The Urban Agriculture and Life Sciences Academy's Summer Institute: Agricultural Teachers' Perceived Satisfaction and Learning about Culturally Responsive Pedagogy

Aaron Golson

(aaron.golson@uga.edu)

Dr. James Anderson II

(jcanderson@uga.edu)

University of Georgia

(Four Towers, 405 College Station Road, Athens, GA 30602)

706-542-8913

Department of Agricultural Leadership, Education, and Communication

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Introduction

Recent estimates indicate that more than 2 million Americans live in food inaccessible locations, which are parts of the country that lack reasonable access to fresh food, vegetables, or other healthy whole food options (Smith, 2016). The growing urban population and constraints on resource accessibility have made the sustainability of urban systems a focal point for urban planners and researchers (King 2016; Weidner et al., 2018). One of the ways of preserving and promoting urban ecosystems is to strengthen the concept of urban agriculture (Guitart et al., 2012). Agricultural education serves this role and is historically known for exploring a plethora of agricultural opportunities within the formal and informal learning environment. However, there is still a gap in disseminating information to nontraditional populations. As a result, the majority of the US population is agriculturally illiterate because they do not see the relevance of agricultural education in their lives. Therefore, it is important that agricultural educators create relevant curriculum that is tailored to the needs and interests of diverse populations. The concept of culturally responsive teaching has surfaced as a pedagogical framework for educating students from diverse backgrounds (Murff, 2020). Confident culturally responsive agricultural educators and their students can serve as catalysts for resolving future global environmental problems.

The purpose of this study was to evaluate urban agriculture teacher satisfaction and knowledge of culturally responsive pedagogy during the summer institute. The following two research objectives directed the study: Describe respondents' perceptions of satisfaction during the summer training institute; and Describe respondents' perceptions of knowledge in culturally responsive pedagogy. The Urban Agriculture and Life Sciences Academy will serve as a hub for increasing agricultural literacy for urban students at the three high schools participating in this project.

Theoretical Framework

The theoretical framework for this study is based on Kirkpatrick's four levels of evaluation focusing on teachers' perceived knowledge about culturally responsive pedagogy resulting from a professional development experience. Kirkpatrick's four levels of evaluation model measures the reaction, learning, behavior, and results of the selected participants in training programs. Most training professionals are accustomed to evaluating training programs for the purpose of improving the program (Kirkpatrick, 2016). Although Kirkpatrick's Four Model focuses on evaluating a program based on four levels which cover participants perceptions (Levels 1 and 2) and program impact (Levels 3 and 4), the scope of this study will focus on the first two levels, which are participants' satisfaction and knowledge gained while participating in the institute.

Methodology

Vincent High School of Agricultural Sciences in Milwaukee, Wisconsin and Chicago High School of Agricultural Sciences in Chicago, Illinois were chosen to participate in a summer institute due to their comprehensive agricultural programs and large number of enrolled urban students. Participants, which included urban agriculture teachers, educational specialists, and administrators from the selected high schools, were invited to a 4-day training at the University of Georgia, which sought to increase urban agricultural high school professional's knowledge of culturally responsive pedagogy. The training included sessions on implementing culturally responsive practices in the classroom including student engagement and student voice. In

addition, participants went on field visits to see agricultural practices being applied in urban areas and discussed implementation strategies with agricultural professionals and experts. After completion of the summer institute, a Qualtrics survey with 49 questions were sent to participants to assess their reaction and learning during the summer institute. Dillman's (2014) tailored design method for internet surveys was used to guide the collection of the data. The questions were structured using Likert-type scales for the satisfaction-based questions and open-ended questions for the knowledge-based questions. The instruments were reviewed for validity by a committee of three experts consisting of a content specialist, instrumentation specialist, and curriculum specialist (Pedhauzer & Schelkin, 2014). Responses were analyzed for themes and measures of central tendencies, no statistical analyses were conducted (Pedhauzer & Schelkin, 2014).

Results/Findings

All 11 participants responded to the Qualtrics survey. The survey indicated that the participants were somewhat to extremely satisfied with the 4- day training sessions. All of the sessions related to culturally responsive instructional strategies received a 5.5 out of 6 or higher rating. These sessions included topics on transformative teaching, cocreating in classrooms with students, and a teaching laboratory. Some of the highest rated field experiences with 5 out of 6 rating were the state botanical children's garden, marine science center, and aquaponics laboratory. Participants reported learning more about incorporating culturally responsive strategies in the classroom but indicated wanting more time to focus on specific strategies for implementing what they learned. Some of the comments made by the participants were: "From the Identity lesson, I learned the importance of students being given the space to learn and reflect on their identity and its impact on their motivation." "I appreciated his approach to problem solving and his style with his students- he gave his students the space to explore, make mistakes, and start over again." "The focus I took away from the Aquaponics Lab was the importance of hands-on opportunities for students that also solve real-world issues."

Conclusion/Recommendations

As the world's population races to an estimated nine billion people, agriculture education will be challenged to transform to meet the evolving global demand for food and agricultural products. Spaces must be created for scholars and stakeholders to collaborate to address some of the most complex and urgent problems facing society. In order to meet this demand, more urban agriculture teachers will be needed who are able to recruit, train, and assist in retaining young talent from these areas. To this end, the participants were satisfied with the summer institute, but wanted additional opportunities to practice the skills learned. This desire relates to the need to increase self-efficacy. A high level of self-efficacy may lead an individual to perceive the challenges as surmountable, which will lead these individuals to attempt the challenge at hand (McKim & Velez, 2015). Accordingly, an additional day of collaborative planning and lesson writing should be added to the institute. Further, research on knowledge gained from the institute, changes in self-efficacy before and after the summer institute, and to what extent teachers are implementing these strategies after the institute should be conducted.

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