South Carolina Agriculture in the Classroom Summer Institute Program Evaluation

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Introduction

South Carolina (SC) Agriculture in the Classroom (AITC) Summer Institute Program (SIP) provides professional development workshops for educators to learn about agriculture and gain classroom resources to "promote awareness and recognition of the importance of the sources of our food and fiber" (National Agriculture in the Classroom, n.d., para. 2). Furthermore, participants receive 20 renewal credits approved by the SC Department of Education. Previously, the program was only taught through experiential learning and face-to-face instruction. Due to the COVID-19 pandemic, the workshops were re-designed for a virtual setting using ZOOM as the meeting platform and six workshops were offered in 2020. The workshops included virtual farm tours, group discussions, speakers, and question and answer sessions with farmers. Online education can cause difficulty to maximize learning outcomes because the resources that foster learning in face-to-face environments are lacking (Bejerano, 2008). Therefore, program evaluation was conducted at the end of the 2020 AITC SIP to answer the research question, what were participant perceptions of the online structure for the SC AITC SIP? The evaluation was used to determine participant perceptions of the online workshops, content, and structure of the overall program.

Theoretical Framework

Technology is advancing in all aspects of life including education and the field of agriculture. There is a process and science behind the reasons whether people decide to adopt new innovations or behaviors (Weigel et. al, 2014). The theory of planned behavior (TPB) (Ajzen, 1991) and the diffusion of innovations (DOI) model (Rogers, 2010) were the theoretical frameworks for our research. TPB suggests that behavioral intentions guide individual behaviors and are a part of the decision makers' attitude towards the behavior and possible adoption (Weigel et. al, 2014). TPB was used to reveal participant perceptions of the online SC AITC SIP to determine if there were correlations between factors (e.g., age, gender) related to the adoption or rejection of the online structure. Furthermore, AITC SIP aligned with the five characteristics associated with DOI which were: a) no travel (relative advantage), b) online structure was compatible with all devices (compatibility), c) a professional to guide the technologically challenged (complexity), d) participants tested (trialability), and e) observed the online format (observability).

Methodology

Descriptive research was used for this study using open- and closed-ended questions. The link to a 21-item survey administered through Qualtrics© was provided to participants in an email from the SC AITC Director. The survey was designed by a team of researchers and reviewed by a panel of experts. The panel of experts had experience with the AITC SIP, survey design, program evaluation, and curriculum development. Participants were asked the benefits and pitfalls of online workshop participation, overall satisfaction with the workshops, adequate technological resources, level of technical difficulty, participation in future workshops online or only in-person, and AITC-SIP content alignment with state curriculum standards.

Data Analysis and Findings

Both quantitative and qualitative data were used to evaluate the structure and content of the AITC SIP, along with the effect online learning had on participants. There were 117 participants in the 2020 SC AITC SIP and 93 completed the program evaluation for a 79% response rate. In terms of satisfaction, 83% of participants were completely satisfied with the AITC SIP. About 92% indicated they had the necessary technological resources at home to learn efficiently online.

Participants reported their learning ability was impacted only "somewhat" to "very little" by the online structure of the workshops. When asked if the resources aligned with the SC teaching standards, 54% said they did align. When asked if participants would attend again if the program was online or in person, 83% said yes to online and 80% said yes to face-to-face, suggesting they would attend again in either instructional setting. We tested if there was a relationship between age or years of teaching experience with the preference for online and ease of online instruction. We found no significant difference between age or years of experience and the preference for online versus face-to-face structure. However, there was a significant difference between people who had participated in AITC before and preference to attend again if the program was face-to-face. Of the 66 participants that had not attended the SC AITC SIP before, 74% said they would attend again if it was held face-to-face. Of the 18 participants that had attended before, 100% said they would attend again if it was held face-to-face. Although there was no significant difference in age and online preference, 87% of the combined age groups of 32-41 and 42-51 reported they would attend again if the program was held online. When asked about the benefits and pitfalls of the online AITC SIP, the common benefit was convenience, as stated by one attendee, *"it allowed the opportunity for individuals to attend that may not have been able to travel."* The common pitfall was missing out on the experience. One participant stated, *"I missed the hands-on experience and the atmosphere of actually touring the farms."* Additional comments commonly indicated an overall great program. One participant stated, *"these workshops were so well-organized and modified for the online model."*

Conclusions

The online format of the AITC SIP educated participants on the importance of agriculture and how to integrate concepts into their curriculum with little impact to their learning. Although there was no pre-test administered to determine participant's attitudes before the AITC SIP, based on the TPB, we predicted there would be a correlation between years of experience, age, and preference for online. The data showed the predictions we made based on typical behaviors were not proven. The majority of respondents had the necessary technology and knowledge to adequately participate in the online program. The five stages of the diffusion of innovations model occurred, and based on the data, participants would be willing to adopt the online format. The majority of respondents who had not attended prior to the 2020 summer institute would prefer to participate again if the program is offered face-to-face. Experiential learning is preferred for agricultural topics, and it is difficult to achieve the program's full potential in an online environment. Participants missed the experiential learning experiences and networking opportunities, but still appreciated the convenience of not having to travel. Overall, the participants felt the program was well-organized and informative in the online setting.

Recommendations

Although agriculture is typically taught with some type of experiential learning, the online format of the 2020 AITC SIP had little to no impact on the participant's learning ability. More SC educators were able to participate in the AITC SIP due the online format in 2020. Therefore, we recommend use of online programs for AITC. Providing both online and face-to-face workshops can be beneficial for the SC AITC program by increasing the number of SC educators the program may potentially reach. We also recommend that online formats may be a better alternative for participants that have disabilities, family emergencies and responsibilities, or those who cannot afford the registration fee. Hybrid workshops including virtual farm tours could be the future of SC AITC SIP.

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