Public Engagement Training Needs of Florida Extension Specialists

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Introduction

University faculty typically engage in teaching and research efforts, regardless of the university, but land-grant institution faculty in colleges of agriculture also conduct extension efforts (National Institute of Food and Agriculture [NIFA], n.d.). Extension provides farmers, families, entrepreneurs, and consumers research-based information vital to their well-being (NIFA, n.d.). However, a shift in program emphasis has led faculty to focus more on securing research grants than establishing strong extension programs (Fribourg, 2005; Minaravic & Mueller, 2000) even though many consumers do not fully understand research and science (Napolitano, 2015). Additionally, the public is more removed from agriculture than ever before, which has created large gaps in knowledge regarding agricultural and life sciences (Wachenheim & Rathge, 2000). Scientists have felt unprepared to communicate with the public (Lundy, Ruth, Telg, & Irani, 2006), yet the public trusts scientists more than other sources to communicate research (Kennedy, 2016). Extension specialists in land-grant institutions focus on one area of research and then disseminate this information to Extension agents throughout their state and directly to the public. As a result, it is important for Extension specialists to know how to effectively communicate science topics to the public and to be able to apply these communication methods. In accordance with Priority One of the national research agenda (Roberts, Harder, & Brashears, 2016), the purpose of this research was to assess the current public engagement training needs of Florida Extension specialists.

Conceptual Framework

Expectancy-value theory of achievement motivation can be used to predict behavior based on the expected outcome of the behavior (Atkinson & Feather, 1966). Additionally, the perceived value of the outcome and difficulty in achieving the outcome will influence behavior. This theory was used to understand Extension specialists' likeliness to participate in public engagement training. Past research has found that scientists did not highly value public engagement and rarely participated in science communication (Besley, Oh, & Nisbet, 2016). Research has also concluded scientists do not readily participate in science communication due to a lack of institutional support, incentives (Ndlovu, Joubert, & Boshoff, 2016), and competencies needed for public engagement (Poliakoff & Webb, 2007).

Methods

An online survey was used to fulfill the purpose of this study. The population was Florida Extension specialists ($N = 253$). A census was used due to the small population size. The Florida Dean of Extension distributed the survey to a listserv, and there were a total of 45 complete responses from tenure-track extension specialist faculty at the University of Florida (17.7% response rate). Late respondents were compared to early respondents to account for nonresponse and no differences were found (Lindner, Murphy, & Briers, 2001). The instrument consisted of 34 questions, and two were analyzed for this research. The survey was reviewed by a panel of experts prior to distribution to account for issues with validity. Two questions were analyzed to measure *confidence in using public engagement techniques* and *likeliness to participate in public engagement training*. Confidence represented the difficulty or barrier in achieving an outcome in expectancy-value theory while the likeliness to participate in a training aligned with the behavior itself. Each question used a nine-item, five-point Likert-type scale. Data were analyzed in SPSS using simple descriptive statistics.

Results

Respondents expressed the highest level of confidence in participating in one-on-one conversations and giving oral presentations. The areas of lowest confidence dealt with use of

social media and writing a science blog. The public engagement activity with highest mean score for likeliness to participate was using social media to promote extension focus area and how to write a science blog. The lowest mean was for attending training for oral presentations. However, respondents were neither likely nor unlikely to participate in any of the trainings.

Table 1
Extension specialists' confidence in public engagement and likeliness to attend public engagement training

	Confidence in Public Engagement M(SD)	*Likely to Participate in Training M(SD)*
One-on-one conversations about **Extension focus area**	4.58 (0.92)	2.73 (1.51)
Traditional oral presentation	4.49 (0.92)	2.62 (1.51)
Lead small group discussion about **Extension focus area**	4.44 (0.94)	3.16 (1.41)
One-on-one conversations about **general scientific topics**	4.31 (0.87)	2.89 (1.51)
Demonstration at a community event	4.22 (0.88)	2.89 (1.48)
Lead small group discussion about **general scientific topics**	3.98 (1.07)	3.04 (1.35)
Use social media to promote **Extension focus area**	3.40 (1.18)	3.40 (1.25)
Write a science blog	3.31 (1.18)	3.40 (1.21)
Use social media to promote **general scientific topics**	3.20 (1.16)	3.18 (1.21)

Note. Real limits: 2.50 – 3.49 = *neither unconfident nor confident/ neither likely not unlikely*, 3.50 – 4.49 = *confident/likely*, 4.50 – 5.00 = *very confident/very likely*.

Discussion, Implication, and Results

The results from this study show that the respondents were confident in their ability to interact with stakeholders face to face, but were not as confident in engaging the public using social media. However, the respondents did not indicate they were likely to participate in training for writing blogs or using social media. This aligns with past research findings that scientists viewed the benefits of public engagement neutrally (Besley et al., 2016). These extension specialists may not be likely to attend these training because they do not see the value in the outcome (Atkinson & Feather, 1966) or view the content as outside of their expertise (Poliakoff & Webb, 2007) so they avoid trying, which aligns with expectancy-value theory (Atkinson & Feather, 1966). When developing public engagement training for faculty, emphasis should be placed on emerging forms of communication rather than the traditional in-person model that Extension specialists are comfortable using. Deans of Extension programs should be involved in the development of the training programs to provide necessary support and incentives for their Extension specialists (Ndlovu et al., 2016). Additionally, the trainings should emphasize the personal benefits of the trainings to the specialists to increase the overall value of the program. Future research should use in-depth interviews to gain a better understanding for why Extension specialists were not more likely to participate in public engagement training.

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