

**Responsive Website Design for Communicating Water Conservation with Extension
Clientele**

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Introduction

Globally, 4.66 billion people actively use the internet (Statistica, 2021). Eighty-one percent of Americans use the internet at least once a day (Perrin & Kumar, 2019), and 91% of internet users surf the web with the intent to locate information (Purcell, 2012). Specifically, adult Floridians labeled as high-water users consulted websites most often when interested in finding information on water related topics (Lamm et al., 2016). Similarly, adult Americans who manage a landscape or lawn with irrigation indicated *visiting a website* was how they preferred to learn information about water conservation (Warner et al., 2017). Thus, it is expected that Extension should communicate about water conservation behaviors and practices with their clientele via websites. The COVID-19 pandemic and subsequent national emergency (National Archives and Records Administration, 2020; World Health Organization, 2020) exacerbated the need for water conservation information and learning materials to be readily available on websites, since in-person Extension programs were instantly cancelled (UF/IFAS, 2020). The purpose of this innovative abstract is to share the collaborative, interactive web-design process we developed for the goal of designing a website that is effective in communicating about water conservation with Extension clientele and how Extension professionals can apply the same process to their web development. The innovation supports a “model [that is] effective for informing public opinions about agriculture and natural resources” (Enns et al., 2016, p. 15) which is an American Association for Agricultural Education priority (i.e., Research Priority 1).

How It Works

There are six steps to implement a responsive website design for effectively communicating about water with Extension clientele. The six steps include (a) identify a target audience, (b) develop the website, (c) test the website with a subset of clientele, (d) analyze clientele feedback, (e) modify website based on feedback analysis, and (f) publish website for Extension clientele use.

Identify a target audience. This is a critical first step before determining the website content and developing the website. Specific to water conservation, target audience groups may include but are not limited to homeowners' associations (HOA) and/or their members or new residents to the state of Florida. The target audiences we identified for our website were Florida urban residents and Extension clientele. Based on the target audience identified, the next step to ***developing the website*** is to identify content that will meet their needs. Water conservation topics that may be of interest to more general audiences include local water quality, cleanliness of large water bodies, and clean water for recreation. Topics that may interest residential water conversationalists are timing of irrigation and sprinkler system efficiency (Warner et al., 2016; Warner et al., 2018). ***Test the website with a subset of clientele*** to ensure the design and content is effective and the audience finds it useful. A pilot test of the website site should be conducted with a variety of purposively selected individuals to ensure your content is sound and your website is user-friendly. We chose to pilot test our websites with 52 Florida residents. ***Analyze clientele feedback*** to determine major areas of the website that need clarification, altering to create an

easier user experience, or adjustments to content. Feedback can be collected and analyzed in a variety of ways, such as qualitatively through interviews or quantitatively through a survey. We chose to collect clientele feedback through a quantitative survey and analyze the website through the Qualtrics heat map feature. Taking the time to *modify the website* can increase the effectiveness of the site. Modifications can be small or large in nature based on the analysis of the clientele feedback, but the overall goal is to improve the site's content and usability. The final step in creating a clientele-minded and effective water conservation website for educational information is to *publish the website* and gain traffic to the site.

Results to Date

A quantitative Qualtrics questionnaire was piloted with Florida Extension agents and Florida residents ($n = 52$). Three website designs were included in the survey and shown to participants. The website concepts were developed by one of the authors and utilized social- and gain-frames. Using hotspot tools within Qualtrics, participants were asked to identify five areas of the design that were most appealing to them. Respondents were also able to provide additional feedback on website designs in a provided written response box. Respondents specifically identified the following seven design aspects as 'appealing': (a) menu items for a blog and gallery, (b) images of flowers, (c) images of children, (d) logos, (e) live chat features, (f) information about the mission, and (g) buttons, interaction or navigation. Another trend to note from the pilot data was respondents' strong preference for a custom domain (e.g., .edu or .com) over a freely acquired sponsored domain (e.g., Weebly, Wix, etc.).

Future Plans and Advice to Others

Given that COVID-19 has increased consumers seeking information on digital platforms, future research on website customization and optimization for Extension clientele is needed (Sultana, 2021). Responses to the proposed web designs can be used to optimize the designs and customize content to suit the needs of your specific audience. Extension professionals who wish to move their content into an online format could easily use the methods from the pilot study. We recommend organizations develop training for Extension professionals, who are typically trained in their context area (e.g., horticulture, agriculture) but not on areas such as communication, web design, or digital marketing.

Advice for others would be to collaborate with other local Extension personnel or local stakeholders (i.e., HOA, community groups, etc.) to cross promote or create programs together. Professionals hoping to adapt and utilize this research design, should consider choosing one website creation domain to use for all concepts developed. Lastly, respondents suggested that (if using the hotspot tool) there should be minimum number of indicators required.

Cost and Resources Needed

Costs associated with the website design process include the acquisition of a custom domain and of a survey development and distribution tool. While there are free options for both website and survey creation, individuals purchasing more advanced software should plan to spend between \$14-\$70 for website creation (not including the annual/reoccurring hosting cost) and up to \$5,000 for a survey design service such as Qualtrics.

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