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Online Horticulture Options Lead to Improved Programs and Increased Funding

Abstract

An alternative to the online Master Gardener training was developed to provide educational opportunities for participants not interested in volunteering. The Home Gardening Course is comprised of twelve modules, which excludes three modules specific to the Master Gardener training. The goal of this program is to provide educational opportunities for the general public and to increase statewide program funding. Participants viewed 32 hours of pre-recorded videos asynchronously to complete the training. The program has been successful, with 74 participants completing the training and rating all aspects positively. They increased overall knowledge in home horticulture, increased confidence in ability to garden at home, and would recommend this program.

Introduction

The Mississippi Master Gardener (MG) Program is now in its 32nd year of certifying volunteers. The MG program is vital to Mississippi State University (MSU) Extension's ability to meet consumer horticulture needs. MGs assist extension agents and

specialists through numerous activities such as providing horticulture education and demonstrations, teaching efficient gardening practices, promoting MS-grown plants, and encouraging gardeners to be more active and live healthier lifestyles. In 2022, 800+ MGs reported 71,000 volunteer hours with a value to MSU Extension of \$1.8 million and the equivalent of 34 full-time employees (Wilson, 2022).

Studies have shown that online educational opportunities can save MGs time and money by not driving to a local extension office to receive education (Allred and Smallidge, 2010; Wilson, 2023). Web-based program delivery has also been deemed efficient in reaching clientele while providing similar benefits to in-person education (Allred and Smallidge, 2010). Therefore, MSU Extension developed and offered online alternatives to the MG training beginning in 2021.

Some gardeners want easy access to horticulture education but are not interested in becoming an MG volunteer. They want educational opportunities without any volunteer requirement in return. Therefore, MSU Extension developed the online Home Gardening Course (HGC) and subsequent individual classes. The HGC offers most of the same modules as the MG training without the mandatory volunteer requirement. Participants' only obligation is to view the classes during the two months the course is available. Individual online classes were also made available year-round for participants who only wanted to view specific horticultural videos.

Materials and Methods

The new online HGC curriculum was developed by the state MG Coordinator, with assistance from MSU Extension specialists. It was placed online through Canvas in the spring of 2021 and was available in the spring and fall of each of the first two years. Twelve modules were delivered asynchronously by pre-recorded presentations. The modules were botany, diseases, entomology, fruits and nuts, honeybee care, lawns, ornamentals, propagation, soils, urban trees, vegetables, and weeds.

Participants registered and paid the \$200 course fee online. After the registration period closed, course materials were mailed from campus to each corresponding county extension office, where participants picked up materials. Course materials included a manual with copies of all slides with room for taking notes. A thumb drive included all slides in color and all corresponding Extension publications.

Once the online course opened, participants proceeded at an individual pace. The course was open for nine weeks with a closing date clearly stated. Participants watched all 12 modules in order, completed an evaluation, and then printed the course completion certificate. This ended the participant's course involvement, as no volunteer commitment was required.

An overall evaluation of the HGC was developed by the State MG Coordinator and approved by MSU evaluation specialists, with portions utilizing previous work by Swackhamer and Kiernan (2005). The evaluation quantified student satisfaction and self-perceived knowledge gained. It consisted of three statements regarding knowledge and confidence levels upon completing the training, one statement rating overall training quality, and confidence levels of each module taught before and after the training. The first three statements used a scale of Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. Those statements were: I increased my overall knowledge of home gardening; I am confident in my ability to garden at home; and I would recommend this program to others.

A second online option allowed participants to view any module within the HGC separately at any time of the year. The cost was \$25 per module. After completing registration and payment, participants received an email with a PDF file of the selected module. The module was accessible for up to 60 days. Once the module had been viewed, the participant's involvement with the online class was complete.

Results

Participants ranged in age from 27 to 79, with 10 of the 74 being from a state other than Mississippi. Thirty-nine participants completed the online training during the first three years for a 52.1% completion rate. Ninety-three percent of those enrolled in the HGC were white/Caucasian, and 80% were female, similar to previous MS demographic data (Jacobs, 2018; Wilson and Newman, 2011). These race and gender data are from 2022 and Fall 2021 only, as we do not have demographic data for Spring 2021.

Participants offered positive feedback through the evaluation. Some comments were:

- Well planned out! Great information!
- It was very good.
- Excellent course.
- Only slight improvements are needed to presentation quality, but nothing major.

Evaluation summaries from all four trainings were combined and showed that participants rated each aspect of the training positively. Overall, home gardening knowledge increased. They were confident in their ability to garden at home, and they would recommend this program to others (Table 1).

Table 1. Evaluation summaries of all trainings.

Question	% Agree or Strongly Agree	Means
Increase knowledge of home gardening	96.7	4.7
Increase confidence in ability to garden at home	96.7	4.5
Would recommend the program to others	93.3	4.6

Participants rated the overall quality of the training on a scale of 1 to 5:

- 1 = Poor
- 2 = Somewhat Poor
- 3 = Good
- 4 = Very Good
- 5 = Excellent

Two percent of participants rated the overall training quality as good, 44% as very good, and 54% rated it as excellent. Overall, 98% rated it as very good or excellent.

Fall 2022 participants rated confidence levels in ability to field questions for each topic before (Figure 1) and after (Figure 2) the training. Choices were Not Too Confident, Somewhat Confident, Moderately Confident, Very Confident, and Extremely Confident. Average mean scores for confidence levels in ability to answer questions increased from 1.81 to 3.53 from before training to after training, respectively. This was similar to the average results of the other three trainings at 2.02 and 3.72.

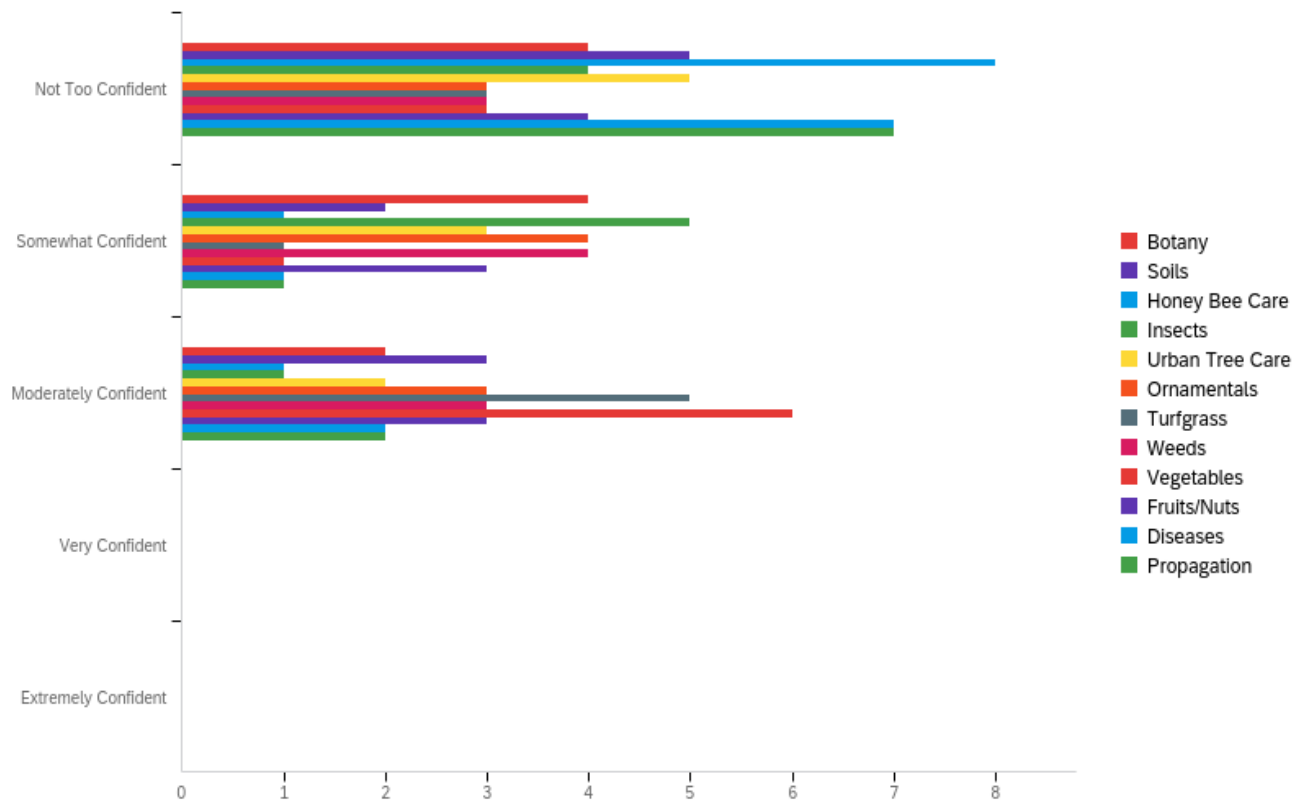


Figure 1. Confidence levels in ability to field questions before training.

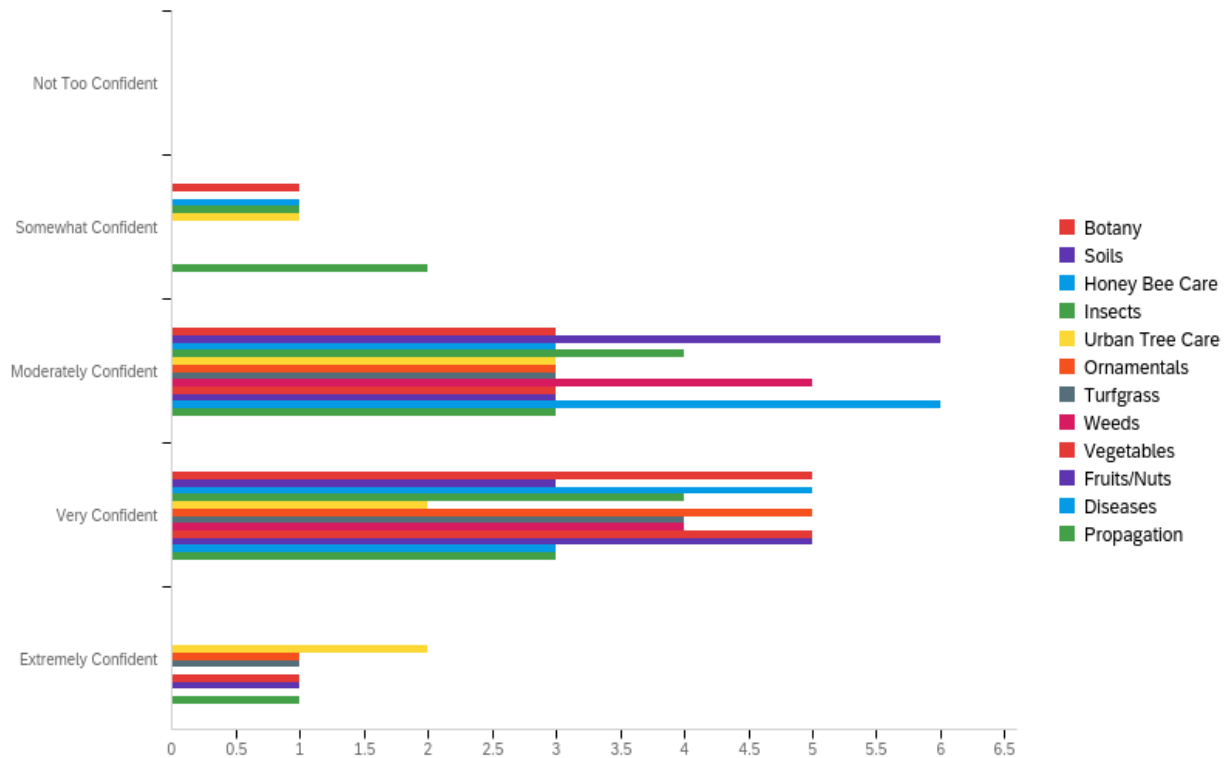


Figure 2. Confidence levels in ability to field questions after training.

Overall confidence levels to field questions in specific areas before and after the training all increased. Levels were all Moderately Confident or below before the training, and most were Moderately Confident, Very Confident, or Extremely Confident after the training.

Seventy-four participants enrolled in the HGC, and 80 enrolled in individual modules, providing \$16,800 in additional revenue to the state MG program. Credit card fees and administrative costs adjusted the total profit to \$15,414. The State MG Coordinator uses these funds to support the overall program. The individual classes most often selected were Botany, Vegetables, and Honeybee Care, making up 56 % of all classes viewed.

Conclusions

Offering the Home Gardening Course and individual modules as alternatives to the Master Gardener training has been successful for the Mississippi Master Gardener

program. The online format allowed participants to watch modules at times convenient to them and at their own pace. It also allowed participation for those who work during regular daytime hours. Participants could take single modules or the full HGC without the concern for volunteering time afterward. These additional online options required little effort by MSU and provided additional income to the Master Gardener program. This process could occur anywhere that already has online educational training in place.

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