

Agriculture in the Classroom Preservice Teacher Seminar Evaluation

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Introduction

Agriculture in the Classroom organizations implement programming to increase agricultural literacy among pre-kindergarten-12 grade teachers and their students (NAITCO, 2020). One way Utah Agriculture in the Classroom (UTAITS) addresses this objective is by partnering with five universities to host preservice teacher seminars reaching nearly 600 elementary education students annually. Program outcomes focus on increasing participants' agricultural understanding, providing lesson plans for future use, and increasing self-efficacy in using agriculture as a context for addressing content standards. Immediately following each seminar, a survey (for a short-term evaluation) is provided to participants measuring these outcomes. In April 2022, a follow-up survey—gauging a mid-term evaluation of seminar outcomes—was sent to all 2017-2021 participants who had provided their contact information ($n = 231$). These survey results were used to gauge the usefulness of resources to participants as educators and determine if program outcomes regarding agricultural literacy have been met. This research aligns with the American Association for Agricultural Education's (AAAE) Research Priority 1: to answer the question about what methods, models, and programs are effective at informing the public about agricultural and natural resources issues (Roberts & Brashears, 2016).

Conceptual Framework

A logic model was developed (Miller et al., 2022) and approved by the UTAITS program leaders. This logic model was used to determine the short- and mid-term impacts of the elementary preservice program. This pragmatic approach aligns with Stufflebeam's Context, Input, Process, Product (CIPP) evaluation theory (Mertens & Wilson, 2019).

Objectives

1. To evaluate the short-term preservice teacher seminar outcomes including teacher perceptions of agriculture, use of agriculture as a context to teach curriculum standards, and intended use of seminar resources.
2. To evaluate the mid-term preservice teacher seminar outcomes including actual use of seminar resources, self-efficacy to use agriculture as a context for addressing curriculum standards, and student perceptions of agriculture after the use of these lessons.

Methods

The Utah AITC program developed a 22-question short-term survey and provided it to nearly 600 participants immediately following the seminar. The first 13 questions focused on the teachers' change in agricultural understanding as a result of the workshop. Remaining questions asked participants about the overall delivery of the seminar. The 21-question mid-term survey instrument was developed by the authors after consulting with UTAITS staff. It was emailed to 231 individuals who participated in the seminars from 2017 through 2021 who provided email addresses on the short-term survey. The mid-term survey was open for two weeks with one reminder sent halfway and a second reminder one day before closing. Utah AITC program provided an incentive of \$20 in educational resources to each mid-term respondent. Qualtrics was used for survey creation, distribution, and descriptive analytics. SPSS was used for further statistical analysis of responses.

Results

From 2017 through 2021, 584 preservice teachers responded to the short-term survey immediately following the Utah AITC seminar. When asked about their own growth as a result of the seminar, 70% of the participants indicated they agreed or strongly agreed their own agricultural knowledge increased. Most participants (98%) stated it was likely or very likely they would use the resources provided in the seminar and explore the UTAITC website for further resources. Eight questions addressed the delivery of the seminar; all responses were positive.

Twenty-three (10%) completed the mid-term survey, one email failed to send, and 19 emails bounced. Of the 23 respondents, one graduated from their undergraduate teaching program in 2018 (4%), five in 2019 (22%), 12 in 2020 (52%), four in 2021 (18%), and one had not yet graduated from college (4%). Upon graduation 21 respondents did teach for some duration; 18 (86%) are currently teaching, 2 (9%) entered the teaching profession, but at the time of the survey were no longer teaching. One participant was not currently teaching but was working with elementary students and teachers in some capacity. All grade levels kindergarten through sixth grade were represented by the 18 respondents who indicated current grade taught, and teachers indicated they had changed grade levels taught over time.

A desired outcome of the seminar is to increase the teachers' self-efficacy in using agriculture as a context to meet curriculum standards. Mid-term respondents felt somewhat comfortable ($M = 2.67$) using agriculture as a context to teach lessons in their classes. While teachers indicated comfort using agricultural themes within their lessons, several ($n = 6$) stated they had not used lessons from the Utah AITC website in their classrooms. More respondents ($n = 11$) indicated they had not yet used these lessons but planned to in the future.

Of the lessons teachers did use in the classroom, most lessons (50%) tied to science educational standards, while others connected to nutrition/health (25%) or reading (25%). Participants were asked to comment as to why they had not used lessons from the AITC website following participation in the webinar. The word "forgot" was used three times, one person stated they were unsure how to incorporate the lessons, and one person stated they have a long list of requirements to accomplish within their class, therefore, these lessons did not fit. One respondent indicated they would not use the lessons because their values did not align with the material.

Conclusions/Recommendations

While the mid-term survey obtained a low response rate, the results have provided insight for Utah program planners. The short-term results indicate preservice teachers found the seminar informative and they planned to use these in the future. However, mid-term results indicate participants did not follow through in their own classrooms. To encourage graduates to use the agricultural literacy materials, it is recommended Utah AITC find ways to follow-up or engage with these teachers in professional learning communities during their first few years of teaching to remind the new educators about the resources, and how to use them to address curricular standards. Utah AITC staff should also consider the timing of the seminar within the undergraduates' course sequence to ensure most effective placement for more immediate implementation of the resources. Other state AITC programs, conducting preservice programs, should consider evaluating their programs to determine the effectiveness of this model to address AAAE Research Priority 1.

References

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