

**Native American Agriculture:  
A Unit of Instruction Promoting Diversity and Heritage**

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### **Introduction/Need for Innovation or Idea**

An agriculturally literate person understands the food and fiber system, including its current economic, social, and environmental significance to all citizens (National Research Council, 1988). School-based agricultural education (SBAE) programs play an important role in developing agricultural literacy (National Research Council, 1988). Curriculum standards for SBAE programs vary from state to state; however, it can be concluded the focus is to provide students a general and diverse understanding of the agricultural industry and career opportunities therein (Croom, 2008). There are, of course, benefits to emphasizing local aspects of curricular subject matter. Theobald (1997) espoused the importance of relating curriculum subjects to the community. He stated rural students, in particular, gain pride and allegiance to their home area when they learn more about its place in the broader world.

In parts of rural Oklahoma, Native American tribes continue the conservation and restoration of tribal land and agricultural practices through the use of heirloom gardens, ethnobiology, and seed banks for traditional crops (Cherokee Nation, 2020). Knowledge about Native American agriculture helps tribal citizens understand more about their heritage. Furthermore, it helps people from other cultures appreciate how various aspects of modern agriculture are connected to the developments created by diverse native peoples.

In order to provide efficient and effective agricultural education programs, as called for in American Association for Agricultural Education research agenda, we must continually promote resources and programs that effectively communicate with diverse audiences (Roberts, Harder, & Brashears, 2016). Few resources exist to teach students about Native American agriculture in Oklahoma. What resources are available focus on elementary school students (Oklahoma Ag in the Classroom, 2020). As such, there was an opportunity to develop curriculum introducing SBAE students to the agricultural heritage of Native Americans and their influences on modern agriculture.

### **How it Works/Methodology/Program Phases/Steps**

An undergraduate student majoring in agricultural education created the *Oklahoma Native American Agriculture* curriculum unit as a special problems project. The primary objective of the unit is to introduce SBAE students to the heritage of Native American agriculture and how Native Americans impact modern agriculture. The target audience for the unit is SBAE students; however, it could be used with history and other social studies classes, as well.

The unit is comprised of four lessons and a unit assessment of student learning. Lesson topics are: What is Native Agriculture?; Introduction to Heritage Agriculture; Tribal Spotlight; Modern Native Agriculture. The unit calendar suggests the lessons can span as many as 5, 45-minute class periods.

The unit begins with a 35-item, objective-based unit pre-test. Each lesson topic includes learning goals (instructional objectives) and a list of materials and resources needed to teach the lesson such as worksheets, visual aids, instructional technology, and reading materials. Each

lesson plan includes an anticipatory set (interest development), directed instruction (content outline), instructional strategies to be used, at least one learning activity, formative assessments and other resources used for instruction. There is also a unit (summative) assessment accompanied with an answer key.

The instructional plan is formatted using the lesson plan template used in professional education courses for the agricultural teacher education program at Oklahoma State University. Visual aids include PowerPoint files and links to videos accessible on YouTube.

### **Results to Date/Implications**

The undergraduate student who created the unit pilot tested it during his student teaching field experience. He taught the unit to an Introduction to Agriculture class and gathered data about the cognitive and affective impacts of the instruction. An objective-based unit pre-test assessed students' mastery of the learning goals prior to instruction. At the conclusion of the instruction phase, a post-test was administered. The average score on the pre-test was 23% and the average post-test score was 91%. The vast improvement in this score indicates the unit had a positive impact on students' post-instruction mastery of the learning goals. A semantic differential instrument was administered to assess students' attitudes about Native American agriculture before and after being taught the unit. Those data have not yet been analyzed.

### **Future Plans/Advice to Others**

More data need to be collected and analyzed regarding the effectiveness of the instructional unit. Instructional goals need to be cross-walked with national and state AFNR standards. The curriculum should also be cross-walked with state standards for social sciences. Additional visual aids should be developed and supplementary learning activities would reinforce the learning goals. The Tribal Spotlight lesson of this unit focused on the Quapaw (O-Gah-Pah) Tribe. This unit of instruction would be enriched with additional spotlights focusing on other Native American nations. Agricultural traditions differ greatly among tribes based on their traditional lifestyle, geographic homeland and exposure to other cultures. The spotlights provide the greatest opportunity to *localize* the unit to the Native American groups common to regions of the state and nation.

The author of this unit plans to update the content and teach to classes in the SBAE program in which he is employed. The unit will be made available to student teachers from the OSU agricultural teacher education program. Proposals for extramural funding are being developed to attain support to further develop, distribute and evaluate the unit. After modifications are made, the unit will be available for teachers to download from a website.

### **Costs/Resources Needed**

Costs associated with developing and teaching this unit of instruction are minimal. The primary expense was in the form of time and effort invested by the author to research and design the content. Sources of information and other references used to create the unit content are available free of charge. The only costs were for materials used for student activities and printing of handouts, which totaled less than \$50.

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