changed the way people lived and worked. Florida Extension employees found themselves suddenly working from home and learning to program virtually while dealing with other personal stressors unrelated to work stemming from the pandemic. Early studies have found that the pandemic has had a negative impact on work engagement (Jung et al., 2021; Song et al., 2020). It is recommended that future studies of Extension agent populations are conducted to uncover how this phenomenon may have impacted employee engagement. Those studies should consider age, gender, and familial roles as they relate to the pandemic’s impact on work engagement and should

expand the audience to include the work engagement of regional and state Extension professionals.

Extension leadership currently has a prime opportunity to examine and adjust how employees engage with their careers. Post-pandemic, employees may be re-examining how they interact with the workforce, making attention to engagement imperative among organizations. The higher quality and quantity of work produced by engaged Extension employees can benefit the citizens and communities we serve as they adjust to a “new normal” after this unprecedented event.

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## Toward a More Effective Leader: Planning for the Next Extension Administrator

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**Abstract.** This study was conducted to assess the level at which state Cooperative Extension systems have strategies in place for administrative leadership changes. The data revealed that institutions have succession plans ranging from those that are very robust to very limited in nature. However, only 50% reported having individuals in key positions necessary to support continuity. In addition, 75% noted that it would take a year or more to replace the current Extension director/administrator if the person left immediately. This article provides insight on the successes and challenges associated with retaining top talent and mentoring potential leaders for advancement.

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### INTRODUCTION

The ever-changing administrative transitions among today's universities are viewed as a leadership crisis (Appadurai, 2009). Many are impacted by societal challenges, budget restraints, and other issues that perpetuate declining enrollments (Jaquette & Curs, 2015; Lamm & Israel, 2013). The Cooperative Extension Service has not gone unaffected. Hence, there is a need for strong leadership of state Cooperative Extension systems. There are fewer and fewer campus Extension administrators who matriculate from county and regional roles to specialists and associate deans/directors of Extension. Transition time for a predecessor to work closely with an incoming administrator to ensure continuity is limited. Moreover, additional present-day realities of limited resources, ongoing fiscal deficits, and changing political climates impact stakeholder interests (Monk et al., 2019; Page & Kern, 2018). As a result, Extension needs leaders with the capability to accept the challenges at hand (Berven et al., 2020; Godwin et al., 2011).

Literature on succession planning focuses primarily on business or corporate models, which limits concepts applicable to Extension systems (Lindner, 2001). Lindner (2001) argued that perhaps the most significant divergence between Extension and business is that while Extension's managers have been primarily internal hires or promotions, businesses rely on recruiting both internal and external professionals. Succession planning requires being aware of the major positions within an organization and setting forth action

plans to prepare individuals to fill designated roles (Lindner, 2001; Luna, 2012; Day, 2007). This process broadens the talent pool, providing access to highly skilled employees who are prepared to assume positions as they become available. Succession planning has varied definitions across business and non-profits. There's even more ambiguity among units within the academy (Gonzalez, 2010). Croteau and Wolk (2010) emphasized a need for a paradigm shift: a push for leaders to think critically and execute ways to develop talent within the rank-and-file members of an organization. The benefit to creating a pipeline of future leaders from within is that employees are encouraged and empowered to develop as leaders, which fosters a sense of value and sparks a higher level of commitment.

Succession planning requires being proactive in preparing future leadership. It is not a threat to current administration, but rather it is an opportunity to perpetuate internal strengths. It is essential to prepare for the inevitable resignations or retirements (Bradley et al., 2012; Benge et al., 2015). Despite the intentional succession planning steps taken by corporations (and at times, government agencies), universities, colleges and particularly state Cooperative Extension systems seldom adopt similar practices (Lindner, 2001; Luna 2012; Wallin, 2007). This study was designed to analyze how leaders of state Extension systems internalize succession planning and to assess what plans are in place to nurture future leadership.

The purpose of the study was to assess the succession planning strategies among state Cooperative Extension Systems. The specific objectives were to:

1. Determine whether state Cooperative Extension Systems are preparing for administrative leadership changes.
2. Identify the top personal/core and technical competencies needed by Extension leaders.
3. Describe the institutional knowledge necessary to be successful as an Extension administrator.
4. Determine challenges and best practices associated with effective succession planning.

## METHODS

The study included a convenience sample (Patton, 1990) of Extension leaders who voluntarily provided feedback in response to an online survey. The survey was designed to gather feedback from Extension administrators to assess whether state Cooperative Extension systems are preparing for administrative leadership changes. Extension leadership was defined as the individual directing Extension/land-grant operations. The titles varied among institutions (e.g., Extension Director, 1890 Administrator, Assistant/Associate Dean, Dean). Administrators were identified via purposive sampling approaches by reviewing a list of Extension administrators from all 50 states, compiled to identify those from each 1862 and 1890 land-grant university. Qualitative and quantitative data were collected. Narrative transcriptions from participant feedback (open-ended questions), multiple choice items, and responses to Likert-scale items from the online survey were analyzed using initial coding to identify primary themes. Participant responses were examined using a constant comparative approach (Creswell, 2003; Glasner & Strauss, 1967). In October of 2019, a total of 66 Administrators from 1862 and 1890 institutions in all 50 states were emailed a link to access the survey. A follow-up email was sent to non-responders in December and again in January 2020 in order to improve the response rate.

## RESULTS

A total of 31 Extension administrators (47%) responded to the survey. Two of the respondents did not identify their state or institution. Responses from 25 states were included, representing the Extension regions (some states had both 1862 & 1890 land grants responding). The number of institutions by region were: Northeast (3); North Central (4); Southern (17; this includes 5 1890s); Western (5), and; unknown (2). All who responded were Extension administrators who were in charge of or had the influence to lead succession planning

efforts. The participants were asked a series of questions about their Extension system's administrative structure and succession planning efforts. When asked "Does your state Extension system have a plan to replace talented, highly valued administrators?", 50% responded "Yes", while 39% indicated "No" and 11% were unsure. Twenty-one percent reported that their succession plans do not begin until after the current administrator has announced plans to leave or retire.

When asked, "Who has the primary responsibility for succession planning in your Extension system?", most responses referenced those in upper-level administration, including Deans, Provosts/Vice Presidents and Chancellors/Presidents. However, when asked if they feel as though these individuals have the proficiency (e.g., resources, political acumen, etc.) to successfully select the right person or next leader for future leadership positions, 21% indicated feeling less assurance that this would occur.

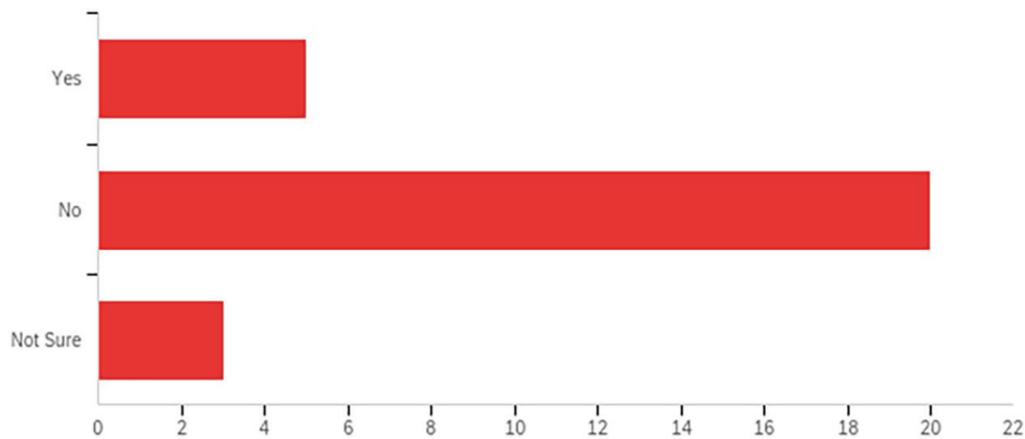
Participants were also asked how long it would take to place a permanent hire (non-interim) in the position if the current Extension administrator left tomorrow. Seven individuals (23%) indicated that their Extension system is poised to replace the person within six months, while the remainder reported longer time frames. Approximately 60% noted that it would take about a year and 14% expressed that it would take longer than a year.

A primary objective of the study was to determine the status of land-grant institutions in regard to succession planning preparation. When asked if Extension systems were currently preparing a specific person to become the next administrative leader, only five reported using this strategy. Figure 1 shows that of the 28 responding to the survey item, a majority of institutions were not preparing their next Extension leader or were unsure whether this practice was occurring.

A total of 71% reported that their Extension system has a written document (e. g., job description, position expectations, etc.) that outlines the skills, competencies, and experiences expected of the next administrative leader. The remaining respondents (29%) indicated that there was no such document or that they were uncertain if one existed. For those (50%) reporting that plans were intact to replace administrators who leave, the level of depth varied. The quotes regarding plans included:

- "We make sure the necessary functions are covered from existing staff either by naming an interim or dispersing the duties. We then evaluate the position relative to current and future needs and make adjustments if necessary while it is open and then proceed. If it is necessary, we name a long term (plan on 1-2 years) interim while we conduct a search. The interim is often someone we have groomed for the position and is typically an internal candidate."

## Toward a More Effective Leader: Planning for the Next Extension Administrator



**Figure 1.** Institutions noting whether someone was in preparation of becoming the next administrative leader.

- “Certain individuals have been recruited and supported by administration in attending/participating in a variety of leadership opportunities and programs. Their leadership is valued and recognized by peers in state and nationally.”
- “We advertise the position.”
- “We typically pull from within our mid-management ranks (district, regional and unit leaders). Many of these individuals have been identified and have completed some advanced leadership and management training.”
- “A group of talented professionals in programmatic leadership roles are currently in positions that groom them to assume administrative leadership roles as they become vacant.”

Follow up questions asked participants to provide their perception of the competencies necessary to ensure leaders are successful. More specifically, the question was, “What top three personal/core competencies do you feel are important for an Extension Administrative Leader?” A list of competencies were provided and an additional option for “other” was included in order to give the chance to “write in” other competencies. A total of three competencies could be selected. The list of competencies provided within the survey was based on related work of several Extension scholars (Atiles, 2018; Berven et al., 2021; Scheer et al., 2011). Figure 2 reveals several competencies identified by those responding to the survey item.

Participants were also asked “What top three technical competencies do you feel are most relevant for an Extension Leader?” Up to three competencies could be selected, including an option to include “other” suggestions. Figure 3 shows the top technical competencies that were viewed as critical to Extension leaders. Note that in addition to the choices

included in the survey, participants also provided additional examples (see “other comments”) deemed as critical competencies.

Administrators were asked to respond to Likert-scale items to further assess their perceptions of succession planning within their Extension system. Table 1 summarizes those responses.

### THE ROLE OF INSTITUTIONAL KNOWLEDGE IN ‘HITTING THE GROUND RUNNING’

It should come as no surprise that most Extension administrators either want leaders who can maintain the status quo if the current conditions are favorable (at least at the beginning) or one who has the fortitude to make transformative changes that everyone can embrace. This is the expectation: for the new leader to ‘hit the ground running’. In fact, this was evident in the findings of this study. Participants were asked to describe the institutional/organizational knowledge necessary to be successful as an Extension Leader. Responses included being knowledgeable of Extension; having the ability to lead/manage effectively, connect with staff, engage in lifelong experiential learning, and be a visionary; and having the wherewithal to step into/take on the role immediately. Given the common phrase that suggests Extension leaders must be able to hit the ground running, this study included a question to gather insight on this notion. More specifically, participants responded to a particular item: “It is often expressed that there is a need for a new administrator to *be ready now* or to *hit the ground running*. Describe what that means to you.” The themes generated from responses related to institutional knowledge in relation to the need to hit the ground running are included in Table 2.

The administrators participating in the study perceived an array of challenges associated with succession planning (Table 3). Several noted that there was a lack of interest by



Figure 2. Core competencies as perceived by Extension administrative leaders.

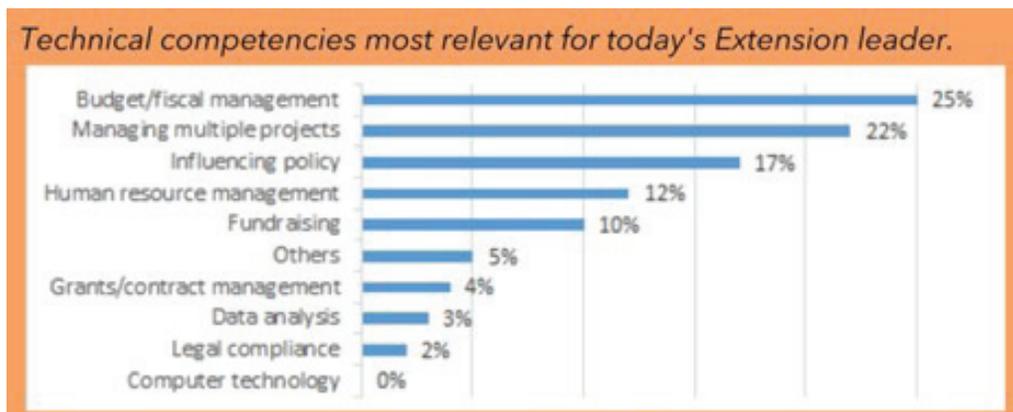


Figure 3. Technical competencies as perceived by Extension administrative leaders. “Other” comments from respondents included technical competencies such as clear communication of organizational vision, a historical perspective of Extension and program development, and an understanding of clientele needs.

Table 1. Extension Administrators' Perceptions of Succession Planning (Within Their Extension System)

#	Items	Mean	S.D.
1	I believe a new administrator must be able to hit the ground running in order to move Extension forward.	3.93	0.77
2	I believe I have a role to play in Extension's succession planning.	4.40	1.08
3	I am sought out for my opinion on strategies for succession planning.	4.13	0.72
4	I believe other administrators value my opinion on succession planning.	4.20	0.65
5	There is a high level of job satisfaction among those in position to move into administration.	3.93	0.68
6	There is a high level of engagement (serving on committees, volunteering to lead initiatives, etc.) among those in position to move into administration.	4.13	0.50
7	My Extension system is very effective in mentoring talented individuals for future administrative positions.	3.20	0.75

Note. Scale ranged from 1 (Strongly Disagree) to 5 (Strongly Agree).

## Toward a More Effective Leader: Planning for the Next Extension Administrator

**Table 2.** Extension Administrator Perceptions of the Notion to “Hit the Ground Running”

Theme	Example Quote
Connect with staff	A new administrator needs to be “ready” to listen, learn, and engage with staff, assess strengths, weaknesses and opportunities and then begin developing a plan to move forward.
Proper Management Skills	In order to “hit the ground running” a new administrator must already have the historical knowledge, self-awareness, emotional intelligence, strategic vision, planning and management skills to do the job immediately at the next level. Many of the skills at the “next level” are typically acquired through experience at the next level. In my opinion this is why succession planning is so difficult.
	An individual needs to be prepared to take on the day to day issues with little flexibility to learn as they go. Can they pick up the baton and carry on without missing too many beats?
Visionary	Come with the passion and a vision to enhance areas that are weak and determine what should not be done again.
Flexibility for Experiential Learning	It means they’re willing to jump in, roll up their sleeves and get to work. They may not know everything, but they’re willing to make decisions, make mistakes and try.
	I think it’s an unrealistic comment. I agree that the individual needs to be ready to lead; however, you cannot fully embrace the job, until you have the job and that takes on-the-job training and support from others in the administrative team.
	I’m hesitant to subscribe to that philosophy. I think we are best served by an individual who feels challenged enough to spend time getting to know the organization from the vantage of their new position, whether they are an internal candidate or external. “Ready now” is fraught with potentially faulty assumptions and biases.

those currently in the system. Others reported that succession planning propels the belief that certain individuals are the ‘favored ones’ guaranteed to get all of the opportunities. Other reasons shared by the respondents included not having qualified individuals, human resource rules hindering the process, budget cuts, no priority on succession planning among decision makers, and a lack of opportunities/not enough positions available.

### LIMITATIONS TO THE STUDY

This study was limited to only those who responded to the survey. Only 1862 and 1890 institutions were included in the study; therefore, 1994 land-grant institutions were not represented among the findings. There was also no comparison among regions or 1862/1890 universities, given the large number of participants among the Southern regions (which also included 1890 institutions in this study).

### DISCUSSION

It is now more important than ever to institute plans for retaining valuable employees, including administrators. In some instances, we take for granted the talent that exists within our organizations or simply miss opportunities to prepare them for specific roles (Lindner, 2001). Other scenarios among Extension systems pertain to economics (Leuci,

**Table 3.** Reasons for Succession Planning Challenges

Question	% of Participants Responding	n
Lack of interest by current employee(s)	16%	5
Not having a qualified internal candidate	13%	4
Perceived favoritism of certain individuals within the system	16%	5
Other	45%	14

2012), thus requiring the time and effort to conduct searches for positions that could be filled by those currently among the ranks. When considering searching for talent from within, there may be the assumption that someone from the outside would be more qualified. It is often rare to find an external hire who has both the skills and institutional knowledge possessed by current employees. Another argument is that those who are already within the system are not fully prepared. If true, that is clearly a reason for succession planning. If a person has been productive in a middle management role, they should not be blamed for being unprepared to move to the next level. Perhaps they have not been given the opportunity for additional professional growth. Louder (2020) reported

that individuals may lack the capacity for leadership simply because they have not had the chance to serve in roles that help further develop their skills.

Based on the findings presented, there is a broad range in which state Extension systems are engaged in succession planning. With only 50% responding that they have what they perceive to be a plan in place, it is unclear why others are not implementing a plan. Another question asked related to the number of times Extension administrators had been replaced within the last two years. Positions were filled with external hires/candidates from 0 to 7 times; positions were filled with internal hires/candidates from 0 to 12 times. Since internal hires are made more frequently, it is important to ensure that these individuals are prepared with the skills necessary for upward mobility.

Institutional knowledge can often be drastically undervalued within academia (Duderstadt, 2007). The majority of administrators participating in this study emphasized the importance of having knowledge and expertise with land-grant systems/Extension, as well as an understanding of how to build partnerships and influence policy within higher education. It is important to note that some of the concepts described cannot be formally taught, only gained through years of experience (Seger & Hill, 2016). Arguably, succession planning can enable Extension systems to prepare individuals for leadership opportunities. It is unrealistic to expect one with few opportunities for professional growth to take on major leadership responsibilities with no challenges (Griffeth et al., 2018; Louder, 2020). Sharing knowledge through informal mentoring or documented efforts is helpful not only to new leaders, but for the organization as a whole.

When asked what administrative leaders perceived to be the most challenging issue in regard to succession planning within Extension, common themes centered on the lack of qualified individuals (see Table 1). This issue can be minimized by investing in employees to help them develop the wherewithal to lead. A few leadership programs and initiatives exist for Extension professionals, including LEAD 21 and the Food Systems Leadership Institute (FSLI). These provide intensive professional development specifically for the next generation of land-grant administrators. Another common expression that stifles considerations for succession planning is the perceived favoritism. When there is a perception among the organization that a lot of meaningful work assignments tend to go to a select few who are most visible and at times most vocal, a morale issue can emerge. Current leaders should make sure both equity and equality are considered and use discernment when identifying the most qualified and sharing options for employees to grow.

Within the Extension landscape, there are obviously prevailing threats as previously discussed, but also new opportunities. Institutions must take a serious look at succession planning as an essential element for cultivating leadership.

Current Extension leaders could build human capital from within while enhancing the organization at multiple levels by targeting aspiring administrators, such as middle managers and unit directors. This, in turn, helps to develop a group of what Wallin (2007) refers to as a core of well-informed, qualified, supportive people who understand the institution. This is indeed an effective way to foster better leadership and relationships from a systematic approach.

A few recommendations are provided below, based on the data examined for this study and from similar work that relates to succession planning. The aim is to help Extension administrators consider best practices to foster leadership development for those with the potential to be future Extension leaders (particularly those interested in campus level administration).

- Seek out a number of potential leaders and not just one or two individuals. This can minimize the perception of favoritism; namely that multiple people may be presumed worthy for advancement.
- Promote self-awareness among those who may be interested in becoming Extension administrators by exposing them to projects that require the use of their abilities. It may be best to allow them to identify their own weaknesses before others offer critiques. Be sure to use this as a coaching opportunity while taking note of their strengths. Although they may not currently be ready for certain leadership roles, continue to monitor progress in consideration for future opportunities.
- Job-shadowing can exist at all levels. Offer employees of promise a chance to join in at meetings where decisions are made. Note their comfort level and ability to offer feedback or suggestions.
- Resist the temptation to micro-manage. Effective administrators cannot sacrifice time on this (if you find yourself constantly doing so, this may be a clue that you need to move on to groom another/others). This is not to say that you should give up on those who don't immediately meet expectations. Make it your responsibility to identify talents of employees, then make assignments accordingly. Acknowledge that some people don't know their own strengths until others help identify what they bring to the table.
- Take heed to the specific core and technical competencies that have been identified by other Extension scholars as critical to today's Extension professional. Many of those same competencies are mentioned in this study. Assisting future Extension leaders in further developing their abilities in these areas could help expedite their route to an administrative position.

- Selecting, hiring, and promoting individuals are only parts of effective succession planning. Even the best hires require some mentoring. Table 1 (item #7) denotes that participants in this study had less than positive perceptions of existing mentoring practices. Reviewing recent literature for practical strategies on being an effective mentor may prove beneficial.
- Look beyond typical inner circles. Future leaders come from all genders, races and cultures. From a Cooperative Extension lens, there is also a need to be inclusive by considering individuals from all program areas. Historically, the leaders of Extension systems have been predominantly from the traditional areas of the agricultural sciences (e. g., animal, food, plant/soil, natural resources, etc.). Selecting primarily from one group of applicants is an inequitable approach. Furthermore, it ignores the fact that many of today's issues in need of Extension's attention deal abundantly with the societal ills and dysfunction among families and communities. In essence, we need leaders with expertise in the social science side of agriculture as much as we need those who understand the dynamics impacting production agriculture within our states and country. When diversity is fully embraced, not only does it help to nurture a better appreciation for those we are leading, but it helps leaders become more perceptive in addressing personal limitations (Griffeth et al., 2018). Leaders set in their comfort zones can impede vision; moving beyond that proverbial barrier can serve as a personal growth machine.

### SUMMARY

Cooperative Extension could benefit from strategies that integrate leadership development into its succession planning efforts. Succession planning is not simply replacing current leaders. In addition, solely relying on institutional wisdom without proper planning is problematic. State Extension systems should create environments where staff and faculty are encouraged to pursue leadership opportunities with confidence. Succession plans should be clearly communicated as an intentional modality that is embraced by upper-level administration in charge of promotional processes at the college level and beyond. Turnover in leadership is inevitable, from resignations to retirements. The key is to prepare for replacements in a strategic manner. Future studies are needed to more closely examine how succession planning fits effectively within complex Extension systems. However, being proactive versus reactive is the initial premise.

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# Development of Instrument to Assess Influence of Extension Conference on Intended Outcomes

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**Abstract.** The Annual Conference for Mississippi State University Extension is the sole event at which the majority of Extension personnel gather for networking, organizational updates, recognition of efforts, and professional development. Extension leaders plan this conference with intended outcomes but without ever evaluating those outcomes beyond attendee satisfaction. We developed an evaluation instrument to determine how certain conference events influence participants' critical psychological states and ultimately, their perceived motivation, professional enrichment, opportunities for networking, professional accountability, and organizational awareness. Rather than simply assessing attendee satisfaction, this instrument may help inform planning for successive Extension conferences and other professional development events.

## INTRODUCTION

The professional development needs of Extension personnel are evolving rapidly along with the context of Extension (Cummings et al., 2015). Owing to the "link between individual performance and organizational performance" (Stone & Bieber, 1997, para. 5), professional development is important to the continued success of Cooperative Extension (Leuci, 2012). Evaluation can be a critical tool to ensure the effectiveness and efficiency of existing educational practice and the best use of resources (Duttweiler, 2008). Intentional and strategic evaluation may also determine if the outcomes of such endeavors align with their intended purpose (Neves et al., 2012).

Traditionally, the Annual Conference for Mississippi State University (MSU) Extension is the sole event at which the majority of Extension personnel gather for networking, organizational updates, recognition of efforts, and professional development, according to MSU Extension Director Dr. G. Jackson (personal communication, January 18, 2019). In recent years, budget restrictions led organizers to shorten this event and eliminate professional development opportunities. However, with "lower participation" from some groups of Extension personnel, there may be a need for "format rejuvenation" (G. Jackson, personal communication, January 18, 2019). We proposed an internal evaluation to help determine the perceived value of the annual conference to Extension personnel, relative to specific aspects of employees' critical psychological states: satisfaction, motivation, accountability, and awareness (Hackman & Oldham, 1975).

The purpose of this study was to develop and pilot test an evaluation instrument to better understand the relationship between the planned events and intended outcomes of Annual Conference as determined by Extension administrators. The data collected from this evaluation will serve to inform Extension administration of needed changes to Annual Conference in order to increase participation and tailor it to meet the changing needs and desires of Extension personnel. The study's objective was to develop an evaluation instrument to determine the relationship between the MSU Extension Annual Conference and attendees' experienced meaningfulness of work (i.e., job satisfaction and job motivation), responsibility for outcomes (i.e., professional accountability), and knowledge of results (i.e., organizational awareness). This article describes the methodology for developing and pilot testing the instrument and discusses the potential application of the conceptual framework as well as the instrument itself in other Extension organizations.

## METHODS

We used Likert's (1967) organizational behavior model as the framework from which to build this evaluation instrument. Likert posited that causal variables, such as leadership behaviors and policies, influence the internal state of an organization, also known as intervening variables. These intervening variables represent the current state of an organization, "reflected in such functions as communication, decision-making, motivation, and related human processes"

(Kruse, 1986, p.10). End-result variables, such as productivity and turnover, are influenced by both intervening and causal variables. “Likert theorized that leaders who attempt organization improvement by concentrating directly on intervening or end-result variables would achieve fewer results. Rather, leaders should direct organizational improvement efforts toward causal variables” (Kruse, 1986, pp.10-11).

For the purpose of this study, we classified the planned conference events and their associated leadership activities as causal variables. These leadership activities were derived from Kruse’s (1986) adaptation of Yukl’s (1989) taxonomy of supervisory leadership behaviors. We used Hackman and Oldman’s (1975) Job Characteristics Model to identify the intervening variables as employees’ three critical psychological states: experienced meaningfulness of the work, experienced responsibility for outcomes of the work, and knowledge of the actual results of the work activities. Finally, we classified the end-result variables as the desired outcomes of the conference identified by the MSU Extension Director. A graphic representation of the conceptual framework and the authors’ alignment of conference events with leadership activities and intended outcomes are provided in Figure 1 and Table 1, respectively.

The evaluation instrument was developed in Qualtrics (Qualtrics.com) and included demographic questions, gen-

eral satisfaction questions, and questions about the conference activities relative to the six leadership activities derived from Kruse (1986). The satisfaction questions included a ranked option, 4-point Likert scales, and open-ended questions. The questions pertaining to the six leadership activities used a forced-choice, Likert 4-point scale. We elected to exclude a *neutral* or *no opinion* option on the scale because research indicates that “respondents do not always interpret and use a midpoint in the way that scale developers intended. Respondents might select a mid-point even if their true opinion is not neutral” (Chyung et al., 2017, p. 17). An additional concern is that “respondents may use a midpoint as a *dumping ground* when they are responding to survey items that are unfamiliar to them, or items that are ambiguous or socially undesirable” (Chyung et al., 2017, p. 17).

Two state Extension specialists in program and staff development and evaluation and an Assistant Professor in the Agricultural Education, Leadership, and Communications program at MSU reviewed the instrument for face and content validity. The instrument was disseminated electronically via Qualtrics to all attendees (N=356) to Annual Conference in 2018 as a pilot test. Additional, open-ended questions asking for feedback on the appropriateness of the questions, as well as the readability or understandability of the statements, were included to inform modifications to the

<b>Causal Variables</b> <b>(Leadership Activities)</b>	<b>Intervening Variables</b> <b>(Critical Psychological States)</b>	<b>End-Result Variables</b> <b>(Intended Outcomes)</b>
Motivating task	Experienced	Motivation
commitment	meaningfulness of the	Enrichment
Interfacing	work	Networking
Informing	Experienced	Professional
Planning & organizing	responsibility for	accountability
	outcomes of the work	
Harmonizing &	Knowledge of the	Organizational
teambuilding	actual results of the	awareness
Recognizing &	work activities	Networking
rewarding		

Figure 1. Conceptual framework for developing evaluation instrument.

# Development of Instrument to Assess Influence of Extension Conference on Intended Outcomes

**Table 1.** Alignment of Conference Events, Leadership Activities, and Intended Outcomes

Leadership Constructs (as defined by Kruse, 1986, p. 20)	Associated Conference Events	Intended Outcomes (MSU Ext Director, personal communication, Jan. 18, 2019)
Motivating task commitment— <i>using personal influence to generate enthusiasm for the work, commitment to task objectives, and compliance with orders and requests.</i>	Guest speakers Extension Director’s address Awards luncheon	Motivation Enrichment
Interfacing— <i>developing contacts and interacting with Program leaders and others to gather information, improve coordination, and discover how the area and county can better adapt to a changing environment.</i>	Guest speakers Professional association meetings Extension Director’s address Awards luncheon	Motivation Networking Enrichment Professional accountability
Informing— <i>disseminating relevant information to staff and informing them about decisions, plans, and events that affect their work.</i>	Professional association meetings Extension Director’s address	Organizational awareness Professional accountability Motivation
Planning & organizing— <i>determining county/area program objectives and strategies and determining how to use personnel and resources efficiently to accomplish objectives.</i>	Professional association meetings	Professional accountability Organizational awareness
Harmonizing & teambuilding— <i>developing teamwork, cooperation, and identification among county and area staff, and facilitating the constrictive resolution of conflicts and disagreements.</i>	Professional association meetings Awards luncheon	Motivation Networking
Recognizing & rewarding— <i>praising effective performance by staff, showing appreciation for special contributions and achievements, and rewarding effective performance with tangible benefits.</i>	Extension Director’s address Awards luncheon	Motivation Networking

final instrument. Cronbach’s Alpha was calculated for internal consistency and reliability of each of the leadership constructs (causal variables), and they all had a score of  $\alpha = .80$  or higher. Mean and standard deviation were determined for descriptive statistics.

## RESULTS

One hundred thirty-four of the 356 email recipients responded, for a response rate of 38%. From the population sample, respondents self-identified as having programmatic responsibilities in 4-H youth development (77.2%), community resource development (62%), agriculture (45.6%), family and consumer sciences (41.8%), and natural resources and Sea Grant (31.6%). The average respondent had 12 years of work experience, and most (77.5%) did not have any prior positions in Cooperative Extension.

### Guiding Question 1: What is the relationship between Extension Annual Conference at MSU and Extension employees’ experienced meaningfulness of work (Motivating and Interfacing causal variables)?

Respondents were asked to identify if the professional association meetings and each of the presenters at annual confer-

ence each made them more excited to be a part of Extension (Table 2). Respondents generally agreed (where 1=Strongly Agree and 4=Strongly Disagree) that these events contributed to their overall motivation relative to the organization, with the exception of the awards luncheon and the motivational guest speaker. However, when asked if the conference overall was effective at generating enthusiasm for respondents’ work, the average response was 2.31 (where 1=Not Effective at all and 4=Very Effective). Likewise, respondents averaged 2.38 when asked if the conference was effective at increasing their commitment to job tasks.

Respondents were asked to identify if certain events were a valuable part of their annual conference experience (Table 3) and if that event should be included in future conferences. Similar to motivation, respondents agreed or strongly agreed that these events were valuable to them. With the exception of ESP, all of the professional association meetings had at least 95% of respondents strongly agree or agree to continue these meetings in the future. Respondents felt that the overall conference was somewhat effective at helping them develop peer contacts (M=2.47) or interact with program leaders (M=2.40) to gather information, improve coordination, and discover how their county or area could better adapt to a changing environment.

**Table 2.** Perceived Effect of Conference Events on Attendees' Motivation (1=Strongly Agree and 4=Strongly Disagree)

Event	Mean	Median	Mode	n*
Awards luncheon	2.39	2	2	109
4-H Association Meeting	2.00	2	2	18
AG Association Meeting	2.15	2	2	40
FCS Association Meeting	2.06	2	2	18
ESP Association Meeting	2.25	2	2	8
Motivational guest speaker	2.36	2	2	97
Information guest speaker	2.18	2	2	99
Extension Director's Address	1.91	2	2	103

\*Not all attendees participated in every event.

**Table 3.** Perceived Value (Enrichment) of Conference Events (1=Strongly Agree and 4=Strongly Disagree)

Event	Mean	Median	Mode	n*
Awards luncheon	2.1	2	2	109
4-H Association Meeting	1.82	2	2	18
Ag Association Meeting	1.82	2	2	40
FCS Association Meeting	1.63	2	2	18
ESP Association Meeting	2.14	2	2	8

\*Not all attendees participated in every event.

**Guiding Question 2: What is the relationship between Extension Annual Conference at MSU and Extension employees' responsibility for outcomes (Informing and Planning causal variables)?**

Respondents agreed that the information presented by each of the guest speakers was relevant (M=1.86, where 1 = Strongly Agree and 4 = Strongly Disagree) and useful (M=1.91). The conference overall, however, was only somewhat effective (where 1=Not At All Effective and 4=Very Effective) at helping participants determine county or area program objectives and strategies (M=2.17), determine how to use resources to accomplish program objectives (M=2.20), receive relevant information pertaining to their jobs (2.50), or learn about decisions, plans, and events that affect their work (M=2.58).

**Guiding Question 3: What is the relationship between Extension Annual Conference at MSU and Extension employees' knowledge of results (Harmonizing and Recognizing causal variables)?**

Respondents were asked to rate the effectiveness (where 1=Not At All Effective and 4=Very Effective) of certain events at enabling them to meet new people who would be helpful to them on the job (Table 4). Respondent felt that the conference was somewhat effective at developing team-

work, cooperation, and identification among county and area staff (M=2.19). They felt it was effective at praising effective performance by staff, showing appreciation for special contributions and achievements, and rewarding effective performance with tangible benefits (M=2.60).

**CONCLUSIONS**

Professional development events are imperative to an organization like Extension, and utilizing evaluation of such events to inform the most warranted professional and organizational development needs each year can make the activities planned and the time spent attending more worthwhile moving forward. Extension Annual Conference, like any other professional development event, is intended to provide relevant, useful, encouraging, and efficient support and information to its professionals (G. Jackson, personal communication, January 18, 2019), and we developed this study to create and pilot test an evaluation instrument to determine if that is happening. The evaluation addressed the lack of research in internal evaluation data and the call for “modifications to the existing format” of the MSU Extension Annual Conference because of “less participation” (G. Jackson, personal communication, January 18, 2019). Developing such an instrument

# Development of Instrument to Assess Influence of Extension Conference on Intended Outcomes

**Table 4.** Perceived Effect of Conference Events on Attendees' Opportunities for Networking (1=Not At All Effective and 4=Very Effective)

Event	Mean	Median	Mode	n*
Awards luncheon	2.35	2	2	109
4-H Association Meeting	2.18	2	3	18
Ag Association Meeting	2.10	2	2	40
FCS Association Meeting	2.41	2	2	18
ESP Association Meeting	2.50	2	3	8

\*Not all attendees participated in every event.

is also supported by the literature, which demonstrates how evaluation studies have influenced Extension practice by informing program direction, resource allocation decisions, and organizational support (Duttweiler, 2008).

Our pilot test revealed a moderate influence of certain constructs in the annual conference format on employees' perceptions of the meaningfulness of their work, and there was little evidence of a strong influence on the other critical psychological states (experienced responsibility for outcomes and knowledge of the actual results). This could be due to several factors that would require further investigation beyond the scope of this study. Nevertheless, these results can help guide future conversations and planning meetings to better tailor events, such as an annual conference, to achieve better outcomes. Additionally, the conceptual framework presented here can be used by other Extension systems in an effort to better understand the influence of their workforce development efforts on employees' psychological states and resulting outcomes such as motivation, professional accountability, and networking, and the instrument can be modified to fit any other institution's annual conference agenda.

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# Building Extension Capacity through Internal Grants: Evaluation of a Mini-Grant Program

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**Abstract.** Acquiring external grants can seem out of reach for Extension professionals, especially early-career professionals. While Cooperative Extension provides opportunities to assist professionals in the grant writing process, Utah State University (USU) Extension facilitates an internal mini grant program to build professionals' capacity to apply for external funds. Using survey data from USU Extension professionals, our study sought to evaluate the processes and outcomes of the internal mini grant program. Our results provided recommendations to improve the program. Our study provides insights that can assist other institutions seeking to implement their own internal mini grant program.

## INTRODUCTION

Cooperative Extension disseminates evidence-based information to the public to fulfill the land grant mission. While institutions facilitate innovative approaches to funding county-level programs (e.g., fee-based programs; Pellien, 2016), Extension county professionals (i.e., faculty and agents) must seek grants to fill funding gaps. However, acquiring grants, which is described as an important area of performance in a roadmap for excellence in Extension (Saunders & Reese, 2011), may seem out of reach for Extension professionals. There are specific factors that have been shown to influence grant awards, including (a) the number of proposals submitted, (b) the number of grant awards available, (c) participation in grant writing training, and (d) the size of the project team (Cole, 2006; Sisk, 2011).

For new Extension professionals, it takes time and resources (e.g., social capital and grant writing training) to develop the collaborative teams often necessary to acquire large external funding awards. Grant funding also impacts scholarly output. For example, one study found higher levels of grant funding were associated with increased publications (Kim et al., 2019), which further highlights the importance of grant funding. Extension can support county professionals by providing professional development opportunities to strengthen their abilities to pursue and receive grant awards.

Many Extension organizations already provide a number of opportunities to build professionals' capacity to apply for grant funding, such as grant writing trainings and men-

toring programs. Yet, there is reason to believe that the act of applying for funding itself is a catalyst for collaboration among Extension professionals (Gould & Ham, 2002). The use of internal grants is one strategy for building the capacity of professionals to promote collaboration while also improving Extension professionals' experience in writing grant applications. In 2014, Utah State University (USU) Extension implemented an internal grant program, referred to as Extension mini grants.

Yearly mini grants have varied in the number of awards made (17 to 59 awards) and the total amount awarded each cycle (approximately \$162,000 to \$543,000), with a total investment to date of more than \$2.7 million. Extension professionals can apply for these internal grants once a year to fund new and innovative Extension programs. Using two grant ceiling amounts based on the scope of the project (one county vs. multiple counties), the mini grant process provides clear instruction guidelines and is blind-reviewed by a peer panel of Extension professionals. The application and review process for Extension mini grants mimics the general process of applying for external grants. The primary goal of the mini grant program is to fund programs that improve the lives of Utah residents. Secondary goals are to build Extension professionals' capacity to apply for external funds, increase collaboration, and provide seed funding for innovative programs that may lead to external funding awards.

USU Extension issues a call for proposals once a year, and the application and selection process has remained relatively the same since the start of the program in 2014.

While the total number of awards and the maximum value of individual awards varies annually based on available administrative funds, the mini grants are an important resource available to Extension professionals. However, the internal mini grant program has never been evaluated to understand the return on investment that occurs for both the institution and Extension professionals, nor have there been any published research studies that describe the benefits of such a program. Therefore, this research-in-brief assesses the processes and outcomes of USU Extension's internal mini grant program.

This study adopts a summative evaluation design to determine the mini grant program's return on investment. Returns on investment can take the form of societal improvements and/or benefits to stakeholders based on measurable program outcomes. Therefore, summative evaluation determines the extent to which resources (i.e., investments) were used effectively and efficiently to achieve the program's intended benefits (Rossi et al., 2004). Results of a summative evaluation can assist planners in decisions about program continuation. In this context, proxy indicators are used to determine the return on investment of the mini grant program. These indicators broadly relate to Extension professionals' grant-writing competencies, secured external funding, and academic outcomes attributed to the mini grant program. Results can provide other Extension organizations with information about the mini grant program and potential outcomes of such a program.

## PURPOSE AND OBJECTIVES

The purpose of this study was to evaluate the application processes and outcomes of the mini grant program at USU Extension. Objectives were to: (a) Describe Extension professionals' perceptions of the eligibility requirements for mini grants; (b) rank factors influencing the mini grant review and selection process; (c) determine the number of journal papers, conference submissions, factsheets, videos, e-courses, and external funding awards acquired as a direct result of the mini grant program; (d) describe the competencies gained by Extension professionals due to writing a mini grant proposal; and (e) understand what improvements could be made to the program to meet the needs of Extension professionals. Objectives (a), (b), and (e) relate to a formative evaluation of the mini grant program, while objectives (c) and (d) relate to the summative evaluation.

## METHODS

This study followed a cross-sectional descriptive design and primary data were gathered from USU Extension professionals. The target population was all Extension professionals who were awarded at least one mini-grant between 2014

and 2019. A sampling frame was created from internal data provided by Extension administration. The sampling frame consisted of 103 Extension professionals ( $N = 103$ ). With a census attempted, the response rate was 80% ( $n = 82$ ). Each of the 82 professionals responding to the survey attained between one to two mini grants on average between 2014 and 2019 ( $M = 1.58$ ,  $SD = 1.00$ ).

Data were gathered in June of 2020 using an online questionnaire administered through Qualtrics. A panel of experts at USU Extension reviewed the questionnaire for face validity. A survey invitation was sent to the target population using Qualtrics. We tracked responses in Qualtrics and sent reminders to professionals who did not complete the survey in one-week intervals. The Associate Vice President for USU Extension sent two reminder emails to professionals of the target population. Data collection lasted three weeks following the initial survey invitation. The researcher-developed questionnaire was designed to gather data on pre-defined outcome indicators of the mini grant program. Leadership at USU Extension communicates the desired outcomes of a mini grant in annual requests for proposals. These include conference papers, journal articles, impact reports, short courses, and, eventually, external funding. The final questionnaire consisted of four sections: (a) professional appointment, (b) grant activity, (c) process evaluation, and (d) outcome evaluation. Extension professionals were also asked to comment on their experiences with the mini grant program via an open-ended question.

The process evaluation focused on two main areas: (a) Extension professionals' perceptions of the eligibility requirements for a mini grant and (b) factors influencing the mini grant review and selection process. The outcome evaluation focused on administratively defined outcome indicators of the mini grant program. These were: (a) Internal collaborations, (b) external collaborations, (c) journal articles, (d) conference papers, (e) factsheets, (f) videos, (g) e-courses, and (h) external funding. Extension professionals were asked to indicate the extent to which their mini grant(s) contributed to changes in each outcome.

Objective (a) was addressed using descriptive frequencies to rank perceived eligibility requirements. For factors influencing the review and selection process (objective b), respondents were asked to rank six pre-defined factors using a rank-order question format in Qualtrics. Respondents ordered the six items based on their rank preference, which resulted in a score between 1 (first rank) and 6 (last rank) for each item. Then, a repeated measures ANOVA was used to determine if there was a statistically significant difference between priority rankings. The null hypothesis was rejected at  $p < 0.05$ . For post-hoc analyses, we conducted a series of pairwise comparisons with a Bonferroni adjustment to  $p$ -values. Extension professionals at USU Extension typically progress through a tenure-track system. Therefore, results

corresponding to objectives (a) and (b) were assessed by tenure status to examine the differences in perceptions between early-career faculty and others with respect to grant requirements and priorities.

Objective (c) was addressed using descriptive analysis (i.e., sum and means of outcomes within groups). First, a Q-Q plot was used to identify outliers in self-reported outcomes. Extreme values were removed from the dataset using the interquartile range method (IQR). However, due to the large variance in self-reported external funding attributed to mini grants across the sample, the mean value for external funding was supported with quartiles to further illustrate the data spread and median (i.e., 50<sup>th</sup> quartile). The total number of outcomes (e.g., journal articles, conference papers, etc.) were divided by the total number of grants across the sample to derive mean outcomes per mini grant. Outcomes of the mini grant program were reported by tenure status and program area. Frequencies were used for objective (d) to describe competency gained by Extension professionals through the mini grant program.

Finally, to analyze qualitative data for the open-ended question related to objective (e), we utilized a two-step coding procedure (Saldaña, 2016) where data was coded as categories emerged (i.e., pattern coding). The data was first coded by one member of the research team, then was reviewed by a second member of the team. If there was a disagreement in coding, the two coders discussed the code and reached an agreement on the suitability of the code.

As a retrospective study, there are two major limitations to our project. It should be noted that all data provided by respondents are approximations and are based on their ability to self-report the ripple effects of funding from the mini grant program. As a result, there may be recall bias in self-reported estimations, particularly with respect to external funding attained due to mini grants. Another limitation is the use of a cross-sectional (non-experimental) design. We are unable to determine a true causal relationship between the acquisition of a mini grant and eventual realization of the described outcomes with respect to academic productivity.

## RESULTS

### SAMPLE CHARACTERISTICS AND GRANT ACTIVITY

More than half the number of respondents were tenured Extension professionals (51%); 26% were untenured, and 23% were categorized as “other” (e.g. 4-H coordinators, administrators). Most Extension professionals listed agriculture and natural resources as their primary program area (49%); 18% listed family and consumer sciences, 10% listed 4-H and youth development, and 2.4% listed economic development. However, 21% were unable to list their primary program area due to assignment splits.

Table 1 shows the level of grant activity by program area from 2014 to 2019. Overall, the majority of mini grant funding (\$994,801) was acquired by professionals in agriculture and natural resources, while the least (\$157,045) was acquired by professionals in 4-H and youth development. However, family and consumer sciences professionals acquired the most grants on a per capita basis (1.87) compared to professionals in other departments (1.63). Extension professionals in agriculture and natural resources acquired individual grants of higher value (\$26,178) compared to professionals in family and consumer sciences (\$24,245) and 4-H and youth development (\$19,630).

### PROCESS EVALUATION

Table 2 shows respondents’ perceptions of various aspects of the application process. Results are presented by tenure status to assess the perceptions of early-career Extension professionals in comparison to others. Overall, most professionals (79%) thought a first-time grant applicant should secure a mentor when writing their proposal; 66% thought all proposals should include a collaboration between county Extension professionals and campus professionals; and 61% thought proposals from junior professionals should be prioritized over others. While these results were somewhat consistent across tenured and untenured professionals, there were differing opinions on one requirement: more than half the number of untenured professionals (60%) indicated grants

**Table 1.** Grant Activity by Program Area

Program Area	n	Total		Mean	
		Number of Grants	Value of Grants	Number of Grants	Value of Grants
4-H & Youth Development	8	13	\$157,045	1.63	\$19,630
Family & Consumer Sciences	15	28	\$363,679	1.87	\$24,245
Agriculture & Natural Resources	38	62	\$994,801	1.63	\$26,178
Other	17	20	\$292,651	1.17	\$17,214
Sample total (2014–2019)		123	\$1,808,176		
*Actual total (2014–2019)		182	\$2,383,571		

*Note.* Actual values provided by USU Extension administration.

**Table 2.** Perceptions of Eligibility Requirements

Rank	Requirement	%							
		Tenured (n = 42)		Untenured (n = 21)		Other (n = 18)		Overall (n = 82)	
		Yes	No	Yes	No	Yes	No	Yes	No
1	A first-time grant applicant should secure a mentor when writing her/his grant proposal	77	23	80	20	83	17	79	21
2	Proposals should include a collaboration between county Extension professionals and campus faculty	67	33	65	35	67	33	66	34
3	Proposals from junior professionals should be prioritized over others	56	44	60	40	72	28	61	39
4	Grants should only be awarded to proposals with a clear potential for external funding	36	64	60	40	72	28	42	58

**Table 3.** Factors for Consideration in Grant Review Process

Overall Rank	Proposals...	Mean Rank (SD)			
		Tenured	Untenured	Other	Overall
1	...with collaboration between campus faculty and county professionals	2.79 (1.66)	2.35 (1.57)	2.11 (1.57)	2.52 (1.62)
1	...that can lead to significant impacts	2.77 (1.69)	2.70 (1.34)	2.94 (1.63)	2.79 (1.58)
2	...with high scores from reviewers	3.54 (1.67)	3.80 (1.94)	3.89 (1.71)	3.69 (1.73)
2	...with a clear plan to secure external funding	3.87 (1.42)	3.30 (1.34)	3.78 (1.22)	3.70 (1.36)
2	...with high relevance to Extension programs	3.59 (1.65)	4.10 (1.41)	4.06 (1.73)	3.83 (1.61)
3	...from junior campus faculty and professionals	4.44 (1.65)	4.75 (1.55)	4.22 (1.59)	4.47 (1.60)

*Note.* Overall rank denotes statistically significant differences between priority rankings for the overall sample based on a repeated measures ANOVA with Bonferroni-adjusted pairwise post hoc tests.

should only be awarded to proposals with a clear potential for external funding. This finding points towards one of the main goals of the mini grant program; it appears untenured professionals believe the program should be used as seed funding to attain external grants. In contrast, only 36% of tenured professionals thought this should be a requirement for mini grant funding.

Table 3 shows respondents' perceptions on priority factors that should influence the grant review and selection process. Results of a repeated measures ANOVA indicated there was a statistically significant difference in priority rankings for the overall sample (Greenhouse-Geisser  $F_{(4.22, 320.87)} = 13.17, p < 0.01$ ). However, results showed there were no statistical differences in the interaction between priority rankings

and groups (tenure vs. untenured vs. other). This suggests the overall ranking holds for all professionals regardless of tenure status. Overall, professionals thought the top factors that should be weighted the most in the review process were (1) proposals that included a collaboration between campus professionals and county professionals and (2) proposals that can lead to significant impacts.

**OUTCOME EVALUATION**

Most respondents (96%) strongly agreed or agreed their mini grants led to an increase in their collaborations with other professionals within USU Extension. Slightly less (74%) strongly agreed or agreed that their mini grants led to an increase in their collaborations with professionals/staff out-

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side USU. In addition, 65% either strongly agreed or agreed their mini grants led to an increase in their peer-reviewed journal publications, and 87% strongly agreed or agreed it led to an increase in their conference paper submissions.

Table 4 provides a summary of the outcomes of the mini-grant program from 2014 to 2019. Overall, mini grants contributed mostly to factsheets (259), conference papers (239), and videos (217). It also led to a total of approximately \$16 million in external funding. Other noteworthy outcomes of the mini grant program were contributions to journal publications (90) and e-courses (17) from both tenured and untenured professionals.

Results indicated that, on average, one mini grant led to one journal paper ( $M = 0.82$ ,  $SD = 1.01$ ), two conference papers ( $M = 2.21$ ,  $SD = 2.12$ ), three factsheets ( $M = 2.68$ ,  $SD = 5.38$ ), one video ( $M = 1.39$ ,  $SD = 4.35$ ), and \$138,469 in external funding ( $M = \$138,496.32$ ,  $SD = \$290,537.27$ : 25<sup>th</sup> Quartile = \$0.00, 50<sup>th</sup> Quartile = \$20,000, 75<sup>th</sup> Quartile = \$78,034).

Professionals were asked to self-assess the competencies they developed as a result of writing a mini grant proposal. Table 5 shows competencies ranked based on the frequency of “Yes” responses to each item. More than half the number of professionals indicated they developed the competencies to seek collaboration with peers, understand the grant writing process, and create a grant budget because of the mini grant program.

Finally, Extension professionals were asked if they had any recommendations to improve the mini-grant program in an open-ended question. Extension Professionals provided a variety of recommendations to improve the mini-grant program ( $n = 46$ ). Response themes were: (a) provide a mentor, training, or other resources to improve grant writing skills; (b) simplify the grant application process; (c) prioritize county-level Extension work instead of campus research; (d) give preference to junior faculty seeking grants; (e) reduce emphasis on attaining external funding from the mini grant; (f) provide training for reviewers; and (g) encourage applications that aim to pilot innovative programs.

**Table 4.** Outcomes by Program Area and Tenure Status

Factor	Level	n	Total					
			Journal	Conference	Factsheets	Videos	E-courses	External funding (\$)
Tenure Status	Tenured	39	59	141	99	151	12	9,358,367
	Untenured	20	18	52	92	20	3	1,614,000
	Other	18	13	46	68	46	2	5,384,105
Program Area	4-H	8	5	21	34	27	3	1,828,822
	FCS	15	19	44	44	117	8	4,398,314
	AG/NR	38	51	126	120	26	2	4,786,336
	Other	16	15	48	61	47	4	5,343,000
<b>Overall Total</b>		<b>77</b>	<b>90</b>	<b>239</b>	<b>259</b>	<b>217</b>	<b>17</b>	<b>16,356,472</b>

**Table 5.** Competency Gained From the Mini Grant Program

Rank	Did the Extension mini-grant program help you to better understand...	%			
		Yes	Unsure	No	Knew before
1	how to seek collaboration with peers?	57	5	5	33
2	the general grant writing process?	51	4	4	42
2	how to create a grant budget?	51	1	4	44
3	how to create a project evaluation plan?	48	13	9	30
4	how to write a concise problem statement?	47	7	5	42
5	how to describe the project methodology?	46	4	8	43
5	how to disseminate grant results?	46	13	5	36
6	how to write project proposal goals?	44	7	5	44
7	how to manage a grant budget?	43	4	8	46

## CONCLUSIONS AND RECOMMENDATIONS

Our study sought to evaluate the internal mini grant program at USU Extension. Results pointed towards several recommendations that can improve the program. This study can help guide other institutions seeking to implement a similar program. First, faculty perceptions toward mini grant eligibility (i.e., objective a) pointed towards needs for mentoring to assist first-time applicants and collaboration on proposals between county and campus professionals. A majority of tenured and untenured professionals reported that mentoring should be secured when writing a grant application. This was also mentioned in respondents' comments. We also recommend providing additional trainings in the form of webinars or workshops to assist new and early career professionals in grant preparation, which supports the findings of previous research (Cole, 2006; Sisk, 2011). Specifically, a professional development webinar can be offered to applicants suggesting tips for writing a better mini grant proposal and addressing common mistakes to avoid.

The results show that administrators can consider weighting specific factors differently in the review and selection of mini grant proposals (i.e., objective b). For example, results show collaborations between county and campus faculty should be prioritized in mini grant proposals. Future requests for mini grant proposals could emphasize the importance of collaborations; this may include promoting collaborations between early career professionals and others as a mentorship and capacity-building activity. During the review process, proposals that demonstrate collaborations between campus and county professionals could receive special consideration when making funding decisions. Another important factor in the review process was potential impact; respondents thought the mini grant proposal program should articulate its potential to generate significant impacts. This suggests the need for a robust evaluation plan as a core component of mini grant proposals. An effective evaluation plan could describe a need, problem statement, and intended outcomes and long-term impacts of the project.

An examination of outcomes of the mini grants program showed several noteworthy findings (i.e., objective c). Outcomes associated with mini grants are important for early career Extension professionals as they work towards tenure and promotion (e.g., peer reviewed articles). However, results also showed some outcomes were just as important for tenured Extension professionals (e.g., external funding). This suggests the mini grant program has differing outcomes for pre-tenure and tenured Extension professionals, and, as such, the resulting tangible value of participating in the mini grant program may be beneficial to all Extension professionals, regardless of tenure status.

Finally, results from the qualitative analysis further confirm the importance of collaboration in mini grant pro-

posals (i.e., objective e). Findings indicate more than half of respondents thought that collaboration between county and campus Extension professionals should be prioritized in the grant review process. Similarly, most respondents also said the mini grant process contributed to their skills in seeking collaboration with colleagues (i.e., objective d). Clearly, the facilitation of collaboration between professionals should be an important aspect of the mini grant program and can be encouraged in the call for proposals.

These findings will inform changes to the mini-grant program at USU Extension. Other universities can use the results of this study to inform the development and implementation of their own internal grant program. Implementing an internal grant program in Extension may have a high potential for return on investment while building the capacity of professionals to be successful in seeking external grant funding and boosting their academic productivity and competencies.

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# Assessing Awareness and Competence of Best Practices in Synchronous Online Instruction During the COVID-19 Pandemic for Clemson Cooperative Extension Professionals

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**Abstract.** Traditional delivery of Extension programming changed overnight in March 2020, when the COVID-19 outbreak forced switching traditional methods to virtual delivery. Extension professionals across South Carolina quickly adapted to online delivery. Concerns over instructor preparedness to use online tools, including functions to assure accessibility, did arise. Findings from this non-experimental, descriptive research study suggested Extension professionals used online tools (primarily Zoom). The majority were not comfortable using many of the features that would enhance instruction, including polling, file transfer, and live-streaming media platforms. Additionally, Microsoft Word and PowerPoint skills to assure accessibility for clientele were lacking.

## INTRODUCTION AND THEORETICAL FRAMEWORK

The outbreak of COVID-19 suddenly put the world on lockdown in 2020. On March 11, 2020 the International Health Regulations Emergency Committee of the World Health Organization (2020) declared the Coronavirus outbreak a pandemic. This situation challenged education systems across the world and forced educators to shift to an online mode of teaching overnight (Dhawan, 2020), asking them to become both instructional designers and tutors and to use tools which few have fluently mastered (Rapanta et al., 2020).

The sudden outbreak of the pandemic forced many schools, businesses, and government agencies to move normal operations online to limit in-person contact. Immediately, a reliance on synchronous web-based software developed to facilitate operations. Although multiple videoconferencing programs have existed for years, many individuals experienced a learning curve while adapting to the new normal (Fawcett et al., 2020).

Synchronous online class sessions, where everyone joins a meeting at a scheduled time, are one way to create engagement when students are remote (Harvard University, 2020). The success of Extension programming is often predicated on in-person events, and numerous Extension programs are planned and scheduled well in advance of the anticipated

programming date (Stokes et al., 2020). Although in-person Extension events are common in South Carolina, Lobley and Quелlette (2017) identified videoconferencing as a means to create an authentic online learning experience for volunteers by reducing the need to rely on face-to-face training. Other Extension studies have identified synchronous learning platforms, such as Zoom, as having engaging, easy-to-use formats (Scanga et al., 2018) when best practices deliver effective virtual meetings or webinars (Robinson & Poling, 2017). Since March, Extension county offices have not been accessible to the public per protocols set by Clemson University and public health officials. Many agents transitioned to digital platforms to continue providing valuable resources and educational programs (The Newsstand, 2020). Rapidly developing technology has facilitated distance education in all disciplines, proving to be popular among students for various reasons, including the convenience and equal opportunities provided (McBrien, 2009). As discussed in the revised ADA 508 standards, agents must provide equal opportunities for those with disabilities through accessibility accommodations that provide assistance in viewing documents and presentations during online instruction (*U.S. General Services Administration*, 2020).

Additionally, following the mission of Cooperative Extension, Master Gardeners in South Carolina earn certification by providing 40 hours of educational service through

volunteer activities (Cooperative Extension, n.d.). However, due to COVID-19, all South Carolina Master Gardener in-person volunteer activities were suspended (Cooperative Extension, n.d.). The Greenville Master Gardeners continued their service activities by initiating the Online Speakers Bureau in October 2020, allowing the certified volunteers to share their expertise through Zoom using an extensive catalog of free online presentations, many of which had multiple sessions (Greater Greenville Master Gardeners, n.d.). These activities warranted the volunteers' training on synchronous delivery features and ADA 508 standards (U.S. General Services Administration, 2020).

To assess the needs of Extension educators, the human capital theory was used to frame this study. Human capital theory aims to evaluate the current knowledge (Schultz, 1961) required for developing career-related skills (Smith, 2010). Furthermore, Smith (1776/1952) noted that not all labor inputs into an economy are quantitative, as they include "the acquired and useful abilities of all inhabitants or members of the society" (p. 119). Schultz (1961) noted that one form of education in human capital theory is on-the-job training, which allows for purposeful knowledge development that furthers an individual's job-specific abilities. Therefore, assessing Extension educators' needs for online delivery technology and accessibility skills informs stakeholders, allowing for opportunities to develop specified human capital that is essential during the pandemic.

The purpose of this study was to assess Clemson Cooperative Extension educators' knowledge and self-perceived competence levels of common synchronous online instruction platforms (i.e., Zoom, Google Meet, Microsoft Teams, and WebEx); their knowledge of features that enhance formal and informal instruction; and their ability to apply accessibility tools to allow all learners equal access to content. For this study, Extension educators included Extension Agents, Extension Specialists, and Master Gardeners in South Carolina. The objectives supporting this purpose were to 1) identify the demographics of Extension educators in South Carolina, 2) determine the most common synchronous learning platform used by Extension educators in South Carolina, 3) identify Extension educators' knowledge and self-perceived competence levels of synchronous learning features related to effective instruction, and 4) identify Extension professionals' knowledge and self-perceived competence levels of best practices for ensuring accessible Microsoft PowerPoint and Word files.

## METHODOLOGY

This non-experimental descriptive research study of Clemson Extension educators included 155 agents and specialists and 122 Master Gardeners in South Carolina. A survey was developed by a research team of agricultural and Extension

educators to evaluate participants' knowledge and self-perceived competence using common synchronous learning platforms and accessibility aspects of Microsoft Word and PowerPoint. Proficiency and accessibility questions used a four-point Likert type scale (i.e., not competent to highly competent) to assess awareness and competency levels using meeting tools. The synchronous learning technology questions were divided into five categories: scheduling/meeting tools, meeting/presentation tools, communication tools, security tools, and recording/transcription tools. Additionally, demographic questions gathered pertinent information about age, gender, highest degree earned, use of synchronous learning before the COVID-19 pandemic, access to equipment, and internet availability.

Before distribution, the survey was evaluated for face and content validity (Privitera, 2017) by five faculty members in agricultural and Extension education, two Extension specialists, and one Master Gardener. The researchers distributed the survey to 277 individual email addresses with a Qualtrics Survey link following the recommendations of Dillman et al. (2014). After the initial email, two reminder emails were sent to non-respondents to increase participation per Dillman et al. (2014). Data analysis evaluated descriptive statistics using SPSS Version 27. Although the survey was evaluated for face and content validity, the survey was not pilot tested prior to distribution due to the urgent need to support Extension educators during the pandemic. Although this research is timely, the lack of a pilot test is a limitation of the study, and the context of the research should be taken into account.

## FINDINGS

The first research objective aimed to identify the demographics of Extension educators in South Carolina. Participants included 71 Extension Agents, 17 Extension Specialists, 55 Master Gardeners, and eight Extension educators who delivered statewide programming spanning 32 counties, resulting in a 51.6% ( $n = 143$ ) response rate for this study. Participants ranged from 23 to 80 years of age, had degrees spanning from bachelor's to doctoral, and represented first-year professionals through those with 42 years of Extension experience (see Table 1).

Extension educators represented various specialization areas from 4-H youth to agribusiness, plant science, animal science, entomology, food systems and safety, forestry and wildlife, health and nutrition, water resources, and rural development.

Determining the most common synchronous learning platform for Extension educators in South Carolina was the second objective of this study. Of the 143 respondents, 142 of them reported primarily using Zoom for synchronous learning. The one other respondent relied on Microsoft Teams for the delivery of synchronous learning. The third

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**Table 1.** Personal and Professional Demographics of Extension Educators in South Carolina

	<i>f</i>	%
<b>Gender</b>		
Male	24	16.8
Female	91	63.6
Prefer not to respond	28	19.6
<b>Age</b>		
23 to 29	19	13.3
30 to 39	20	13.9
40 to 49	15	10.5
50 to 59	18	12.6
60 to 69	30	21.0
70 or older	12	8.4
Did not respond	29	20.3
<b>Highest Degree Earned</b>		
Bachelor's degree	25	17.5
Some master's work	15	10.5
Master's degree	53	37.1
Some doctoral work	7	4.9
Doctoral degree	14	9.8
Did not respond	29	20.3
<b>Years in South Carolina Extension</b>		
0 to 5	35	24.4
6 to 10	12	8.4
11 to 15	11	7.7
16 to 20	4	2.8
21 to 25	3	2.1
26 to 30	2	1.4
31 or more	6	4.2
Did not respond	70	49.0

objective evaluated Extension educators' knowledge and self-perceived competence levels of synchronous learning features related to effective instruction based on their primary technology choice. Table 2 outlines the percentage of participants unaware of features/tools and their competence with each of the identified features/tools in Zoom represented by a mean and standard deviation. The features/tools identified in Table 2 are organized by level of competence, where 1 = not competent, 2 = somewhat competent, 3 = competent, and 4 = highly competent.

The one Extension professional utilizing Microsoft Teams felt competent in using the desktop app, scheduling a meeting, inviting people to a meeting, enabling chat, raising a hand, removing someone from a meeting, muting participants, and recording a meeting. In contrast, they did not feel competent in locking down the meeting, assigning pre-

senters, creating a poll, sharing files, using a whiteboard, or using a web browser to access meetings for Microsoft Teams. Although they were aware of all identified features, they only felt somewhat competent in sharing their screen, using the mobile app, and changing their virtual background.

The final research objective sought to identify Extension educators' knowledge and self-perceived competence levels of best practices for ensuring accessibility to Microsoft PowerPoint and Word files. Many participants were not aware of accessibility features in Microsoft Word or PowerPoint. Table 3 outlines the accessibility features, along with the percentage of respondents who reported they were unaware of each feature. Means and standard deviations are reported for each, and features are sorted based on the educators' perceived levels of competence (see Table 3).

## CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The Extension educators who responded to this study ( $n = 143$ ) included Extension Specialists and county agents representing 32 of the 46 counties in South Carolina. They were a valid representation of the Extension population in South Carolina based on their reported personal and professional characteristics. This study's findings suggested that Extension educators were actively using the synchronous online learning tools available primarily in Zoom post-COVID-19 but were not entirely comfortable with or aware of all available features. Previous studies identified Extension educators using online learning platforms such as Zoom effectively for local, state, national, and international webinars (Lobley & Ouellette, 2017; Robinson & Poling, 2017; Stokes et al., 2020), but we found participants used the online learning platforms somewhat ineffectively. While only 38.5% of participants reported using synchronous learning technology before the pandemic, all Extension educators in this study began utilizing a platform to deliver programming across South Carolina due to the COVID-19 restrictions. Unfortunately, we found a significant lack of competency in features that would enhance instruction and participant engagement, such as the use of polling, file transferring, and livestreaming media platforms, including YouTube. Perhaps these features should be further promoted and added to best practices for participant engagement in online learning platforms, such as those developed by Robinson and Poling (2017).

Furthermore, South Carolina Extension educators lacked knowledge and ability related to accessibility features available for virtual delivery within Microsoft Word and PowerPoint. Nearly one-third of the participants were not aware of the accessibility features available within Word and PowerPoint. Those who were aware lacked the competence to use the features effectively. The most significant competency was found with the proper use of hyperlinks in Microsoft Word,

**Table 2.** South Carolina Extension Educators Awareness and Competence of Zoom Features/Tools

Feature/Tool	Percentage Unaware	$\mu$	SD
Chat	2.8	3.30	.91
Raise hand	3.5	3.28	.90
Invite participants to a meeting	2.1	3.19	.94
Schedule meetings	2.8	3.16	.92
Screen sharing	3.5	3.14	.99
Start a meeting (web browser)	2.1	3.13	.93
Start a meeting (desktop app)	4.9	3.11	1.00
Mute participant	3.5	2.98	.94
Start a meeting (mobile app)	7.0	2.85	1.01
Record meeting	7.0	2.79	1.09
Virtual backgrounds	6.3	2.69	1.00
Promote to panelist	11.2	2.64	1.10
Access recording and transcript	9.8	2.50	.93
Lock meeting room	14.0	2.46	1.02
Polling	17.5	2.41	1.01
Breakout rooms	15.4	2.36	.96
Remove participant	20.3	2.25	1.03
Annotation tools	23.1	2.21	1.03
Virtual whiteboard	27.3	2.13	1.03
File transfer	33.6	1.85	.90
Panelist practice sessions	38.5	1.73	.82
Broadcast (Livestream)	42.7	1.63	.73

Note. For mean, 1 = not competent; 2 = somewhat competent; 3 = competent; 4 = highly competent.

**Table 3.** South Carolina Extension Educators' Awareness and Competence of Accessibility Features in Microsoft PowerPoint and Word

Microsoft	Feature	Percentage Unaware	$\mu$	S.D.
Word	Proper use of hyperlinks	29.4	2.14	1.13
	Adding alternate text for images	30.8	2.12	1.12
	Proper use of headings	33.6	2.06	1.14
	Proper use of tables	32.9	2.03	1.11
	Exporting to PDF (preserving accessibility)	31.5	2.02	1.13
	Proper use of lists	34.3	1.98	1.09
	Identify document language	39.9	1.83	1.02
	Using the accessibility checker	50.3	1.56	.85
PowerPoint	Built-in slide templates	32.2	2.07	1.20
	Export to PDF	32.2	2.03	1.21
	Unique slide titles	36.4	1.90	1.13
	Set reading order of slide contents	39.9	1.81	1.04
	Add alt text to visuals and tables	40.6	1.79	1.01
	Making hyperlinks and tables accessible	39.9	1.78	1.00
	Use the accessibility checker	51.0	1.50	.79

Note. For mean, 1 = not competent; 2 = somewhat competent; 3 = competent; 4 = highly competent.

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but respondents were only *somewhat competent* with a mean of 2.14. This lack of competence is alarming, as using online learning platforms in combination with Microsoft Word and PowerPoint has become an everyday occurrence during the pandemic. Equal opportunities (McBrien, 2009) must be provided to all learners, as discussed in the revised ADA 508 standards. Therefore, agents must provide equal opportunities by making accommodations for those with disabilities to view documents and presentations during online instruction (U.S. General Services Administration, 2020). We recommend specific training related to the ADA 508 standards.

Moving forward, Extension educators should actively seek out in-service activities that explicitly address the knowledge deficit in using accessibility tools in Microsoft products and Zoom; understanding these features is essential to promote best practices in online synchronous delivery skills. Additionally, Extension education programs should consider this study's findings and incorporate the necessary training to prepare future Extension educators in South Carolina with these skills. To best serve the target audience, further investigation is recommended in South Carolina to qualitatively evaluate Extension educators to determine if the needs are specialization- and region-specific. Targeted professional development is necessary and will require identifying support personnel and existing resources. Additionally, this study should be replicated on a national level with other states' Extension personnel to better understand Extension educators' needs in other states. Agricultural education, communications, and leadership programs preparing future Extension educators should also consider the results of this study when designing and evaluating course content for undergraduate and graduate students. Finally, this study should be replicated in South Carolina in two years to determine the change in skill level related to virtual technologies following the heavy emphasis on virtual program delivery.

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# Building Volunteer Engagement in the Tennessee Extension Master Gardener Program from the Ground Up

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**Abstract.** This study was designed to assess key volunteer attitudes and perceptions about local and state Extension Master Gardener (EMG) volunteer programs. EMG volunteers in Tennessee completed a total of 759 surveys between January 22 and March 10, 2020. Survey responses showed there was a strong positive perception of local EMG groups and the connection with the University of Tennessee system overall. When respondents were segmented, answers to key questions showed illuminating differences between volunteers with positive and neutral or negative views of the program. The variations in answers show areas of potential emphasis to support healthy local group culture and broader efficacy of the EMG program.

## INTRODUCTION

The Extension Master Gardener (EMG) program exists to train dedicated and engaged volunteers as educators who can expand the reach of consumer horticulture teaching and training. As a key component of educational outreach from land-grant universities, the EMG program and its volunteers have been the subjects of many different studies conducted from many different perspectives. Research has been conducted on volunteer recruitment, motivation, retention, and attitudes (Relf & McDaniel, 1994; Rohs et al., 2002; Rohs & Westerfield, 1996; Schrock et al., 2000; Strong & Harder, 2011). Studies have also investigated the demographics of the program (Dorn et al., 2018), training methods and resources (Dorn & Hobbs, 2020; Jeannette & Meyer, 2002; Langelotto-Rhodaback, 2010; Moore & Bradley, 2015; Moravec, 2006; Young, 2007), and the impact of educational efforts (Borisova et al., 2012). Most surveys have been conducted on a state, regional, or national level (Bumgarner & Donaldson, 2017; Dorn et al., 2018; Takle et al., 2016; Wilson & Newman, 2011). While these studies provide valuable perspectives on training and outreach, additional research is needed to investigate how volunteer engagement is influenced by attitudes about and participation in local groups.

EMG program organization differs by state; however, EMG programs usually have local units (county and/or regional) that are part of a statewide program, with leadership and membership at both the local and state level. The critical point of entry, training, and engagement is often par-

tially or entirely local. Therefore, the culture and dynamics of the local EMG programs are a cornerstone of effective and sustainable state programs.

Since the lens of the local group is central for EMG volunteers, a complete understanding of volunteer engagement will need to consider local groups' strengths, weaknesses, and needs. These aspects will enable local and statewide training and programming to be designed and implemented to support local group culture while building a strong statewide program that connects these smaller local programs. Therefore, the central goal of this effort was the design, implementation, and analysis of a survey instrument distributed statewide to EMG volunteers that focused on their views and perceptions of the EMG program from the local and statewide level.

A team of Extension specialists, county agents, and EMG volunteers developed this project to support the current and future effectiveness of the EMG program through a better understanding of volunteer engagement and perceptions of the program. Specific objectives were to 1) assess volunteer attitudes about the local and statewide EMG program; 2) identify key differences in perspective between volunteers who have positive views of the program from those with neutral or negative views; and 3) determine needs and opportunities to strengthen local group culture—specifically, attitudes about and participation in local groups—to enhance overall volunteer engagement and impact.

## METHODS

The survey consisted of six question blocks. These included overview and demographics sections and four question blocks focused on local group perception (17 questions), education and outreach preferences (21 questions), local group involvement (five questions), and statewide program perceptions (14 questions). Types of questions included matrix tables based on a 0 to 10 Likert scale, open-ended, multiple choice, multiple check box, dropdown, and individual rating. The research team used this range of question types to provide feedback useful at both the local and state levels. While a formal pilot study was not employed, many of the questions in this survey had been used previously for program evaluation of individual counties conducted by the author team. The survey was constructed and deployed using SurveyMonkey. The project was approved as an exempt project by the University of Tennessee Institutional Review Board (IRB number 19-05491-XM).

On January 7, 2020, volunteers were given notice via email of an upcoming statewide volunteer survey. The survey link was then sent out in emails each addressed to all volunteers in a single county EMG program. These emails were sent on January 22, January 23, and January 28 for eastern, western, and middle Tennessee counties, respectively. Surveyors pulled email addresses for individual volunteers from the state EMG volunteer reporting database where all volunteers report service hours. They used all active EMG volunteer email addresses. A reminder notice was sent via email on March 3. The survey was closed on March 10, 2020 without additional reminder notices in order to prevent data from being impacted by COVID-19 disruptions.

EMG volunteers completed a total of 759 surveys between January 22 and March 10, 2020. The research team sent 2,857 initial emails. Bounce-back emails (33) were removed for a corrected total of 2,824. The overall response rate was 28.4% (759/2,824). This response rate is slightly lower (28% vs. 43%) than the 2015 Tennessee EMG survey (Bumgarner & Donaldson, 2017). The lack of reminder emails due to COVID disruptions likely contributed to the overall response rate. It should also be noted that county-level response rates varied from 11.8% to 51.7%, suggesting that local differences in groups played a role in volunteers' likelihood to respond. Data was compiled at the completion of the survey period. Analysis for this discussion focused on a subset of the survey including 12 questions in the local perception question block (1a) and 13 questions in the statewide program perceptions block (4a). Means, standard deviations, and 95% confidence intervals were calculated to determine if statistically significant differences were present in the responses.

Additional statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS) Version 26. The authors used a K-means clustering technique to create

groups based on specific answers to questions about local groups. The K-means clustering can be used to determine what types of groups exist (Everitt et al., 2011). The questions used for the K-means cluster analysis were scale questions with a Cronbach's alpha of 0.792 to measure scale reliability. The three segments that resulted from the means clustering can be used to describe these groups as statistically significant at a  $p < 0.05$  with a calculated  $p$  value of 0.001.

## RESULTS AND DISCUSSION

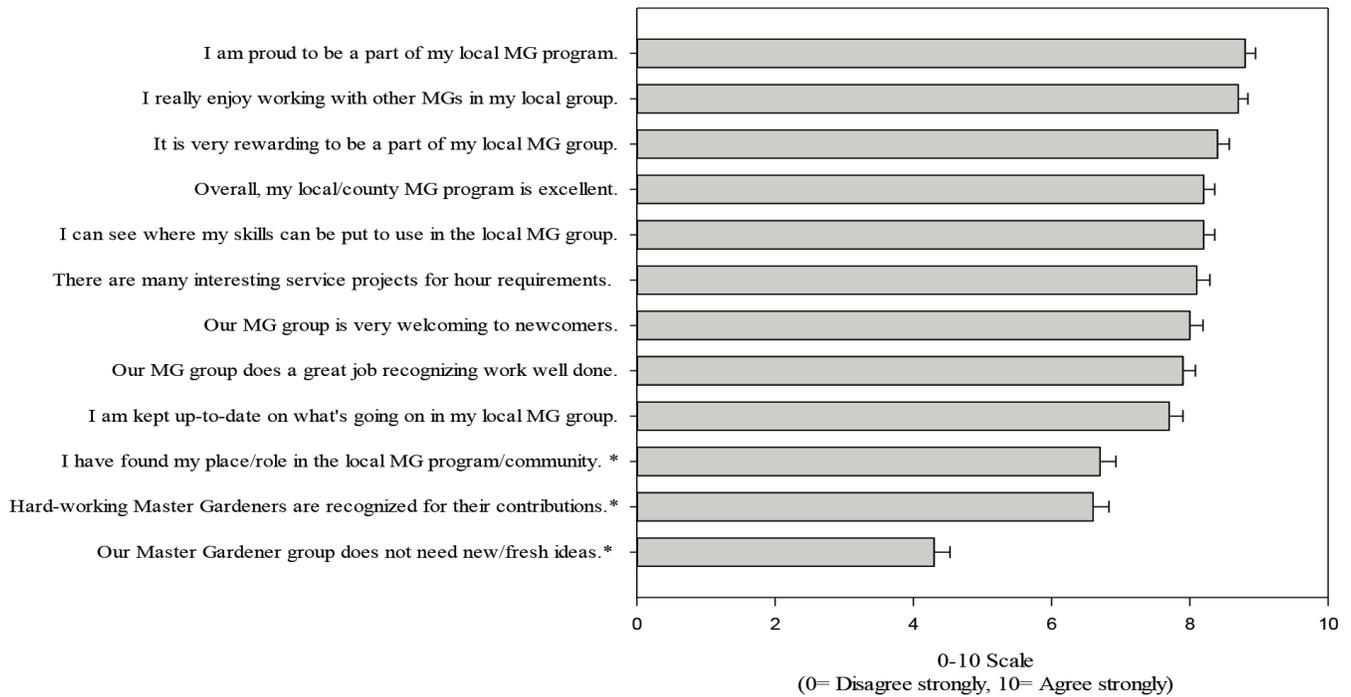
The respondents in this survey were predominately retired (66.4%). However, 22.4% worked full-time, 10.8% worked part time, and 0.4% were students. In terms of experience in the EMG program, 52.1% of participants had been involved in the program for five years or fewer, 32.4% for six-fourteen years, and 15.4% for 15 or more years. Seventy-six percent of respondents were female. A majority (59.3%) of respondents were over the age of 65, while 29.9% were 55-64, and 12.9% were 54 or younger. Of respondents, 95.4% were white, 3.6% were black, and less than 1% each identified as American Indian/Alaskan native, Asian, and Pacific Islander. In terms of ethnicity, 99.1% self-reported as non-Hispanic.

Results demonstrated that the overall volunteer perception of local Master Gardener (MG) programs in Tennessee is positive. As shown in Figure 1, the two statements with the highest mean ratings were "I am proud to be a part of my local MG program" (8.8) and "I really enjoy working with other MGs in the local group" (8.7). Statements regarding service projects, recognition, use of skills, welcoming new members, communication, and overall county program quality were also rated positively, between 7.7 and 8.4. Statements describing the perception of finding "my place/role" (6.7) and "MGs are recognized for their contributions" (6.6) indicate areas of potential weakness in local groups in matching individual skills to outreach positions and recognizing individual contributions.

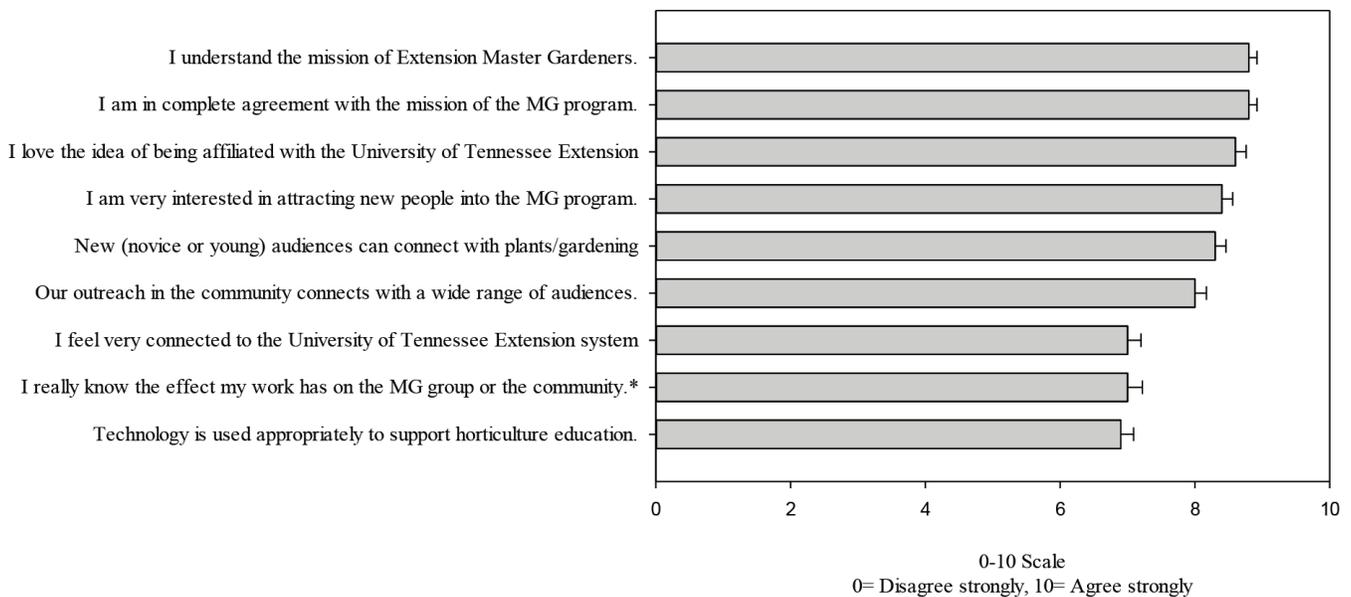
The "negative" statement "Our MG group needs new/fresh ideas" stood out as lower than all other statements, even when the data were reversed for comparison purposes. This statement showed that respondents disagree on whether or not there is a need for new or fresh ideas. This lack of agreement means many do not recognize the need for change, which may create challenges in addressing and implementing change at the local level.

Results demonstrated that overall perceptions of the mission of the EMG program and its connection with the University of Tennessee Extension system were positive (Figure 2). The statements "I understand the mission of EMGs," "I am in complete agreement with the mission of the MG program," and "I love the idea of being affiliated with the University of Tennessee Extension system" were the three highest means (8.8, 8.8, and 8.6, respectively).

## Volunteer Engagement in Tennessee Master Gardener Program



**Figure 1.** Overall perception of local EMG programs as rated in the 12 questions in survey question set 1a (n = 759) with 95% confidence intervals. Items marked with \* were originally written in the negative and reversed for comparison. Originally presented as “I have not really found my place/role in the local MG program/community,” “Some hard-working Master Gardeners are not recognized for their contributions,” and “Our MG group needs new/fresh ideas.”



**Figure 2.** EMG volunteer perspectives on the statewide EMG program as represented by nine questions selected from question set 4a (n=759) with 95% confidence intervals. Note. Items marked with \* were originally written in the negative and reversed for comparison.

Likewise, the statements related to a desire to reach new audiences and perceptions of successfully connecting new audiences (“I am very interested in attracting new people into the MG program,” “Our outreach in the community connects with a wide range of audiences,” and “New (novice or young) audiences can connect with plants/gardening through our educational events.”) were rated highly at 8.4, 8.3, and 8.0 respectively. The fact that these three statements trended lower than the statements about agreeing with or understanding the mission suggest it may be easier for MGs to agree to the abstract concepts of providing education as part of the mission than the practical application of educational methods designed to reach a wide range of community members and integrate new volunteers into the program.

Some statements in the middle of the ranking may illuminate areas of weakness. The statement “I feel very connected to the University of Tennessee Extension system through the MG program” had a mean rating of 7.0, which was significantly lower than the statement about the idea of being affiliated. This indicates that the degree to which our programs deliver content that clearly and practically connects the land-grant university to the volunteer may allow room for improvement. Respondents’ answers also suggest that the use of technology in our programs (6.9 average) could be improved. This survey was carried out prior to COVID-19 restrictions that necessitated an increased use of technology, so this perspective may have changed over the last few months or years.

Using answers to key questions presented in Table 1, the authors grouped respondents into three distinct segments (Table 1): highly positive (66.9%), moderately positive (19.4%), and neutral/negative (13.8%). The data were clustered by applying a clustering algorithm K-means to the data set. The segmentation procedure allowed key differences in group perceptions to be clarified in terms of the local and statewide program. The two positive groups reported that they found the MG program rewarding, welcoming, and excellent overall, while the neutral to negative group had significantly lower ratings for those statements. Respondents classified in the neutral/negative group were more likely to be women and/or under 65 years of age, and those in the moderately positive group were more likely to be certified before 2015 and/or retired.

Key differences among the groups were seen in responses to statements about the need for new ideas, the use of technology, and the connection with the University of Tennessee Extension system. Additionally, an understanding of the mission and an interest in attracting new people to the program were rated differently among the groups. The differences in ratings of statements provides insight into key perspective differences for volunteers that led to some of the lower overall values for statements discussed above. Additionally, these results present opportunities to address concerns of volun-

teers through a better understanding of their attitudes about the program at the local and state level.

## FUTURE APPLICATION

These survey results will be used as a guide for local EMG program efforts and statewide focus areas. The consistency of ratings for local and statewide EMG perceptions suggests that volunteers do not generally make a distinction between local and statewide programs. Therefore, cohesion in local group trainings and organizational protocols can be enhanced by incorporating statewide trainings and aligning the local and state program focus in key areas of mission, connection with the university, and technology.

The contrasting ratings for questions by the different segmented groups illustrate areas of weakness but also opportunity. The low percentage of non-white participants and working respondents, as well as the tendency for those under 65 to be less positive towards their EMG experience, indicates a need to understand and focus on how our programs can better include audiences currently in the minority. These efforts should focus on both removing barriers to access in training and including minority demographics in service and outreach at the local level. Focusing on key needs in building group culture will have benefits internally and externally. For instance, an emphasis on incorporating new members via local outreach in a way that utilizes their interests and skills and respects their views will have multiple benefits. It will integrate new volunteers while providing the opportunity to better reach diverse communities, because different backgrounds and experiences will be represented in the EMG volunteers conducting the teaching and service. These direct and indirect effects can aid the the Extension goal of developing and supporting outreach to new or underserved audiences and communities.

Local EMG program activities can be augmented by broader statewide efforts to connect local service opportunities to the Extension and EMG mission, support technology use to increase program access, and enhance connections between the university and local EMG groups. A properly balanced perspective of using neutral/negative responses as learning opportunities while recognizing the many positive attitudes of the majority of volunteers will be vital during implementation to retain the goodwill and engagement of EMG volunteers committed to the program. Investing in local leadership training and volunteer engagement while communicating a cohesive understanding of the mission and how it can be achieved through dynamic outreach will be key areas of focus moving forward.

# Volunteer Engagement in Tennessee Master Gardener Program

**Table 1.** Member Segmentation of Selected Perspective Statements about Local and Statewide Extension Master Gardener Program

Statement	Highly Positive Group (n = 476)	Positive Group (n = 128)	Neutral to Negative Group (n = 98)
I am proud to be a part of my local MG program.*	9.6**	8.9	4.7**
It is very rewarding to be a part of my local MG group.*	9.2**	8.4	4.2**
Overall, my local/county MG program is excellent.*	9.0**	8.2	4.8**
I can see where my skills can be put to use in the local MG group.*	9.0**	7.7	4.8**
Our MG group is very welcoming to newcomers.*	8.9**	8.3	3.3**
Our MG group does a great job recognizing work well done.*	8.7**	8.0	3.7**
Our MG group does not need new/fresh ideas.+ *	5.6**	1.9	2.0
I understand the mission of Extension Master Gardeners.	9.1**	8.4	8.1
I am very interested in attracting new people into the MG program.	8.8**	8.3	6.4**
Our outreach in the community interacts/connects with a wide range of people	8.6**	7.3	6.0**
I feel very connected to the University of Tennessee Extension system through the Master Gardener program.	7.7**	6.2	4.9**
Technology is used appropriately to support horticulture education.	7.4**	6.5	5.0**

Note. Of the 759 responses to statements in question 1a, 712 could be grouped using the K-means clustering technique.

<sup>a</sup>The data for this statement were reversed for comparison purposes. The higher the rating the better the score. Originally written as “Our MG group needs new/fresh ideas”.

<sup>b</sup>Statements marked with \* were used in the statistical segmentation process to group respondents.

<sup>c</sup>Statements marked with \*\* indicates a statistical difference at the 95% confidence level (the two ratings with \*\* denotes all 3 means are statistically different from each other).

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## Expanding Effective Behavioral Health Literacy Programs to Address Farm Stress

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**Abstract.** Attention to stress and mental health among agricultural producers has increased over recent years, and Cooperative Extension has been active in offering educational workshops and resources to agricultural audiences. This article describes the process and effectiveness of expanding two Michigan State University Extension farm stress management programs to Cooperative Extension in other states through a national Farm Stress Management Summit. The two-day training Summit provided deeper knowledge about farm stress issues and prepared Extension professionals to offer behavioral health programs in their own communities and respective states. Evaluation findings highlight effective aspects of the Summit and next steps.

### INTRODUCTION

Cooperative Extension has a history of providing research-based information to communities to enhance their wellbeing and a mission to provide resources and education to meet community needs. In that spirit, Cooperative Extension has been responsive to concerns about mental health among agricultural producers (Cuthbertson et al., 2020; Inwood et al., 2019; McMoran et al., 2019; Rudolphi & Barnes, 2019), who often face greater rates of stress, depression, and suicide than the general population (Hagan et al., 2019). The purpose of this implementation project was to train Cooperative Extension professionals in two behavioral health literacy programs that address farm stress to enable them to offer the programs in communities in their respective states. Behavioral health literacy programs focus on improving knowledge about signs and symptoms of mental health and substance use, strategies for communicating with someone who is struggling, and skills to encourage help-seeking (Jorm, 2012).

### BACKGROUND ON FARM STRESS MANAGEMENT PROGRAMS

In response to increasing concern from agricultural community members and industry leaders, Michigan State University (MSU) Extension created two educational programs about farm stress to share research-based information about farmers' mental health. *Communicating with Farmers under Stress* (CFS) was created for people who work with and/or support farmers and can be delivered in two to four hours. *Weathering the Storm: How to Cultivate a Productive Mindset* (WTS) was designed for farmers and their families and can be delivered in 60 to 90 minutes. Both programs include topics such as unique stressors in agriculture, how to communicate with distressed producers, active listening and communication skills, tips on referring people to applicable resources, how to handle situations when producers might be considering suicide, background about agricultural economic trends, the impacts and signs of stress, and signs of suicide. The WTS program also includes stress identification and management techniques. From 2016 to 2019, the two farm stress programs were offered to 1,250 people with evaluations indicating programs were effective (Cuthbertson et al., 2021).

### EXPANDING IMPLEMENTATION STRATEGIES TO ADDRESS FARM STRESS

The Farm Stress Management Summit, a two-day training, was held by MSU Extension in January 2019 for Cooperative Extension professionals from other states to be trained in the MSU Extension farm stress programs. Two main objectives were to:

1. Provide in-depth context about farm stress
2. Prepare participants to implement the farm stress programs in their communities.

Mental Health First Aid (MHFA) training was a prerequisite. MHFA is an evidence-based training from the National Council for Mental Wellbeing that teaches participants how to recognize the signs and symptoms of a mental health crisis and how to help someone who may be experiencing one (Hadlaczky et al., 2014; Kitchener & Jorm, 2002).

The Summit lasted two full days. The first day included professional development on topics related to farm stress. See Table 1 for the training agenda. The shared professional development provided current, in-depth information for Summit attendees and generated a cross-state conversation on agricultural markets and farm stressors. On the second day, participants received both farm stress programs, facilitated by MSU Extension professionals; participants then practiced presenting part of one program in small groups with feedback from MSU Extension educators.

After completing training, participants were eligible to offer the programs in their states. Facilitators received access to full training materials, including scripted PowerPoint presentations, instructor guides for facilitation and implementation, and 12 handouts. Materials were designed to be co-branded with universities of new facilitators. MSU Extension included a standardized program evaluation tool and collects data from participating states to assess outcomes from trainings.

Participants included 99 people from 23 states (see Table 2). Nearly one-third (29%) had worked with farm families for over 20 years, and 43% had worked for Cooperative Extension for over 10 years. Half of participants were either current farmers or had farmed in the past.

## EFFECTIVENESS

Summit participants completed evaluations about the effectiveness of the training, improvements in their knowledge, and plans for future action. Evaluations were collected at the Summit for day 1 (n=74) and day 2 (n=62). Table 3 shows evaluation findings from both surveys by outcome.

In addition to quantitative data, researchers collected comments on what participants saw as the most valuable parts of the training. Comments reflected that participants learned a great deal from the Summit, and included statements such as:

- “I learned from the conference and talking to other Extensions, ways to deal with the farmers in distress.”
- “The [Congressman’s] account taught me a lot of lessons about the agrarian imperative.... Knowing the psychological underpinnings for why so many farmers make a seemingly irrational decision will be helpful in the process of connecting with them.”
- “A deeper understanding of the background issues affecting farmers will provide great context on delivering farm stress programming.”
- “The financial information will be helpful when reaching audiences that respond better to empirical reasoning.”
- “I think the discussion of how to have conversations is especially helpful.”

**Table 1.** Agenda for Two-Day Farm Stress Management Training Summit

Type of Presenters	Session Topics
Extension Professionals (e.g., Specialists, Educators, Administrative Leadership)	Agricultural economics, farm family dynamics, mental health and how to help distressed farmers, a role-playing activity with farm situations for discussions.
Elected Officials/Farmer	A state legislator’s personal account of farm stress and agribusiness story.
Practitioner/Farmer	Dr. Michael Rosmann, an Iowa farmer and trained Psychologist, presented on the agrarian imperative and its importance to farmer identity.
University Professors	Overview of agricultural market data and economic trends for different commodities; decision-making tools for financial planning.

# Using the Policy, Systems, and Environmental Framework to Guide Community Development

**Table 2.** Participating States and Universities at MSU Extension Farm Stress Management Training Summit

Cooperative Extension Region	States	Represented Universities and Colleges
Northeast	DE, MD, NY, PA	University of Delaware, University of Maryland, Cornell University & NY Farm Net, Pennsylvania State University
North Central	IA, IL, KS, MI, MN, NE, OH, SD, WI	University of Iowa, University of Illinois, Kansas State University, Michigan State University, Central Lakes College, University of Nebraska, The Ohio State University, South Dakota State University, University of Wisconsin
Southern	MS, NC, VA	Mississippi State University, East Carolina University, North Carolina State University, Virginia Polytechnic and State University
Western	ID, HI, MT, OK, OR, WA	University of Idaho, University of Hawaii, Montana State University, Oklahoma State University, Oregon State University, Washington State University
1890	GA	Fort Valley State University

*Note.* Although the programs were developed for delivery through Cooperative Extension, two Summit participants were not from land-grant institutions.

**Table 3.** Evaluation Findings for the MSU Extension Farm Stress Management Training Summit

Outcome	Indicators
Increased confidence to offer farm stress programs based on Summit training	<ul style="list-style-type: none"> <li>• 96% reported the Mental Health First Aid training prerequisite of the Summit training raised their confidence to offer the farm stress management programs</li> <li>• 97% reported the workshop demonstration portion raised their confidence to offer the farm stress management programs</li> <li>• 86% reported the teaching practice experience portion raised their confidence to offer the farm stress management programs</li> </ul>
Likelihood of implementing programs in home state	<ul style="list-style-type: none"> <li>• 95% reported they were likely to implement the “Communicating with Farmers Under Stress” program</li> <li>• 97% reported they were likely to implement the “Weathering the Storm: How to Cultivate a Productive Mindset” program</li> </ul>
Improved knowledge about various aspects of farm stress	<ul style="list-style-type: none"> <li>• 99% improved their knowledge of agriculture markets and economic trends</li> <li>• 95% improved their knowledge of the agrarian imperative and the importance of farmer identity</li> <li>• 88% of attendees gained knowledge on unique challenges farmers face; others reported they knew this information already</li> <li>• 95% improved their knowledge of how to help farmers in distress with farm business tools</li> </ul>
Improved knowledge of strategies to work with farm-related audiences, and plans for action after training	<ul style="list-style-type: none"> <li>• 83% learned new strategies to work with agribusiness in their local communities</li> <li>• 77% anticipated multi-state collaborations or working together with people from other states that they met at the Summit</li> <li>• 95% reported that the summit provided an opportunity to build a support network for farmers and their families</li> </ul>

## NEXT STEPS

For accessibility and sustainability, and due to increased demand following the Summit, MSU Extension created an online train-the-trainer program for additional states and educators to be able to offer CFS and WTS. This online train-the-trainer program is offered through the learning management system Desire2Learn (D2L), and the course is asynchronous, allowing participants to complete it during the times that work best for them. This online train-the-trainer program is a combination of recorded presentation slides, interactive activities, and online

discussion boards. Completion grants the new facilitator access to an online learning community for individuals trained in the farm stress programs to collaborate and access materials. Upon completion of the course, newly trained facilitators receive a certificate and access to the training materials so they can offer both behavioral health literacy programs in their communities. The online platform is beneficial, because it allows immediate access to updated materials, such as the 20-minute version of WTS, called *Mending the Stress Fence*. Using online training platforms helps keep Extension professionals connected across state lines, enabling collaborative program efforts, sharing of best practices, and constructive problem-solving. As of 2022, MSU Extension farm stress programs are implemented in-person or online in 23 states, indicating that the implementation of train-the-trainer summit was successful. Additionally, evaluation data from the implementation of farm stress programs has provided evidence for effectiveness with audiences (Cuthbertson et al., 2021).

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## School Pantry Cook-Off: An Approach to Educate Youth on Food Insecurity

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**Abstract.** The “School Pantry: Mystery Food Box Cook-Off” is a program designed to increase awareness of food insecurity among youth and teach strategies to prepare healthy foods on a budget. A pre-and-post survey showed a statistically significant difference in participants’ overall knowledge, skills, and confidence level after the program compared to before the program. Findings revealed a hands-on nutrition education strategy via cook-off could educate youth on food insecurity and increase their knowledge and confidence to make healthy and affordable meals at home. Other Extension educators seeking to address food insecurity and food preparation skills among youth can replicate this program.

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### INTRODUCTION

An estimated 37.2 million Americans lived in food-insecure households throughout 2018, and 11.2 million of those were children (Coleman-Jensen et al., 2019). Food insecurity refers to an inability to acquire adequate and nutritious food to sustain a healthy and active life due to a lack of money or other resources (Coleman-Jensen et al., 2019). In Idaho, one in six children is struggling with hunger or food insecurity (Feeding America, 2020). Children living with food insecurity experienced a reduction in the quantity, variety, and frequency of food intake, which may result in an increased risk of negative health, development, and socialization outcomes (Coleman-Jensen et al., 2019; Nord, 2009; U.S. Department of Health and Human Services, 2020). Hence, food insecurity among children is critical because it affects not only children’s current health status but also their future well-being.

Youth involvement in food preparation is associated with healthful food choices and better diet quality (Chu et al., 2014; Woodruff & Kirby, 2013), which may have long term implications that last into adulthood (Utter et al., 2018). Hands-on cooking and nutrition outreach programs that equip youth with knowledge and skills for healthy eating behaviors are a successful approach to restoring our nation’s health (Condrasky & Hegler, 2010). In recent years, Extension has developed and implemented many programs to teach youth about cooking and nutrition (Condrasky et al., 2015; Haynes-Maslow et al., 2020). Yet, the connection between understanding food insecurity and food preparation isn’t often made when teaching youth. Additionally, nutrition outreach programs aimed at food-insecure populations often target adult pantry clients (Hardison-Moody et al., 2015; Rublee et al., 2019), even though food insecurity can occur in parents and children within the same households (Coleman-Jensen et al., 2019). While most parents attempt to protect their children from food insecurity, teenage children in such households may experience more detrimental effects of food insecurity than their younger siblings (Coleman-Jensen et al., 2013; Nord, 2009). Therefore, providing teenagers with educational programs that connect food insecurity with food preparation may be beneficial.

### PROGRAM OVERVIEW

The “School Pantry: Mystery Food Box Cook-Off” is a youth program designed to increase awareness of food insecurity among youth and teach them strategies to prepare healthy foods on a budget. The program was developed by University of Idaho Extension educators and personnel specializing in nutrition education and culinary skills by adapting the MyPlate: Healthy Eating on a Budget resources provided by the U. S. Department

of Agriculture (2021). To implement the program, we collaborated with the family and consumer sciences (FCS) teachers at local middle and high schools. The program consisted of three components: three nutrition education sessions, a tour to the school food pantry, and a mystery food box cook-off with time allotted for each session listed in Table 1.

To assess program outcomes, organizers conducted an end-of-session evaluation with approval from the University of Idaho Institutional Review Board. Parents signed informed consent forms, and students signed written assent forms.

### PROGRAM PARTICIPANTS

In 2019, the program was implemented in three counties in Southern and Eastern Idaho. Participants were students in grades six through twelve. Of the four participating schools, three of them had 43–49% student participation in the free or reduced National School Lunch Program, and one school participated in the Community Eligibility Provision (Idaho State Department of Education, 2019). A total of 97 students participated in the program.

### INSTRUMENTATION, DATA COLLECTION, AND ANALYSIS

A retrospective pre-and-post survey was used to assess program outcomes. The survey included three statements related to knowledge and skills and seven statements related to level of confidence, which were measured using a 5-point Likert-type scale (1= *Very low* to 5 = *Very high*). Demographic questions were also included in the survey. The data were analyzed using Statistical Package for the Social Sciences (SPSS version 25.0). Means, standard deviations, and paired sample *t* tests were computed from the data to identify changes in participants’ knowledge and skills, as well confidence levels, before and after participating in the program.

**Table 1.** School Pantry: Mystery Food Box Cook-Off Program Components

Program components	Description
Nutrition education sessions (50 minutes each)	Students participate in three in-class sessions:  Session 1: Food insecurity <ul style="list-style-type: none"> <li>• Introduction to program</li> <li>• Definition of food insecurity (low and very low food security)</li> <li>• Prevalence of food insecurity in Idaho</li> <li>• Impacts of food insecurity on individuals and families</li> <li>• Local resources for individuals and families in need</li> </ul>
	Session 2: Preparing healthy foods on a budget <ul style="list-style-type: none"> <li>• Healthy eating patterns using MyPlate</li> <li>• Meal planning for healthy and balanced meals</li> <li>• Comparing food costs to save dollars</li> <li>• Reading Nutrition Facts labels and ingredient lists</li> </ul>
	Session 3: Food preparation skills <ul style="list-style-type: none"> <li>• Cooking basics using sensory characteristics (appearance, flavor, texture, temperature)</li> <li>• How to select and read recipes</li> <li>• Safe food handling and preparation (clean, separate, cook, and chill, based on the core four Fight BAC! practices by the Partnership for Food Safety Education, 2021)</li> </ul>
School pantry tour (15 minutes)	Students visit food pantry to learn about available resources for people in need
Mystery Food Box Cook-off (50 minutes)	Students are randomly assigned to a team for the cook-off Each team receives a mystery box containing typical pantry foods and at least one food item from each MyPlate food group (such as canned fish, chicken, or beans; pasta or brown rice; canned fruits, and canned vegetables) Students work in teams to plan, prepare, and present a dish to judges using foods from the mystery box

# Using School Pantry Cook-Off to Educate Youth on Food Insecurity

## RESULTS

Of the 97 participants, 72 completed the survey for a 74% response rate. Results showed that 66% of participants were female. Students were White (75.3%), American Indian (9.6%), African American (2.7%), and Asian (2.7%); approximately 20% were Hispanic. Table 2 shows that participants had higher mean scores after program participation than before for all statements related to knowledge and skills as well as their confidence level.

The paired sample *t* test (Table 3) shows a statistically significant difference in participants' overall knowledge and skills before and after program participation [ $t$  ( $df = 68$ ;  $\alpha = .005$ ) = 7.91,  $p = .001$ ]. There was also a statistically significant difference in participants' overall level of confidence in applying the practices [ $t$  ( $df = 69$ ;  $\alpha = .005$ ) = 9.59,  $p = .001$ ]. This indicates that the program could significantly increase the participants' knowledge and confidence about food insecurity, Nutrition Facts label reading, and at-home meal preparation.

**Table 2.** Mean Ratings for Knowledge, Skills, and Level of Confidence in the Program

	No. of respondents	Pretest <i>M</i> ( <i>SD</i> )	Posttest <i>M</i> ( <i>SD</i> )
<b>Knowledge and Skills</b>			
I am aware of food insecurity and understand its impact	70	2.80 (1.15)	4.00 (1.01)
I can identify healthy food using MyPlate	70	3.44 (1.14)	4.23 (0.78)
I understand the cost savings of preparing meals at home versus eating out	68	3.46 (1.17)	4.31 (0.76)
<b>Summated mean score</b>		3.23 (1.15)	4.18 (0.85)
<b>Level of Confidence</b>			
I am confident using Nutrition Facts label to select healthy foods	72	2.75 (1.18)	4.10 (0.88)
I am confident using Nutrition Facts label to make smarter food choices for dollar	72	2.79 (0.98)	4.00 (0.93)
I am confident practicing safe food handling	72	3.46 (1.19)	4.46 (0.69)
I am confident using sensory characteristics in cooking	72	3.19 (1.16)	4.26 (0.73)
I am confident gathering and reading recipes	72	3.63 (1.07)	4.51 (0.65)
I am confident organizing cooking station	71	3.38 (1.15)	4.46 (0.69)
I am confident making healthy and balanced meals at home	72	3.13 (1.10)	4.35 (0.77)
<b>Summated mean score</b>		3.19 (1.11)	4.31 (0.76)

Note. Very low = 1, Fair = 2, Modest = 3, High = 4, Very high = 5.

**Table 3.** Paired Sampled *T* Test for Mean Ratings of Knowledge, Skills, and Level of Confidence

	Paired difference			
	<i>M</i>	<i>df</i>	<i>t</i>	<i>Sig.</i>
<b>Knowledge and Skills</b>	.95	68	7.91	.001
<b>Level of Confidence</b>	1.12	69	9.59	.001

## LIMITATIONS

This educational program was not conducted using an experimental design with control and intervention groups; therefore, the results cannot be generalized. It was not a part of the program objectives to determine if students changed behaviors following the program. Yet, findings from the reported changes in self-confidence, knowledge, and skills are promising and warrant further evaluation in future programs.

## CONCLUSIONS

The School Pantry Mystery Food Box Cook-Off is an innovative approach to increasing awareness of food insecurity among youth and teaching them strategies to prepare healthy foods on a budget. Data reveal that

students in the program gained awareness about food insecurity, increased knowledge about how to identify healthy and affordable foods, and gained confidence in making healthy and affordable meals at home. We also observed that student participants looked more favorably on visiting the school food pantry and discussing the availability of the food with peers. These changed views could reduce the social stigma of using the food pantry and seeking food assistance. Future programs could use these findings to design an experimental study to quantify this behavior change. The program can be replicated to increase the reach of Extension's best practices for encouraging a healthier and more food-secure future.

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# TikTok, Tomatoes, and Teenagers: Using New Social Media Apps to Connect Extension Education with Younger Audiences

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**Abstract.** Social media usage has precipitated changes in Cooperative Extension’s delivery of programs to amplify involvement with selected audiences and it is important that we craft relevant content for a variety of audiences. Current research tells us that social media and related content can enrich education and can create broader audiences for programming. Resources like blogs, podcasts, and geofilters have shown to be received positively by a wide range of audiences and have created greater rates of engagement. Yet, one platform that has received limited attention is TikTok, perhaps due to TikTok’s mixed reviews in educational systems. With current trends showing that 48% of 18-29 year olds are using the app, we believe that TikTok has great potential for connecting audiences with research-based information and engaging previously unreached communities.

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## INTRODUCTION

Over the last decade, Cooperative Extension programs have begun utilizing social media in the design and delivery of their content (Mirando et al., 2012) to amplify involvement from select audiences (Garcia et al., 2018). Such changes have been proven to be beneficial, demonstrating the importance of crafting relevant content for a variety of audiences (Thompson, 2018). Current research tells us that social media and related content can enrich education and can create broader audiences for programming. Resources like blogs (Beale et al., 2021), podcasts (Gonzalez et al., 2021), and geofilters (Davis et al., 2021) have shown to be received positively by a wide range of audiences and have created greater rates of engagement. Yet, one platform that has received limited attention is TikTok (<https://www.tiktok.com/en>), perhaps due to TikTok’s mixed reviews in educational systems (Klein, 2019). With current trends showing that 48% of 18–29-year-olds are using the app (Auxier & Anderson, 2021), we believe that TikTok has great potential for connecting audiences with research-based information and engaging previously unreached communities.

## WHAT IS TIKTOK?

TikTok is a platform wherein users post videos between 15 and 60 seconds. Videos can have filters applied to them to enhance appeal. Content is completely heterogeneous and includes comedic skits, lip syncs, instructional videos, PSAs, rants and commentaries, and dances. TikTok’s user demographics range from young children to adults (Pew, 2021), and the platform has guidelines that require all content to be appropriate for minor audiences. Creators may use hashtags to share the reach of their video, “Stitch” their videos to others, and “Duet” with other videos. To Stitch means to add on to existing content, whereas the Duet feature is useful for directly addressing videos from other creators. Exceptionally popular creators can opt into the “Creator Fund,” which generates ad revenue for creators.

Since TikTok is a video-based platform, its relevance to Extension requires further examination. Why would Extension expand educational materials to TikTok when many programs and educational methods are already housed on YouTube and have garnered success on the platform (Dorn & Hobbs, 2021; Fawcett et al., 2021)? First,

TikTok has a friendlier interface than YouTube for uploading content: TikTok is optimized for hand-held devices, while YouTube remains more compatible with computers. TikTok also allows users to watch short, digestible videos, while YouTube is geared toward longer content, which necessitates the presence of ads. TikTok is designed for in-the-moment learning and engagement opportunities, like other accessible platforms such as Twitter, while YouTube is meant for long-term engagement. Both TikTok and YouTube are useful in educational contexts, but it would be easier to film and upload a TikTok promoting an event or providing an educational resource compared to filming a YouTube video and uploading it to the platform. In Extension educational settings in which audiences may be in settings away from a computer (farm, work, and other), utilizing a smartphone-based platform makes the materials more accessible. With its hashtag and tagging capabilities and easily shareable format, TikTok is also designed to track engagement to boost popular videos, allowing several videos and trends to “go viral” and reach many different audiences. Recently, the most viral video was a baked feta pasta recipe (Neal, 2021), which encouraged other people to easily learn a new pasta recipe through the video, create their own, and (visually) share their results with others.

### TIKTOK IN EXTENSION CONTEXTS

TikTok can be easily downloaded onto most devices, and all that is needed to create and upload a video is a camera, microphone/headphones, and an internet connection to upload the video. In terms of immediate use, Extension educators may employ TikTok for multiple purposes:

- For promotions, Extension professionals could upload short, attention-grabbing videos of programs and educational opportunities to their followers. They can also add links in their profile to direct viewers to their websites.
- Videos can be short explanations of a program, comments about past programs, or another kind of engaging video that promotes Extension programs.
- With some basic editing, Extension professionals can create videos for a variety of topics, including food preservation, crop fertilization, Extension office contact information, introductions for local Extension professionals, and other related content.
- Extension professionals may turn what would normally be longer explanations into a 60-second video. This video may include captions that viewers can read while professionals demonstrate a method or visually share results.
- One popular technique on the app is the “pause and read” where viewers may pause to read longer text that the creator has provided. Once the viewer is done reading, they simply un-pause to continue.

There are multiple ways that TikTok can support the creation and engagement of content with Extension audiences, as demonstrated by the following examples:

- The Tri-District Handwashing Challenge (Hartsfield et al., 2020), which emphasizes proper handwashing techniques.
- The Virtual Youth Livestock Show (Jennings & Brown, 2020), which includes a class for TikTok videos of the 4-H member and their animal doing their favorite TikTok.
- Extension professional Abby Whitaker showcases how to create engaging and educational videos in a short timespan by using #WeedID and teaching about a new weed every Wednesday (Whitaker, 2020).
- Ontario 4-H (n.d.) uses TikTok to highlight group activities.

### MORE WAYS TO ENGAGE VIA TIKTOK

One of the greatest strengths of TikTok is the variety of ways users can engage with the content on the app. Commenting on videos is generally unrestricted, so one can freely engage with other videos, share your opinions, or ask questions. Users may critique misinformation using the Stitch and Duet features. Finally, there is also a “live” feature in which creators may livestream and engage with viewers to demonstrate different educational topics in a longer format. Livestreams would be useful for informal question and answer sessions on different topics.

# Tik Tok and Extension Education

## SUMMARY

TikTok provides unique engagement opportunities, and there are multiple tools currently available for learning how to use the app (McGlew, 2020). TikTok has been scarcely explored in informal education settings, though it is popular in K–12 settings (Roderick, 2020; Zalaznick, 2019). TikTok provides a wealth of ways to educate and engage people. Regardless of whether the program is virtual or in-person, accessible educational content remains a top priority for the continued relevance of Extension, and TikTok provides the perfect platform for creating content that is accessible, digestible, and wide-reaching across the Extension system.

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## Simpson and Donaldson

[https://www.tiktok.com/@ab\\_whit/video/6862725062647270662?sender\\_device=pc&sender\\_web\\_id=6942695613591520774&is\\_from\\_webapp=v1&is\\_copy\\_url=0](https://www.tiktok.com/@ab_whit/video/6862725062647270662?sender_device=pc&sender_web_id=6942695613591520774&is_from_webapp=v1&is_copy_url=0)

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## Community Engagement and Programming Models for the 21st Century Extension Professional

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**Abstract.** In this article, I review Donaldson's (2020) *Community Engagement for Extension Professionals: 21st Century Program Planning, Evaluation, and Professionalism*. This guidebook is relevant to several audiences including undergraduate and graduate students, Extension professionals, and faculty who work with students and advisees on program planning research and practice. This article highlights the primary contributions of the guidebook, with special emphasis on proactive and reactive Extension programming models.

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### INTRODUCTION

Community-university engagement models have evolved over the last 20 years and have helped universities redefine how they engage with other organizations and the public (Bruns & Franz, 2015). Land-grant universities and Cooperative Extension (Extension) systems serve as a historical example of community engagement between academic institutions and the individuals and organizations they serve (Kellogg Commission, 2001). Created in 1914, the Smith-Lever Act provides a framework whereby the federal government mandates that land-grant universities must extend their intellectual resources to their communities (Seevers & Graham, 2012). More recently, scholars have recognized Extension for its effective community-based program planning model—particularly how programming places stakeholders and community members at the center of planning efforts (Franz, 2014).

Scheer et al. (2006) identified ten core competencies for Extension professionals, and most, if not all, of these competencies are related to program planning. To develop and deliver quality Extension programs, Extension professionals must demonstrate mastery of activities that include conducting needs assessments, developing and implementing programs in response to identified needs, and evaluating programs (Cummings et al., 2015). Practitioners have documented how these planning activities (i.e., needs assessments and evaluation) can facilitate community engagement (Duffy et al., 2011).

### A NEW GUIDEBOOK—THE CONTENTS AND INTENDED AUDIENCES

*Community Engagement for Extension Professionals: 21st Century Program Planning, Evaluation, and Professionalism* is a new resource that simultaneously considers community engagement and Extension program planning. Donaldson (2020, p. 11) developed this guidebook for three broad audiences and the following purposes:

- For undergraduate and graduate students to build their skills and knowledge for an Extension career.
- For Extension professionals (including agents, specialists, administrators, program and staff development personnel, and others) to enhance their skills at effective community engagement.
- For faculty to convey Extension best practices to students and advisees.

In nine concise chapters, Donaldson (2020) provides information and tips for advancing community engagement through Extension program planning. Chapters in the guidebook are:

1. Program Planning and Evaluation Model
2. Identify Issues
3. Plan
4. Deliver
5. Evaluate
6. Extension Reactive Programming Model
7. Performance Management for Extension Professionals
8. Community Engagement
9. Case Studies

Each chapter includes supplemental information presented in text boxes and questions to facilitate conversation or deeper exploration. The guidebook concludes with seven appendices that provide readers with ideas for implementing the program planning process in ways that meaningfully encourage community engagement. In this review, I highlight what I see as the primary contribution of this guidebook.

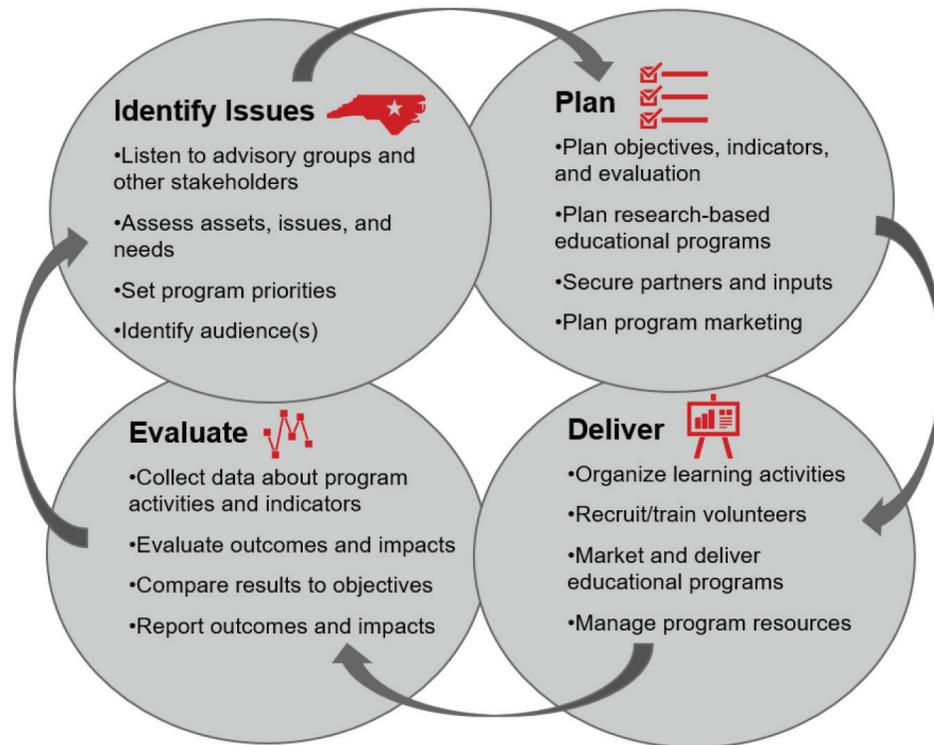
### CONTRIBUTION

The guidebook presents two broad approaches to program planning—a proactive programming model and a reactive programming model—within North Carolina State Extension Service (NC State Extension). Over the last 50 years, Extension scholars and practitioners have developed numerous models and professional capacity-building resources related to program development and evaluation. Each model and various resources have delineated a collaborative process for planning, conducting, and evaluating Extension programs (Bennett & Rockwell, 1995; Boone et al., 1971; Franz et al., 2015; Wholey et al., 2004). Donaldson (2020) draws heavily on previous models to develop a four-step proactive Extension programming model (see Figure 1). The four dimensions of the proactive programming model are: identify issues, plan, deliver, and evaluate. Each dimension is defined by a set of action steps described in the new guidebook with numerous examples and resources.

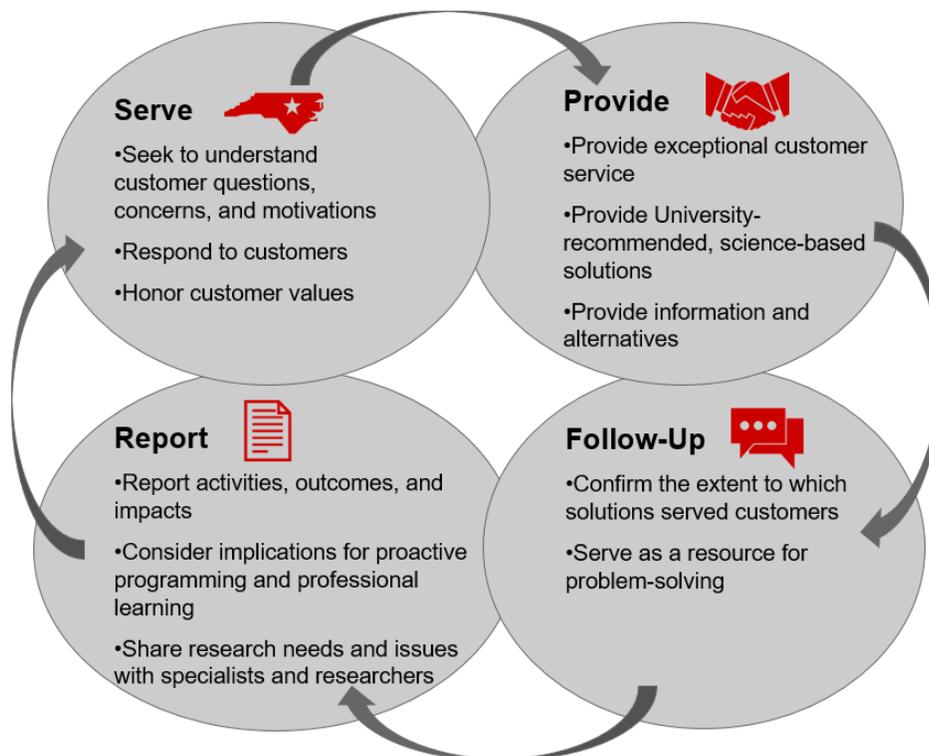
The proactive programming model is what Caffarella, Daffron, and Cervero (2013) might refer to as conventional or traditional. In contrast, Donaldson (2020) presents a formal reactive programming model (Figure 2) as a practical approach to dealing with “real world” situations in program planning. For example, Extension professionals are often reacting to the questions, concerns, and motivations faced by consumers, farmers, homeowners, landowners, youth, and others. Since reactive programming is part of Extension professionals’ work, it is critically important to recognize that the programming process cannot always follow from needs assessment through evaluation. The reactive programming model has four dimensions: serve, provide, report, and follow-up. Donaldson (2020) defines these dimensions as a series of actions and provides detailed examples and resources.

### A CRITIQUE

In *Community Engagement for Extension Professionals: 21st Century Program Planning, Evaluation, and Professionalism*, Donaldson (2020) acknowledges the complexities of planning Extension programs in diverse communities with various stakeholders to address society’s most challenging issues. He clearly articulates the need for two programming models but does not directly state that in some cases, an Extension professional may use both approaches in a community-engaged effort. As presented in the guidebook, an Extension professional would find themselves in either proactive programming *or* reactive programming. In actuality, an Extension professional could engage with community stakeholders, members, or other agency representatives using both models, whether simultaneously or in a stepwise approach. For example, a natural disaster may initially push Extension professionals into reactive programming activities. Yet, that same natural disaster could provide an opportunity for Extension to help individuals and communities increase their preparedness for future natural disasters (pro-



**Figure 1.** Extension proactive programming model. From *Community Engagement for Extension Professionals: 21st Century Program Planning, Evaluation, and Professionalism* (p. 16), by Donaldson, J. L., 2020, Wolf Express North Carolina State University. Copyright 2020 by Joseph L. Donaldson. Reprinted with permission.



**Figure 2.** Extension reactive programming model. From *Community Engagement for Extension Professionals: 21st Century Program Planning, Evaluation, and Professionalism* (p. 56), by Donaldson, J. L., 2020, Wolf Express North Carolina State University. Copyright 2020 by Joseph L. Donaldson. Reprinted with permission.

active). A balance between proactive and reactive program planning could be ideal, because they achieve different outcomes (Decker & Anderson, 1989).

## CONCLUSIONS

Although this guidebook is written specifically for NC State Extension professionals, the content is not state-specific. It includes examples from Extension 4-H youth development, agriculture and natural resources, community development, and family and consumer sciences programming. Resources—including a professional development plan template, discussion questions at the end of each chapter, two case studies involving dilemmas faced by Extension professionals, example program evaluation questionnaires, and techniques for engaging advisory groups—apply to Extension professionals and students interested in learning more about Extension.

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## Sustainable Polymers: New 4-H STEM Curricula

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**Abstract.** There are many environmental issues surrounding the global production and use of plastics. Three science curricula (Grades K–2, 3–5, and 6–8) were developed to introduce youth to the past, present, and future of plastics. Designed using research-based methods and grounded in effective science pedagogy, the curricula provide young people opportunities to explore viable alternatives to plastics and develop knowledge and skills necessary to help mitigate environmental impacts associated with the production, use and disposal of plastics. Evaluation results demonstrated that youth improved their understanding of polymers and intention to help reduce impacts of plastics on the environment.

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### INTRODUCTION

Globally, the production and use of plastics grew rapidly after World War II. Today, over 381 million metric tons of plastic are produced annually, which represents a nearly 200-fold increase over the past 70 years (Ritchie, 2018; United States Environmental Protection Agency [EPA], 2020). Despite efforts to “reduce, reuse, and recycle” plastic products, there are large volumes of plastic produced and discarded yearly. Significantly, only approximately 8% of plastic waste is recycled, while an estimated 75% is disposed of in landfills (EPA, 2020). Additionally, roughly 10% of plastic refuse—including extremely harmful microplastics—ends up in the world’s oceans (Thompson, 2006; Worm et al., 2017). These facts have led to the assertion that there is a “(micro)plastic crisis” (Shen, M. et al., 2020). Furthermore, the entire life cycle of a petroleum-based plastic product, from extraction of raw materials to manufacturing and post-consumer use, contributes to climate change and has other detrimental environmental impacts (Hamilton et al., 2019). Because of these negative effects, it is important to help young people explore viable alternatives to petroleum-based plastics such as sustainable polymers, bioplastics made from renewable resources. Bioplastics are designed to retain many advantages of petroleum-based plastics while helping to mitigate the environmental impact (Hillmyer, 2017).

### CURRICULUM DEVELOPMENT

When learning about environmental issues, it is imperative that education efforts are in, about, and for the environment (Lucas, 1972). To that end, we developed, tested, and published three experientially based curricula (Kolb, 1984) focused on advancing youths’ understanding of the production, use, and disposal of petroleum-based plastics and engagement in efforts to reduce their use and explore alternatives. This effort, led by the NSF Center for Sustainable Polymers, involved Extension professionals from California, Minnesota, and New York in a curriculum development process advanced by Smith et al. (2017). This effort supported National 4-H STEM goals (National 4-H Council, 2019) and addressed 4-H programmatic needs in environmental education (Worker et al., 2017).

The overarching goals of the three curricula (aimed at kindergarten-second grade, third through fifth grade, and sixth through eighth grade, respectively; see Figure 1) were to introduce youth to the prevalence and impacts of plastics in everyday life. Guided inquiry activities (Marek & Cavallo, 1997) designed for facilitation by profes-

sionals or volunteers in nonformal education settings (e.g., 4-H clubs, afterschool programs, camps; in-person and hybrid learning environments) focus on exploration of the environmental impacts of oil-based plastics, as well as emerging work on sustainable bioplastics. Participating youth engage in activities that examine the advantages and disadvantages of traditional plastics as well as the ways that scientists and engineers are working to develop bioplastics.

In addition to the inclusion of STEM content, the curricula promote scientific and engineering practices (National Research Council, 2013; Worker, 2013). Furthermore, the curricula for grades third through fifth and sixth through eighth include opportunities for authentic applications whereby youth engage in school- and community-based action projects related to plastics and sustainability. The curricula are available at [shop4-H.org](http://shop4-H.org) and [4hpolymers.org](http://4hpolymers.org).

## EVALUATION

Three types of evaluation were utilized. The development team conducted preliminary evaluation to ensure learning objective alignment, content organization, and activity sequencing. Pilot testing occurred by implementing activities with youth and gathering formative data on usability and developmental appropriateness (Fields et al., 2016). Subsequently, activity modifications were made based on formative data.

Evaluators at the Center for Applied Research and Educational Improvement at the University of Minnesota and members of the development team conducted outcome evaluation in order to assess changes in participants' knowledge of and interest in curricula learning objectives. The curriculum for kindergarten through first grade participants was implemented at 23 sites with 161 youth in 2016 and 2017; the curriculum for third through fifth grade participants was implemented at five sites with 75 youth in 2019. Age-appropriate self-report survey instruments were used to collect outcome data (Halloran & Fields, 2019; Stevenson et al., 2017). Due to the COVID-19 pandemic, outcome testing of the curriculum for sixth through eighth grade participants was not possible. Alternatively, 17 field educators reviewed the curriculum to provide assessments of the activities relative to content, learning objectives, pedagogy, and community engagement.

For the kindergarten-second grade curriculum, youth participants reported learning that many things are made of plastic (86%) and some materials can be recycled and some cannot (89%); youth also suggested ideas for how to care for the environment (87%) and expressed their intent to help family or friends recycle more (91%) (Smith et al., 2017). For the third through fifth grade curriculum, youth reported improvements in their level of understanding of key concepts across five content modules; module six focuses on service learning and was not included in the evaluation. These results were represented by the change in mean scores on the post-module retrospective surveys (Halloran & Fields., 2019). For example, at the item level, 64% of youth responded *A lot* to the item, "My understanding of what polymers are" as opposed to 11% of participants before taking part in the curriculum. Additionally, 70% of participants responded *A lot* to the item "My understanding of how I can reduce the impact that plastics have on the environment is" after completing the curriculum, whereas only 30% had done so in the pre-implementation evaluation. For the sixth through eighth grade curriculum, field educators agreed that activities would advance learning, be consequential and inspiring, and provide connections to authentic issues. These educators commented that guided inquiry promotes discourse among learners and that active learning projects help youth become involved in exploring "big questions" they face in their daily lives.

## CONCLUSION

To help support young people in understanding and addressing issues associated with the production, use, and disposal of plastics, we developed and tested STEM curricula that engage participants in this authentic environmental issue, are about youth becoming involved civically to address the issue, and advocate for sustainable environmental solutions. Research shows that integrating science learning with materials and experiences with which youth are familiar can lead to more meaningful and engaged learning, and youth are more likely to be motivated to help improve their communities (Vander Ark et al., 2020). Lastly, the curricula advance youth scientific literacy by addressing relevant content, advancing practices of science, improving interest in and attitudes toward science, and engaging youth in community-based action projects (Smith et al., 2015).

## Sustainable Polymers: New 4-H STEM Curricula



Figure 1. Sustainable Polymers curricula.

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## Participatory Evaluation and Needs Assessment Tools for Cooperative Extension in a Virtual Environment

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**Abstract.** The Cooperative Extension organization could be categorized as a participatory organization because of our focus on local needs in driving our work. The pandemic moved a lot of our work to online platforms. This article reflects on use of online tools for program evaluation and needs assessment. Online focus groups were successful in gathering high quality data from a diverse and geographically dispersed population for program evaluation and as part of a needs assessment process. Coupling the focus groups with a modified World Café approach allowed us to go beyond identification of needs to prioritization and development of potential solutions.

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### USING ONLINE FOCUS GROUPS TO GATHER DATA FOR COOPERATIVE EXTENSION

Focus groups have been used in Extension to improve (Vanderford et al., 2014) and evaluate (White et al., 2008) programs, and to conduct needs assessment (Vines et al., 2018). Face-to-face focus groups generally limit participants based on their willingness to travel. This condition was further complicated by the COVID-19 pandemic, which resulted in travel bans. However, access to funds and time can also create challenges regarding travel. Moving face-to-face focus group protocol to an online environment removes geographic limitations and eliminates the need for travel for program participants and hosts. This article highlights two examples of online focus group approaches used with internal Extension audiences. Examples include use of online focus groups for program evaluation and needs assessment.

### EVALUATION EXAMPLE

In fall 2019, I conducted online focus groups to gather information about the experiences of Virginia Cooperative Extension (VCE) agents who hosted interns the previous summer (VT IRB – 17-1149). I sent an email to agents with details of the study and a link to a survey that they could use to indicate their availability. Three dates were identified to provide a minimum of six participants for each focus group. Participants received the script, consent form, expectations, and purpose for the focus group by email at least one week prior to the session. Online focus groups were conducted using Zoom and each session was recorded. A graduate student and I served as the research team. We took turns facilitating and serving as notetaker for the focus groups.

During the focus groups, the questions were asked, and participants answered questions in the same order under the direction of the facilitator. Participants were encouraged to interject with comments as needed. This did occur regularly, as one participant's answer would often spark the memory of a previous respondent. As with traditional, in-person focus groups, the participants regularly referred to previous responses as they spoke.

The graduate student and I transcribed, cleaned, and coded the focus group sessions independently. We then discussed our codes to develop final coding prior to data analysis.

## A NEEDS ASSESSMENT APPROACH

In spring 2021, we used online focus groups again to identify needs of mid-career Extension agents and specialists (VT IRB – not human subjects research). We used purposive sampling to gather a breadth of experiences. The sampling frame of Extension faculty with 3–7 years of service was provided by human resources. This was then divided to provide two focus groups each for agents who had and had not yet been promoted, and one focus group each for specialists who had and had not yet received tenure. Potential participants were randomly selected from each group to obtain a goal of six to eight participants in each focus group. These individuals received an email explaining the purpose and process for the study and a link to a Doodle poll to indicate their availability to participate in a focus group. After the deadline, the dates for the focus groups were selected. Individuals were invited to participate in the sessions. As individuals declined, other individuals in their category were invited to participate. The goal was to have six to eight participants in each focus group.

This study was supported in part by a professional development grant from Epsilon Sigma Phi (ESP). Leaders of Virginia ESP and two members of the VCE leadership group joined me as members of the research team. I facilitated all of the focus groups except one, and a member of the research team served as the notetaker. Two members of the team served as a facilitator and notetaker for the group whose session I could not fully attend.

Participants received the questions and information about the study one to three weeks prior to their focus group session. They received a reminder email within 24 hours of the session. In the sessions, the order of respondents varied for each question (i.e., the second respondent for question 1 became the first respondent in question 2 while the first respondent became last, etc.). Sessions were recorded and transcribed. The notetaker for each session and I worked to clean up the transcripts. They were then shared with the focus group participants for member checking. I developed codes that were guided by the focus group questions to analyze findings. In addition, the research team met to discuss observations and findings. We used guiding questions to facilitate this discussion (Table 1). The follow-up research team meetings were recorded and considered as data for analysis.

**Table 1.** Guiding Questions for Discussion by the Research Team

1. What did you hear that you weren't expecting to hear?
2. As you reflect on the content of your group as a whole, what action items would you recommend for us or others in the organization?
3. Are there areas where you feel we need to follow up to learn more?

Finally, findings documents were developed that provided a general overview and identified themes from the focus groups while also providing quotes, sharing the participants' view in their own words. Findings documents were provided for the following topics: competencies, sources of stress, needs assessment, onboarding and mentoring, professional associations, and organizational support. These documents were shared with focus group participants prior to a final feedback session. A modified World Café Approach (<http://theworldcafe.com/key-concepts-resources/world-cafe-method/>) was used in this online session. In World Café, an initial round of participants brainstorms responses to a set of questions. Subsequent rounds of participants add to or modify responses. These have generally been done in face-to-face environments, but this session was conducted online using breakout rooms to provide the additional rounds of participants. Participants identified topic areas based on the questions included in the focus groups and were asked to review the findings document to refresh their memories and allow them time to develop ideas for solving issues. Breakout rooms were used, allowing participants to answer three questions (Table 2) around three topics. Breakout sessions one and two lasted 20 minutes, and the final breakout session lasted 15 minutes. Each breakout room had a member of the research team serving as a facilitator and a notetaker. Notes were taken using a Google Doc for each topic and participants were granted access so they could add or revise information. Members of the first breakout developed the initial content for the topic. Participants in breakout sessions two and three reviewed previous content and then added their thoughts. The Google Docs were left open for a week following the session to allow continued revision by participants or allow those who were not able to attend an opportunity to share their thoughts.

# Online Participatory Evaluation and Needs Assessment Tools

**Table 2.** Guiding Questions for Discussion During the Feedback Session with Focus Group Participants

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1. Is there anything you feel is missing or should be added to the findings document? (This data was collected a year ago, so some things may have changed, and participants may have thought of other items since then.)
  2. As a group, list the items you see as top priority that need to be addressed in order to improve (VCE).
  3. Work through the items identified in #2 to make recommendations in terms of further discussion or study, policy, practice, professional development topics, etc. to address each of these in order to strengthen VCE.
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## CONCLUSION

There are benefits to gathering data from Extension personnel across the organization in a virtual environment. First, we were able to assemble agents and specialists who were geographically dispersed without travel expense. Second, the quality of the responses from the online focus groups were as superior as those experienced in previous face-to-face focus group sessions. Finally, the benefit of not having to travel also reduced the time commitment and expense for the participants and the research team. When the COVID-19 pandemic emerged in 2020, online focus groups were valuable in allowing us to continue the needs assessment project.

One negative aspect of the virtual sessions was the kind of interruptions that occurred, such as when someone scheduled another meeting adjacent to the session and had to leave early, or when someone who was keeping the Extension office open with reduced personnel had to leave because of clientele knocking on the door. In another case, a participant was driving during the focus group, so they were unable to remain fully present. However, these individuals may not have been able to participate at all if the sessions had been held face-to-face.

Working with a research team of experienced Extension educators helped reduce the amount of time required for cleaning up transcripts. It was also helpful getting their responses as part of the analysis process since they provided unique insights based on their experience. Sharing findings and having focus group participants assist in priority setting and developing potential solutions to issues helps to verify areas in which we need to focus and see solutions from different contexts. I believe this approach was not only useful within the organization but can also be used in various community settings. The modified World Café approach was effective, although a common complaint was that people did not have enough time in the breakout rooms. Recording discussions in Google Docs helped encourage ongoing review and revision by participants.

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## Improving Extension Curriculum Design Using Learner-Centered Templates

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**Abstract.** Extension professionals' use of learner-centered instructional practices can maximize engagement and more effectively address expressed needs within their diverse communities. The Outcome-Based Extension Education Design and Facilitating Teaching and Learning templates enable educators to effectively implement curricula that identify context-specific learner needs, activities that increase learner engagement, and assessment tasks that gather evidence of essential knowledge construction and skills development. Using these two practical tools, Extension professionals can streamline the creation of compelling and efficacious programs that focus on the intended learning outcomes.

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### INTRODUCTION

Extension professionals often enter their careers with significant expertise in their area of specialty but limited or no training in the science of teaching and learning. Lacking the knowledge or skills to design educational programs, these professionals may feel overwhelmed or frustrated within their roles, leading to higher turnover rates (Safrit & Owen, 2010). In such cases, Extension professionals may be at risk of implementing suboptimal educational initiatives within the communities that they serve and reducing their overall impact.

A common response to not knowing how to operationalize the latest science of learning is the overuse of lecture as a teaching strategy. Though this more passive approach is often simpler to implement than forms of learner-centered instruction, research shows that increased participation through interactive teaching improves learners' information retention (Deslauriers et al., 2011). Enabling educators to employ an outcome-based educational framework increases engagement by focusing the instructional design on the application of information and skills that learners can use to meet real-world challenges (Spady, 1994; Stiehl & Sours, 2016).

To address the gap between instructional design and evidence-based practices, I built upon the work of Spady (1994) and Stiehl and Sours (2016), as well as my own experience as an outcome-based curriculum design educator (Halbleib et al., 2021; Halbleib & Jepson, 2016, 2015), to create the overarching Outcome-Based Extension Education Design Template seen in Table 1 and the more detailed Facilitating Teaching and Learning Template seen in Table 2. Both templates were piloted with Extension professionals in a term-length curriculum development course in 2019. Based on feedback from learners regarding the value of the templates, two template-specific classes were offered in 2020. Since the completion of these courses, more detailed instructions and guidance have been integrated into the templates, allowing Extension faculty to utilize the documents independently and without training.

The purpose of the templates is to allow educators to think constructively about the needs of learners and to assist them with the organization of their ideas and time, thereby maximizing opportunities for engagement. Extension professionals are provided with two copies of each template; the first contains step-by-step instructions for how to fill in each box, as well as examples, while the second is blank for educators to complete with their own content. Both templates are appropriate for designing online or in-person courses and can be adapted to accommodate educational programs of varying length and complexity, from a single event to a term-long series.

## EXTENSION PROGRAM DESIGN TEMPLATES

The Outcome-Based Extension Education Design Template serves as the basis for program development by enabling educators to clarify the aims of their educational program and how they plan to achieve them using learner-centered approaches. The four sequential design steps include:

- *Learning outcomes*: Development of measurable learning outcomes to clearly define the overall purpose of the program and assist with centering the “bigger picture” in curriculum construction.
- *Assessment tasks*: Identification of measurable or observable assessment tasks that provide evidence of learner progression towards the intended outcomes.
- *Learning activities*: Creation of learning scenarios that mirror the real world and deepen learning through the practice of new skills and application of new knowledge.
- *Essential knowledge*: Selection of information needed for learners to comprehend both why and how they will be completing the learning activities.

### OUTCOME-BASED EXTENSION EDUCATION DESIGN TEMPLATE

**Purpose:** To provide a cohesive structure for your program that will support an instructional design focused on learning outcomes. By working through this logical sequence of elements, you will create a program that meets the real-world needs of learners. Refer to this completed template when using the Facilitating Teaching and Learning Template. If you are not working in a team, seek feedback on your design from colleagues.

**To use this template:** Review the guidance and the farmer workshop example for Steps 1-4 provided inside each box. If you would like a blank copy of this template, please contact the author.

**Program:** Reducing Pesticide Drift to Protect Surface Water    **Designer(s):** [Project team members]

**Session Time:** 90 minutes    **Estimated Class Size:** 40    **Learning Environment:** classroom

**Intended Audience:** farmers, landscape care, gardeners, other pesticide users, agency personnel, non-profit staff

**Table 1.** Outcome-Based Extension Education Design Template

Learning Outcomes (Step 1)	Assessment Tasks (Step 2)	Learning Activities (Step 3)	Essential Knowledge (Step 4)
<u>Description:</u> Learning outcomes clearly state what learners will be able to do after the course. A single-session workshop might have 1-3 outcomes, while a larger program with multiple sessions might have more. Ideally the assessment tasks, learning activities, and knowledge components are interconnected and collectively build towards one or more of the outcomes.	<u>Description:</u> Assessment tasks allow instructors to measure the progression of learning. If necessary, the instructors can adjust their teaching to assist learners in achieving desired outcomes. Assessment tasks may be embedded within learning activities.	<u>Description:</u> Activities increase the relevance and value of the learning by allowing learners the opportunity to practice skills and apply new knowledge. These activities aid learners in remembering new skills and effectively transferring their learning to other contexts.	<u>Description:</u> Essential knowledge is the key information learners must acquire to effectively apply new skills and achieve the learning outcomes. When identifying essential knowledge, remember that adult learners are most likely to retain information that is relevant to their real-world experiences and lives.

## Improving Extension Curriculum Design Using Learner-Centered Templates

**Table 1.** (continued)

Learning Outcomes (Step 1)	Assessment Tasks (Step 2)	Learning Activities (Step 3)	Essential Knowledge (Step 4)
<u>Task:</u> Create a learning outcome statement. Include a verb (action) that describes the learning outcome, the content of the learning process, and the context for how or where the learning will take place.	<u>Task:</u> Select observable or measurable tasks learners can complete to demonstrate their knowledge and skills. Options include self, peer, and/or instructor-based assessment. Examples include clicker quizzes or other forms of polling, individual or group work, think-pair-share, and discussion.	<u>Task:</u> Develop active learning scenarios using real-world data and information. Example skill building activities include problem solving, case examples, demonstration, role play, predictions, and planning or decision-making exercises.	<u>Task:</u> Review the learning activity to determine the skills the learners will be practicing. Then examine each skill (and any related sub-skills) to identify specific concepts that learners must comprehend to effectively practice the new skills and complete the learning activities.
<b>Example:</b> <i>Identify (action) lowest-risk conditions for a pesticide application using a five-day weather forecast (content) to reduce the chance of off-field pesticide losses to sensitive sites (context).</i>	<b>Example:</b> <i>Before factoring in a sensitive site location (learning activity, step 3) learners share why they selected specific pesticide application timings in a group discussion.</i>	<b>Example:</b> <i>Learners work in pairs using a farm map, five-day weather forecast data, and other farm information to identify pesticide application timings that will reduce losses to the sensitive sites.</i>	<b>Example:</b> <i>Weather and climate, probability, weather forecasting, and weather drivers of pesticide drift.</i>

While determining learning methods and essential content is necessary for developing an effective curriculum, educators must also consider how they prioritize instructional time to ensure adequate opportunities for learners to practice applying new skills, interact with peers, and ask questions or share insights. The Facilitating Teaching and Learning Template, clarifies the purpose for all segments, ensures adequate time is allotted for each activity, and identifies the shifting roles of the learners and instructors to ensure that curriculum materials remain focused on the learner. The four sequential planning steps include:

- *Segment and Purpose:* Identification of each segment in the session with a clear purpose for each block of time.
- *Activities:* Description of each learner-centered activity.
- *Roles:* Clarification of the changing roles for instructors and learners throughout the session.
- *Time:* Allocation of adequate time for each activity.

### **FACILITATING TEACHING AND LEARNING TEMPLATE**

**Purpose:** To assist in determining the best use of program time and to ensure maximization of learner engagement. This document will also help you to avoid overfilling your program given the time allotted and to inform others of the learning plan and their roles. The example of an in-person workshop provided below shows a specific use of this tool. You can use this tool to plan a range of educational events including online trainings, field days, and other learning program formats. If you would like a blank copy of this template, please contact the author.

**To use this template:** First, review the completed Outcome-Based Extension Education Design Template for the program, if using that resource. Then, for this template:

1. Edit the Segment and Purpose cells to fit your program.
2. Populate the Activity cells with descriptions of each segment.
3. Identify specific roles for the instructors and learners for each activity.
4. Determine the time necessary for each activity, and then check that the total time is not more than time allocated for the program.

**Considerations for estimating time:**

- Be sure to leave enough time to introduce each process and to allow for possible questions.
- For learning activities, you can estimate the necessary allotted time to be about three times as long as it would take you, the instructor, to complete.
- If using discussion or other forms of sharing, ensure adequate time for learners to contribute and to listen to others. When this goes well, it can take a fair bit of time, but it is a valuable way to increase engagement and deepen learning.
- For online learning experiences, allow two to three minutes for each technology transition.

**Tips:**

- To best hold the attention of participants, it is ideal to change activities at least every 20 minutes.
- Program activities often take longer than we predict. Aim to build in 5 or 10 minutes of buffer time every hour to allow for unexpected overages and delays.
- Be sure to give the learners clear guidance on their changing roles throughout the program.

**Program:** Reducing Pesticide Drift to Protect Surface Water      **Instructor:** Mary Halbleib  
**Session Time:** 90 minutes      **Date:** TBD      **Format:** in-person, classroom      **Estimated Class Size:** 40

**Table 2.** Facilitating Teaching and Learning Template

<b>Time (Step 4)</b>	<b>Segment and Purpose (Step 1)</b>	<b>Activity (Step 2)</b>	<b>Instructor Role (Step 3)</b>	<b>Learner Role (Step 3)</b>
15 min before start	<u>Pre-session engagement:</u> Participants informally interact with each other and the instructors	<i>Conversation with coffee</i>	<i>Welcome participants and introduce yourself</i>	<i>Connect with others in the course</i>
7 min	<u>Welcoming the learners:</u> Create a safe, enjoyable environment	<i>Welcome learners and create a sense of community through introductions</i>	<i>Set an example of openness by sharing about yourself</i>	<i>Engage as they are willing and able</i>
3 min	<u>Setting the vision:</u> Link expected outcomes to the learners' lives and work	<i>Share the learning outcomes and provide an overview of recent pesticide detections in surface water</i>	<i>Link the outcome to real world needs that relate directly to the learners' lives</i>	<i>Ask questions</i>
5 min	<u>Activating existing knowledge:</u> Build upon the learners' backgrounds and interests	<i>Ask learners to get up and find a partner to share one fact they already know about pesticide drift management, then ask a few pairs to share with the rest of the group</i>	<i>Ask the learners to introduce themselves to their partner and listen openly to what is shared with them</i>	<i>Share their knowledge and experience managing pesticide drift</i>
10 min	<u>Knowledge sharing:</u> Convey essential knowledge for the learning activity	<i>An interactive lecture on the difference between climate and weather, the process of weather forecasting, and options for managing weather driven pesticide drift</i>	<i>Ask questions of the learners and allow time for comments</i>	<i>Add their experiences and ask questions</i>

## Improving Extension Curriculum Design Using Learner-Centered Templates

**Table 2.** (continued)

<b>Time (Step 4)</b>	<b>Segment and Purpose (Step 1)</b>	<b>Activity (Step 2)</b>	<b>Instructor Role (Step 3)</b>	<b>Learner Role (Step 3)</b>
15 min	<u>Learning activity – Part 1:</u> Provide an opportunity for skill building that applies new knowledge	<i>In small groups, learners use a weather forecast to identify lowest-risk pesticide application timings</i>	<i>Provide clear instructions and supportive guidance, monitor learner responses</i>	<i>Actively engage in the learning process by working with group members</i>
10 min	<u>Feedback to learners:</u> Use a form of assessment to gauge progress towards the learning outcome	<i>As a whole group, learners are asked to explain why they selected one or more pesticide application timings</i>	<i>Adjust teaching to further assist learning, as needed</i>	<i>Share why they selected specific pesticide application timings</i>
5 min	Break			
5 min	<u>Learning activity – Part 2:</u> Increase the level of difficulty to expand knowledge application and skill practice	<i>Using the farm map, learners locate sensitive sites and determine if the selected application timings will also be protective of those sites</i>	<i>Provide further instructions and supportive guidance</i>	<i>Actively engage in the learning process by contributing to the completion of the activity</i>
10 min	<u>Reflection and next steps:</u> Support sharing of new insights and intentions for change after the session	<i>Learners are given 5 minutes to reflect and complete a form to record their intentions for new or altered practices and 5 minutes to share with a partner</i>	<i>Allow learners to plan what actions they will take and then verbalize their intentions with a partner</i>	<i>Identify what from this learning experience has value and will transfer to their lives and work</i>
5 min	<u>Session evaluation:</u> Gather information on how the session supported learning and what can be improved	<i>Learners complete a brief post-session survey</i>	<i>Explain the value of the evaluation to the program</i>	<i>Complete the survey</i>
5 min	<u>Closing:</u> Enable the learners to share the benefit of the session	<i>Learners are asked what they found most valuable from the session and then the instructor outlines next steps in the program</i>	<i>Acknowledge the work the learners did and generate sustained interest in the program</i>	<i>Share insights that will make a difference in their lives and work</i>
<b>Total time:</b>				
80 minutes + 10 minutes of extra time				

### CONCLUSION

Research indicates that Extension programming capacity and professional growth are key competencies of interest for Extension professionals throughout their careers (Brodeur et al., 2011). Thus, it is vital that these educators have access to learning resources that are expressly created for the Extension context and grounded in research-informed practices (Epley, 2019).

The two templates allow Extension professionals to implement evidence-based teaching and learning approaches to increase impact. This success was demonstrated in a ten-week course called Extend Your Teaching and Learning to Enhance Sustainable Agriculture. Post-course evaluations found that five of seven participants had used these templates to design additional Extension programs following the completion of the class. Three educational partnerships across the state of Oregon have also utilized these tools to create learner-centered

programs focused on increasing the adoption of integrated pest management practices (Halbleib et al., 2021). While Extension professionals are often experts within their fields, poor curriculum design and ineffective learner engagement can pose challenges to maximizing the impact of their programs. The Outcome-Based Extension Education Design and Facilitating Teaching and Learning templates better allow these professionals to more effectively focus their time with learners in order to increase achievement of the intended learning outcomes.

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