

Assessing Acceptance for Trained Teachers to Implement Agriculture in the Classroom

Ms. Taylor E. Holmquest, Oklahoma State University
Dr. Robert Terry, Jr., Oklahoma State University
Dr. Jon W. Ramsey, Oklahoma State University
Mr. Nathan A. Smith, Oklahoma State University
Ms. Emily O. Manuel, Oklahoma State University

Department of Agricultural Education, Communications and Leadership
448 Agricultural Hall
Oklahoma State University
Stillwater, OK 74078
(405) 744- 8036

Taylor.holmquest@okstate.edu
Rob.terry@okstate.edu
Jon.ramsey@okstate.edu
Nathan.smith@okstate.edu
Emily.manuel@okstate.edu

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Introduction

The Committee on Agricultural Education in Secondary Schools stated education about agriculture is too important to be shared with a limited audience (National Research Council (NRC), 1988). Further addressing the importance of agricultural literacy, Kovar and Ball (2013) stated controversy in agriculture is at a constant rise due to genetically modified crops, food safety issues and animal rights. Burrows et al. (2020) stated a good way to increase positive attitude toward agriculture is through educating everyone, including youth. Terry et al. (1992) found, however, teachers tend to have little knowledge and inaccurate perceptions about agriculture. For this reason, they recommended efforts be made to teach teachers about agriculture. Other challenges for teachers to deliver agricultural literacy content exist, as well. Studies conducted in California, Michigan and Missouri cited time and lack of knowledge as barriers for teachers' ability to incorporate agriculture to the core curriculum (Knobloch et al., 2007). Agriculture in the Classroom (AITC) is a program that provides curriculum to teachers to incorporate in core subjects at the elementary level (Malecki et al., 2004). This study was conducted to assess the utilization of AITC materials by elementary school teachers in Oklahoma by teachers who have completed AITC professional development.

Theoretical Framework

The theoretical base of this study was the Stages of Concern, which is one of the three dimensions of the Concerns Based Adoption Model (CBAM) developed by Frances Fuller and implemented by Hord et al. (2006). "CBAM is a framework designed to provide measurement concepts and tools for evaluators and researchers to evaluate the effects or progress of implementation of an innovation or multiple innovations that may constitute a reform program" (Hord et al., 2006, pp. 1-2).

Methodology

This descriptive study employed survey research methods. The population was elementary school teachers who completed one or more professional development training programs offered by Oklahoma AITC between 2016-2022. A convenience sample was drawn from this population from among subscribers to the monthly newsletter of the Oklahoma AITC (Oklahoma Ag in the Classroom, 2023). The instrument was created by Burrows et al. (2020) and has been used in similar studies. The questionnaire was composed of seven sections. Section 1 included five demographic questions with closed response choices. All items in sections 2 – 7 used a four-point response choice scale that ranged from *Strongly Disagree* to *Strongly Agree*. Each item also had a choice of *Prefer not to Answer*. Section 2 focused on teachers' perceptions about learning about agriculture. Section 3 inquired about teachers' use of AITC materials. Section 4 explored teachers wants and needs for professional development about AITC. Section 5 focused on the lesson plans available to teachers. Section 6 addressed barriers to teaching agriculture.

Results/Findings

The first objective of this study was to describe selected characteristics of teachers who completed one or more professional development programs on AITC. A total of 118 teachers participated in the survey. Of respondents, 52.48% had been teaching for 19 or more years, 10.89% had taught for 14-16 years, and 8.91% had taught for 11-13 years. More than 88% of the respondents had previously heard of AITC and nearly 76% had completed an AITC workshop. More than 50% of the respondents completed an AITC workshop in the last two years.

Teachers were asked about the importance they place on teaching about agriculture. More than 91% agreed it is important to teach agriculture to elementary school students. More than 94% agreed it is important that students understand where their food comes from. A similar percentage believed it is important students understand where agriculture fits into the global economy. Teachers strongly agreed agriculture can be used to teach science, natural resources, mathematics, environmental issues, social issues, and language arts.

When asked about their interest in materials and resources for integrating agriculture in their classes, they strongly agreed they would use materials designed to meet educational standards. They also prefer lesson plans and other curriculum materials that are free and can be printed. Teachers strongly agreed they are interested in activities for teaching agriculture such as gardens, field trips to agricultural sites, and interactive, computerized materials.

Teachers indicated their preferences for continuing education programs offered by Oklahoma AITC. More than 90% said they would be willing to attend a program if it is free of charge and only 31% indicated they would be willing to pay for a continuing education course related to teaching agriculture. More than 80% agreed or strongly agreed they would attend programs focused on incorporating agriculture into their current curriculum. More than 70% agreed or strongly agreed they would be interested in an in-service/class about agriculture education for continuing education credit and nearly 80% indicated they prefer these programs take place during the summer.

Conclusions, Recommendations and Impact

Teachers believe it is important to teach children about agriculture. Results from the study found strong agreement among the teachers that their students should learn where their food comes from and the global impact of agriculture. Teachers consider agriculture to be an appropriate context for teaching core subjects such as science, math, natural resources, and environmental issues, as well as social studies and language arts. They want lesson plans and other instructional materials to be free, online, printable, and aligned with current educational standards. Continuing education programs focused on teaching agriculture should be free of charge, conducted in person, and offered during the summer.

This group of teachers is familiar with AITC, and most are teaching at least some agriculture to their students. However, they may need greater understanding of how to access materials and greater awareness of materials available to them. We recommend to Oklahoma AITC to find a way in which educators can access AITC training and classroom materials. Future studies should focus on how to advertise agriculturally based classroom resources. A self-identifying “grade you teach” question would be beneficial to get a clearer picture on the audience. A larger sample size of educators who have not heard of or utilized AITC materials could provide valuable insight on how to encourage more educators to discover and use AITC.

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