

Branching Out: A Content Analysis of Master Gardener Program Websites

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Introduction

The Cooperative Extension Service (CES) represents the tripartite mission of land-grant universities and colleges, encompassing research, teaching, and public outreach (Arnold et al., 2012). The public outreach component, known as “Extension”, facilitates the dissemination of the research and resources to address societal needs through non-formal educational programs at the community level. The Extension Master Gardener (EMG) program organizes volunteers with a passion for gardening to assist CES’s mission to educate the public with research-based horticultural knowledge to their communities. Today, nearly all 50 states and the District of Columbia have a land-grant affiliated EMG program (Dorn et al., 2018). The EMG National Committee (Extension Master Gardener [EMG], n.d.-a) estimated at least 76,500 EMG volunteers, across the United States and District of Columbia, contributed around 5.1 million hours to educate others, teach gardening practices to grow food, improve their physical and mental health, and address environmental issues. With documented impact and involvement, a need exists to keep updated and relevant information readily available for community volunteers to contribute to the land-grant mission and expand their presence (Arnold et al., 2012).

Conceptual Frameworks

We used two theories as conceptual guides: human-computer interaction (HCI) (Katz et al., 1973) and excellence theory (Ehling et al., 1992). To evaluate the effectiveness of information through availability on sampled websites, we used HCI (Katz et al., 1973). As described by Cabrera & Holt (2020), human-computer interaction posits that interactions with computers, including websites, affect human behavior. We used HCI to help frame how the provision and accessibility of information might impact a user’s perception and experience with Extension Master Gardeners. Additionally, we used excellence theory (Ehling et al., 1992) to guide our evaluation of EMG websites as high quality or low-quality communicators of information. McLeod et al. (2018) stated, “excellence theory suggests communication is valuable to an organization since communication leads to strategic relationships with the public” (p. 3). We adapted McLeod et al.’s (2018) work to frame how an organization can successfully communicate through websites and build relationships with website users.

Purpose and Research Questions

The study purpose was to examine EMG programs’ website content and information available to the public. This purpose aligned with the “advancing public knowledge of AFNR systems” national research value of the American Association for Agricultural Education (2023). We formulated three research questions to guide this study on Extension websites: 1) How accessible is information about the EMG program; 2) What information is available about EMG program requirements including education hours, service hours, and costs; and 3) What information is available about EMG programs, volunteers, and organizational framework?

Methodology

We used quantitative content analysis to complete this study (Creswell, 2014). To ensure representation across different EMG programs and regions, we employed a stratified random sampling technique (Wrench et al., 2018, p. 375). Across the 50 programs, including 49 states and District of Columbia, all were divided into strata based on six geographical Cooperative Extension regions (EMG, n.d.-b) with five programs from each region randomly selected. We included a total of 30 programs in our study sample to analyze each program’s website. We

determined a priori codes and created a codebook. We developed codes using HCI (Katz et. al., 1973) and excellence theories (Ehling et. al., 1992) as considerations for what we evaluated. Prior to coding, two researchers underwent coder training using an EMG website outside the study sample. The two coders independently coded 12 variables using 10% of the sampled population per recommendations by Creswell and Poth (2023). Krippendorff's alpha evaluated intercoder reliability (Hayes & Krippendorff, 2007). We recoded variables below .667 to improve reliability (Denzin & Lincoln, 2011; Riffe et al., 2014). Final code agreements were reached through discussion and unanimous agreement.

Findings

Of the 30 CES websites, only 20% included a clickable tab directly to its respective EMG state website where 80% of the CES websites, did not include a clickable tab when viewing the home page. Starting from the CES website, the click rates to the EMG website took about two to three clicks. The lowest click rate was one click (Nevada) to the highest click rate of five clicks (Kentucky). All EMG websites defined their EMG program through giving an overview of the programming entailed and outcomes. When it came to providing the cost information for those interested in becoming an EMG volunteer, 83% ($n=25$) of EMG websites provided the monetary value (USD). At least 63% ($n=19$) of the EMG websites shared a program-specific mission. Notably, values were only defined when accompanied with mission and purpose ($n=3$, 10%). EMG volunteers' role within the state program was 100% defined on all EMG websites. For lived experiences of volunteering for the EMG program through individual testimonies and group stories, only 47% ($n=14$) EMG websites included these readily available to read. The majority of the EMG websites ($n=24$, 80%) included a designated section of the web design to have an open call for those interested in becoming an EMG volunteer. Lastly, each EMG program requires EMG volunteers to complete a minimum of education and service hours each year. The initial hours requirement focuses on volunteers' first year prior to becoming EMG certified within their state and county program. For the initial hours, 40 hours is the most frequent minimum requirement found among both education ($min=15$, $max=84$) and service ($min=20$, $max=75$) hours. For continuing hours, 10 hours of continuing education ($min=3$, $max=21$) and 20 hours of service ($min=7$, $max=50$) hours are the most frequent minimum requirements to maintain EMG certified status within their local program.

Conclusions/ Discussion/ Implications

Our content analysis on EMG state websites highlighted that while each state program is different, they all shared a universal definition of the EMG program itself and the EMG volunteers. Among these differences are the significant fluctuations of both education and service requirements for the initial and continuing requirements. From our analysis, some EMG websites disclosed that the hours information provided is the baseline for the state program, but county EMG program coordinators could increase the expectation if needed. Based on our analysis and anecdotal evidence, this could hinder prospective and current volunteers from participating in the EMG program due to unclear messaging. There is an opportunity to improve the Extension's website presence by expanding EMG program-specific mission, purpose, and values and communicate the impactful experiences of volunteers and their communities. Additionally, there is an opportunity to increase accessibility and availability by developing an introduction to EMG programs educational resource and disseminate requirements among each land-grant affiliated program by state and county levels.

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