

Florida Teacher Institute: Improving agricultural literacy one classroom at a time

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Introduction

There are many critical issues that our local and global communities face, one of which being food security. The Food and Agriculture Organization of the United Nations (FAO, 2023), noted that between 690 and 783 million individuals worldwide faced hunger in 2022, which increased since the COVID-19 pandemic. This unfortunately is a persistent issue we face year after year. One small step in the fight against hunger could be increasing the agricultural literacy of society to better understand the complexity of agrifood systems and their impact on food security. In on-going work from the National Center for Agricultural Literacy, Spielmaker et al. (2014) established an Agricultural Literacy Logic Model with a long-term result of an agriculturally literate society that supports agricultural policies resulting in a food-secure nation. Additionally, the National Research agenda and values for the American Association of Agricultural Education have established the need for an agricultural literate society over the years by advancing public knowledge of agriculture, food, and natural resources (AFNR) systems (AAAE, 2023; Roberts et al., 2016).

Programs are needed to help all teachers better understand how agriculture works every day to address global needs such as food security. School-based agricultural education programs are doing what they can to increase agricultural literacy, however, there needs to be a further reach of agricultural literacy efforts in K-12 education. The purpose of this project was to create and deliver a one-week residential summer professional development to empower K-12 teachers to integrate AFNR concepts within their existing state curriculum.

How it works

The Florida Teacher Institute was modeled after the state's already successful youth summer camp inspired by the Global Youth Institute (World Food Prize Foundation, n.d.). Non-School Based Agricultural Education teachers were invited to participate in a one-week professional development session at the University of Florida. During the week teachers were introduced to key stakeholders and faculty for many of the agricultural entities connected to food security (e.g., animal science, plant science, entomology and nematology, fisheries and wildlife, and Extension services). Trips and interactions around campus and the surrounding area were established to help broaden the teachers' agricultural literacy. The schedule mirrored that of the youth summer camp so the teachers and youth would swap which stakeholders they were visiting each day. Some activities were planned for both the teacher and youth participants as it logistically worked better to keep them together.

In terms of programming, the week started with an overview of the land grant mission and a poverty meal experience to help build interest and motivation for the week. The next day, topics around local ecosystems, aquatic life, animal sciences, and entomology were all discussed. On the third day, United States Department of Agriculture and Farm Bureau partners were introduced along with topics in both food science and agricultural and biological engineering. The following day focused on Extension services throughout the state and within their local communities. The final day and a half provided additional agricultural in the classroom resources and gave the teachers time to reflect on their experiences and develop ways to integrate AFNR concepts to their existing curriculum.

Participating teachers were tasked with developing AFNR integration lesson plans for their classroom. At the beginning of the week teachers were provided resources to help in the overall development of their lessons and at the end of each day they reflected on their key take away moments from each stakeholder visit. A team of two agricultural education faculty and four graduate students helped to manage all the activities during the week and acted as mentors for the participating teachers while they brainstormed how to integrate AFNR concepts into their curriculum.

Results to date

For the inaugural year we had four teachers participate, two elementary and two middle school science teachers from both public and private schools. Mentoring sessions have been ongoing with each teacher to provide insights for the lesson plans they are developing. Overall, the program was successful in the first year. There was a general increase in the teachers' awareness of key food system stakeholders' impact on food security. Each teacher increased or maintained their high agreement that the key stakeholders were integral to creating solutions for critical food security issues. One of the teachers noted, "The biggest take-away for me is the collaboration required to deal with the issue of food security. There is a huge range of research and specialists involved, and I think that's important for students to see and understand." Additionally, each teacher increased their confidence for discussing issues around food security with their students by the end of the week. All teachers left with an action plan for implementing AFNR integrated lessons in their classroom. One teacher left stating, "I am more hopeful for the future because I met so many faculty who care about this issue and are doing research to help make positive change. I am more inspired to continue teaching about agriculture."

Future plans

Currently, each participating teacher is finalizing their AFNR integration lessons and will be implementing those soon within their classroom. The team who worked with the teachers during the program are helping each teacher think through and vet their integration lessons to help ensure misinformation or misconceptions are not included. Once the lessons have been fully implemented the team will follow-up with each teacher to gauge the impact of their lessons and evaluate how the lessons were received. Each teacher will be asked to make edits to their lesson plans given their reflection. Final plans will be made available publicly for teachers from the same grade level and discipline to utilize in their own classroom connected to the state standards. The hope is to expand the existing agricultural literacy resources and have more teacher-developed resources available for the varying grade levels and disciplines.

Resources needed

The budget for this professional development was just over \$1,038 for each teacher with housing, transportation, meals, shirts, giveaways, supplies, and other fees all included. Teachers were asked to commit \$450 towards the cost of the week and sponsors were found to cover the remaining costs. As mentioned, this program utilized the existing schedule of the youth summer camp, so it just required a little extra coordinating with the stakeholders on each visit to have them present a second time for the teachers. While this professional development was done over a week and housing plus meals were included it should be noted that something similar to this program could be done with a more limited budget.

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