Awareness and Competence of South Carolina Master Gardeners in Synchronous Online Instruction During the COVID-19 Pandemic

Jacqueline K. Jordan
Clemson University
jkopack@clemson.edu

K. Dale Layfield
Clemson University
dlayfie@clemson.edu

Christopher J. Eck
Clemson University
eck@clemson.edu

Catherine A. DiBenedetto
Clemson University
cdibene@clemson.edu

Michelle Parisi
Clemson University
mparisi@clemson.edu

Thomas Dobbins
Clemson University
tdbbns@clemson.edu

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Introduction

In March 2020 the COVID-19 pandemic forced many schools, businesses and government agencies to move normal operations online to limit in-person contact (CDC, 2020). An immediate reliance was placed on synchronous web-based platforms to facilitate business and education. Although multiple programs for video web conferencing have been in existence for years, many people experienced a learning curve when adapting to the new normal. (Fawcett, et al., 2020)

Following the mission of Cooperative Extension, Master Gardeners (MG) in South Carolina (SC) earn certification through providing 40 hours of educational service through volunteer activities (Clemson University Cooperative Extension, n.d.). However, due to COVID-19, all SC MG in-person volunteer activities were suspended (Clemson University 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 with an extensive catalog of free online presentations, many of which had multiple sessions (GGMGA, n.d.). Additionally, due to ADA 508 standards training to use accessibility tools for documents and presentations for online instruction is needed (U.S. General Services Administration, 2020) for the volunteers use of synchronous delivery features.

The purpose of this study was to assess the knowledge, and self-perceived competence levels of Master Gardeners using synchronous online instruction platform features used to enhance formal/informal instruction as well as their application of accessibility tools allowing all learners equal access to content. The objectives guiding this study were to: 1) identify MG knowledge and self-perceived competence levels of synchronous learning features related to effective instruction, and 2) identify MG knowledge and self-perceived competence levels of best practices for assuring ADA compliant Microsoft PowerPoint and Word files.

Theoretical Framework

This study was guided by the Human Capital Theory, which posited individuals and society derive economic benefits from investments in people (Sweetland, 1996). Scheneman (1993), suggested that public organizations with professionals delivering services impacting clients' lives should engage in continuing education. Acquiring knowledge and skills with economic value accounts for much of the success of technically advanced countries (Schultz, 1961). MGs assist in training sessions for programming as in-service moves online (Greater Greenville Master Gardeners, n.d.). Many MGs need to develop their knowledge of synchronous learning platforms and accessibility tools through continuing education to meet the needs of all clientele. Therefore, this study aimed to identify the primary synchronous learning platform used by MGs, their knowledge and competence related to the platform, and understanding of online accessibility features in Microsoft Word and PowerPoint.

Methodology

The population for this study consisted of SC MGs participating in a Monday Webinar Series in Fall 2020. A total of 122 participants were invited to participate in the study. MGs were provided with a URL and a scannable QR code leading to the researcher-developed survey in Qualtrics. Five faculty members in agricultural education at Clemson University and two extension

specialists in SC evaluated the survey prior to distribution for face and content validity (Privitera, 2017). The survey was developed and delivered following recommendations from the Tailored Design Method (Dillman et al., 2014). Participants were asked to identify which web-based tool they used most: Zoom, Microsoft Teams, WebEx or Goggle Meet, of which, skip logic in Qualtrics directed them to a series of questions that asked about their competence levels of selected synchronous platform features. Additionally, accessibility features available in Microsoft Word and PowerPoint were assessed for online delivery. Pertinent demographic questions completed the survey.

Results/Findings

Data were analyzed using SPSS version 27 for descriptive statistics, including frequencies and percentages. A 45% response rate was achieved with 55 respondents ranging from 39 to 80 years of age. The respondents were primarily female (67%) with a variety of degrees earned, i.e., bachelor's degree 18%, master's degree 29%, and doctoral degree 9%. A total of 27% used synchronous learning technology prior to the pandemic. Zoom was the most commonly used software by 96%. MGs reported being 13% competent at scheduling a meeting in Zoom while 29% were somewhat competent, 25% were not competent and 7% were unaware of the feature. A total of 18% stated they were competent at inviting participants to a Zoom meeting, while 18% reported they were competent at screen sharing. Less than 2% reported competence utilizing the white board feature in Zoom with 44% reporting competence at utilizing polling during Zoom meetings. Only 2% rated themselves as competent at using break out rooms and 38% were unaware of the feature. An average of 40% of respondents were unaware of accessibility tools in Microsoft Word and PowerPoint.

Conclusions/Implications/Recommendations

Zoom was the most popular web-based synchronous platform among MGs in SC. Although the technology was being used for web conferencing, MGs reported lack of comfort with common platform features, such as inviting others to a meeting, sharing a screen, host's ability to mute, and ability to remove participants from a meeting. While the chat feature and hand raising are commonly used, polling, break out rooms, white boards and file sharing were not commonly used. This suggests that MGs had developed some competency within Zoom. MGs in this study were largely unaware of best practices for assuring accessibility related to ADA 508 standards.

While respondents represented a varied demographic, of whom were a valid representation of MGs in SC additional research using qualitative measures is warranted to further understand the needs of this audience. Additional research should be conducted to examine the popularity of various synchronous web-based programs to determine the best platform for extension outreach programs nationwide. We recommend training for MGs in SC on Zoom features and best practices for using accessibility in Microsoft Word and PowerPoint in order to ensure effective delivery of instruction via synchronous web-based applications. Clemson University faculty should consider the development and delivery of programming opportunities or fact sheets for extension agents and MGs to increase awareness of ADA 508 standards and usability of various synchronous web-based platform features. Extension preparation courses in SC should also focus on modeling effective online synchronous program delivery because Extension Agents are the primary trainers of MGs.

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