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USING HYBRID LEARNING TO GROW THE IDAHO MASTER GARDENER PROGRAM AND ADAPT TO THE COVID-19 ENVIRONMENT

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ABSTRACT

UI Extension educators used a hybrid online/in-person teaching format for delivery of the Idaho Master Gardener Program (IMG). The goals were to increase program efficiency and expand outreach to rural areas. Participants benefited from in-person learning and remote instruction from statewide educators through the interactive components of live video technology. At week 10 of the 13-week course, the COVID-19 Pandemic necessitated the transition to online delivery. Having a hybrid program already developed made for a relatively seamless transition since participants could participate remotely via Zoom. An online course evaluation was conducted with program participants to assess the successes and challenges of the course. The results of this evaluation have led to changes in how programs are conducted, including how to improve delivery of the IMG program both in-person and remotely. Seventy percent of course participants were satisfied with this hybrid format.

Introduction

There is growing interest in gardening and horticulture throughout Idaho and nationally (National Gardening Association, 2018). Its popularity has increased with the rise in home victory gardens as a result of the COVID-19 Pandemic (Walljasper & Polansek, 2020). Despite the growing popularity, it is challenging to deliver the Idaho Master Gardener (IMG) Volunteer program to many rural counties, in part due to remote locations, limited funding, staff capacity, and hazardous winter driving conditions.

In the past, limited horticulture programs were offered online with the University of Idaho Extension, which limited participant outreach. Nationwide, Extension professionals are increasingly engaging audience members across large geographic areas using video conferencing options and online webinars (Johnson & Shumaker, 2016). Effective deliver of educational activities is important given Extension's constricted fiscal environments and increasing workloads (Gharis et al., 2014). The COVID-19 Pandemic has highlighted the need for interactive online learning.

One way to benefit both from in-person learning, as well as the innovative online learning methods is to adopt blended or hybrid delivery of Extension programming. This type of educational delivery method is defined as having classes where a portion of face-to-face instruction is replaced by web-based online learning (University of Central Florida, 2017; Silkwood, G. et al., 2017).

Participants of hybrid classes can benefit from in-person classroom experiences and presentations delivered remotely by skilled faculty. For county Extension offices, there are added benefits of program efficiency and cost savings. Online meeting technology helps draw on the diverse expertise of educators throughout the state, while offering an onsite personalized experience through the interactive video components. This type of hybrid-learning approach has expanded Extension's ability to deliver sought after educational programs in areas that traditionally have been underserved.

Methods

In 2019, Extension educators Andy West and Jennifer Werlin proposed to expand the Idaho Master Gardener program in Eastern and Central Idaho by utilizing a hybrid online/in-person format for the 2020 course. As part of this new educational delivery method, West and Werlin led an in-person IMG training for regional Extension educators who wanted to participate in the hybrid course. Educators divided curriculum and presentations topics amongst Extension faculty and received training on utilizing Meeting Owl 360° video and speaker technology to conduct twelve classes, which commenced in January 2020. Two different schedules for the course (an evening and a daytime) were chosen to accommodate staff and participants' availability at seven sites.

In March 2020, COVID-19 public health measures required the transition from face-to-face hybrid classes to solely an online format. Having a hybrid program already in progress allowed for an efficient transition to remote learning. Fortunately, all participants had access to the internet.

An online end-of-course evaluation was conducted so that instructors could learn about the course outcomes, successes, and challenges, including the transition to at-home Zoom delivery. The evaluation included both quantitative and qualitative questions, with an emphasis on the online Zoom aspect of the course since that was new for IMG program.

A survey link was emailed upon completion of the Zoom classes and was administered using the web-based survey tool Qualtrics. There were a mix of 37 open-ended, yes/no, and multiple-choice style questions using a Likert scale. Evaluation questions were included under five major categories: 1) participant demographics; 2) audio-visual effectiveness and delivery using Zoom; 3) communication modality and effectiveness; 4) personal interactions; and 5) participant/facilitator comments and suggestions for improvement.

Results and Discussion

The results of this evaluation have led to changes in the way the programs are conducted, including how to improve program delivery both in-person and using video Zoom technology.

This program instructed 87 potential new volunteers across different locations in eastern and central Idaho. Sixty-two percent of the participants responded to the end-of-course evaluation survey. There is potential for a large economic impact from these volunteers to their respective counties with a new volunteer hourly rate of \$27.20/hour (Independent Sector, 2020). For example, if each county had five Master Gardener volunteers complete 40 hours/volunteer of required service during the first year, there would be an indirect value of \$5,440 towards their local community.

Of the participants that responded to the evaluation survey, about two-thirds identified as female. Eighty-five percent of the participants also had four-year college or graduate-level degrees. Over half of the respondents were over the age of 60. Considering the demographics, it highlights the importance that facilitators and course instructors deliver IMG content that is appropriate for the audience, inclusive, and at the college-level.

Evaluation results provided further information on the effectiveness of the delivery method and areas where improvements are needed. First, the Meeting Owls 360° technology provided effective audio and visual interaction with the participants. During the course, additional classroom speakers were added to improve the audio quality and volume. The data showed that a hybrid and online format is an effective choice for IMG programming, especially given the circumstances. Yet, participants missed the personal interaction with other participants and instructors when no in-person classes were held due to the COVID-19 Pandemic.



Figure 1: Dr. Stephen Love delivers an in-person and remote presentation to students, 2020

Suggestions for improvement of the course in the hybrid format include the following: 1) increase picture quality of slides by displaying the visuals on a large high definition screen; 2) involve remote locations with questions and information that were discussed at the presenters location during breaks; 3) follow-up and review of assignments and quizzes; and 4) incorporate more hands-on activities or demonstrations to help keep participants engaged and involved.

When classes were changed to at-home Zoom meetings, additional challenges arose. It became apparent that participants needed training for remote technologies. Course facilitators and presenters should also have training before leading a course. Facilitator training should include topics like how to use Zoom and its main features; operation of the Meeting Owl 360° technology; and formatting and scheduling of classes and assignments. Handouts should be made available to participants at least a day before the class so that there is time to print them for notetaking. In the future, instructors plan to incorporate the use of the breakout room feature on Zoom since it can provide additional activities and smaller group discussions. Polling was used during one of the fully online presentations as an interactive way to teach weed identification.



Figure 2: Screenshot of IMG weed management presentation, 2020

Adjusting the course delivery improved overall course outcomes and helped instructors overcome challenges.

Changes included dedicating a facilitator to monitor the chat feature and help answer and/or ask questions so that the presenter could focus on the presentation and not the technology.

Over half of the survey respondents indicated that they utilized the chat box feature on Zoom. The facilitator also controlled muting participants and removing the unnecessary distractions from the presentation. Making each site facilitator a meeting "co-host" allowed for

changes and issues to be quickly remedied during a presentation. All presentations were recorded and made available to participants for later reference.

Overall, 70% of the participants indicated in their evaluation that they were happy with the use of Zoom technology for this program even with the sudden modifications due to COVID-19. The data provided favorable feedback about the hybrid Zoom and in-person learning, the transition to remote learning, as well as tangible suggestions for improvement for future course delivery. Having this hybrid-format already in-place when COVID-19 stay-at-home orders were issued made for a smooth transition to remote learning even if that wasn't their first choice for learning.

Comments included:

"Good platform that could be used effectively with live classes."

"The presenters were well prepared. The chat and audio capabilities for asking real-time questions made the class on Zoom seem more like an in-person classroom experience."

One facilitator stated: "Glad I participated in this hybrid course experiment; without it, I would have cancelled my IMG Course mid-course due to COVID-19."



Figure 3: Participant's satisfaction of Zoom delivery for the 2020 Idaho Master Gardener course

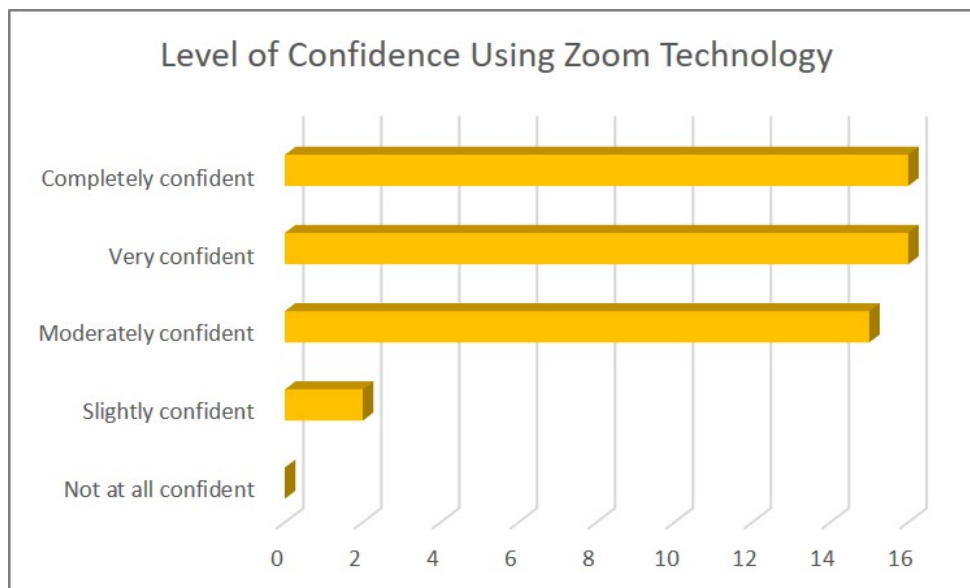


Figure 4: Participant's assessment of their level of confidence using Zoom technology for the 2020 Idaho Master Gardener course

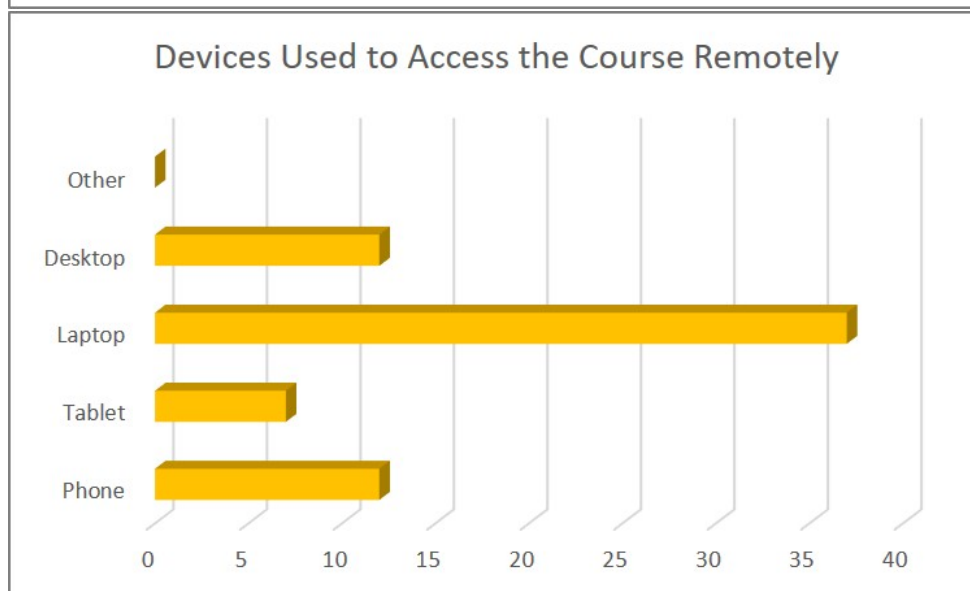


Figure 5: Technological devices used to remotely access the 2020 Idaho Master Gardener course

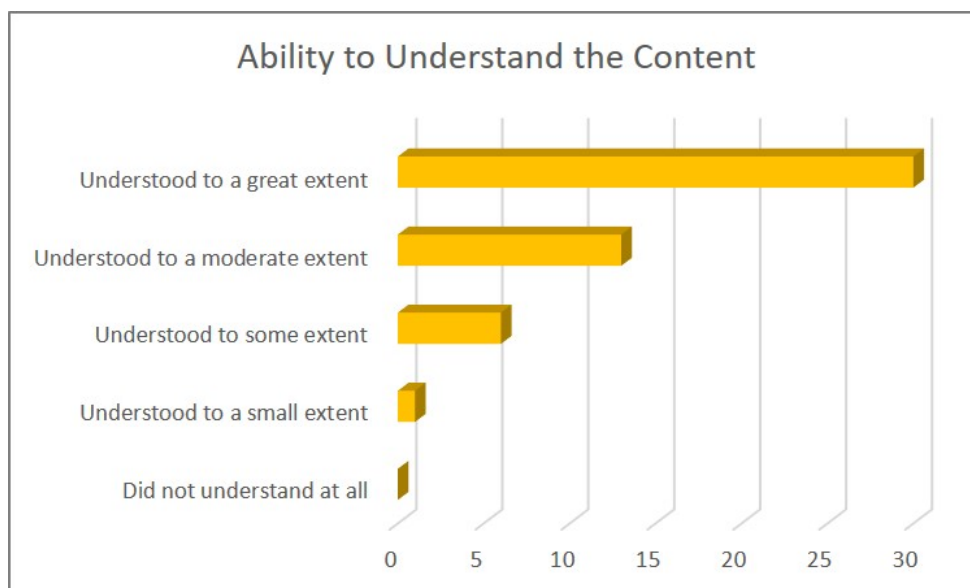


Figure 6: Participant's evaluation of how well they understood the 2020 Idaho Master Gardener course content

Conclusion

Looking to the future, Idaho Extension Educators can adapt and continue to improve the IMG program as well as expand the program to new counties that may be resource-limited such as single educator counties. To help accomplish this goal, educators plan to develop an IMG facilitator's guide for hybrid learning with course templates, lesson outlines, and PowerPoint presentations.

Idaho Extension specialists or educators with primarily horticulture appointments can continue to collaborate and offer IMG program assistance and mentoring to new educators or others who have limited horticulture appointments or support staff. Not only do the educators benefit by learning from and working together, more underserved Idahoans will also have the opportunity to learn and explore the IMG program.

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