

**Dishing up Agriculture: A Unique Approach to Strengthening Agricultural Literacy.**

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### Introduction

The United States agricultural sector faces significant challenges as involvement in production agriculture declines and the population climbs closer to the anticipated 9.7 billion in 2050 (Chapman & Lindner, 2018). More specifically, one concern includes the literacy of the growing population regarding global agriculture, food, fiber, and natural resource systems (Clemons et al., 2018). Furthermore, Kovar and Ball (2013) found an anticipated lack of support for agricultural issues looms on the horizon as a greater percentage of the population plants their roots in urban areas. Approximately 30 years ago, the National Research Council described agricultural literacy as an “understanding of the food and fiber system, including its history and current economic, social, and environmental significance to all Americans.” (National Research Council, 1988, p. 1).

As the agricultural literacy movement evolved, researchers Kovar and Ball (2013) speculated that a rudimentary understanding of agriculture has deteriorated. With the world’s population transitioning more to an urban environment, the population actively involved in producing their own food is destined to occur (Sandlin & Perez, 2017; Spielmaker & Leising, 2013). As such, “Agriculture educators and agricultural industry leaders have called for a basic level of agricultural literacy for Americans of all ages” (Meishen & Trexler, 2003, p. 43). This call resonates well with the American Association for Agricultural Education’s National Research Agenda Priority 1 where the charge was given for “agricultural educators, communicators and extension personnel to educate the public and policy makers about the impactful work which occurs in the agricultural industry” (Roberts, Harder & Brashers, 2016, p. 16).

As such, the needs for activities that support an awakening of agricultural literacy efforts is called for and echo the work of Dale, Robinson and Edwards (2017) that revealed a need for the implementation of activities to strengthen knowledge of basic agricultural principles among university level freshman agricultural students. Dale et al., (2017) found that incoming freshmen agricultural students at a land grant university fell short of a 70% passing rate on an agricultural literacy assessment. A study by Bartol, Dolničar, Podgornik, Rodič and Zoranović (2018), found that an agricultural literacy assessment of first- and second-year school of agricultural students determined that second-year students scored higher ( $M = 48.1\%$ ), than first year students ( $M = 45.7\%$ ) but no significant difference was observed, which positively correlates with research by Dale et al., (2017).

Our innovation, *Dishing up Agriculture*, is a class assignment used to increase food commodity chain knowledge in freshman seminar courses taught in the Agricultural Services and Development program at a Tarleton State University.

### How it Works

Student backgrounds have shifted from traditionally rural to more urban perspectives. As university enrollment climbs, so does the knowledge gap between consumers and agricultural producers. Students enrolled in a freshmen seminar for Agricultural Industries and Agencies majors at Tarleton State University are introduced to the careers, opportunities, and skills needed within a multitude of agricultural fields. In an attempt to strengthen student knowledge

of the collective efforts required to produce, process, market, prepare and put a meal on the table, this innovative activity initiates with a discussion over the students' favorite holiday dishes and the necessary ingredients to make each recipe. Building upon this, the narrative continues over where those ingredients originate, how long it takes to grow/produce them, and culminates with the prospective careers involved in the production, marketing, and preparation of each ingredient.

Students were randomly assigned a partner and each group was charged with researching the production timeline from conception/germination to the plate of each ingredient used in their recipe and what occupations exist at every stage of the production and processing. Each group then developed an outline of the time it takes for each recipe ingredient to be produced. Groups were also tasked with developing visuals and presentations detailing the production timeline, processing timeline for each ingredient, and careers affiliated with growing, producing, marketing, and constructing each recipe.

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

The objective of this assignment was to enhance the agricultural literacy of commodity chain knowledge in university level students enrolled in a freshman agriculture seminar class. Through group work, students increased their knowledge of food production using a relatable dish. Investigating career opportunities along the production chain enhanced their awareness of potential careers within the agriculture industry. The results of this activity were extremely positive. Students reported an increase in their ability to share their knowledge with their family, peers, and others. Ultimately, a deeper understanding and appreciation for food and fiber production was created through this assignment. Student knowledge of job opportunities within a variety of Agriculture sectors were also attained.

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

This project should be incorporated in all university freshman-level seminar classes across the university both in and outside of the agricultural discipline. This practical application affords the opportunity for students to become agriculturally literate through personal reflection. Following implementation, the authors determined the success of this experiential learning approach resulted in experiences that warranted its continued use in the curriculum. Future use of this project should incorporate a pre-post design research component to better investigate its potential in developing agriculturally literate students.

### **Costs / Resources Needed**

The expenses for this activity are minimal as the majority of the components needed can be found in a modern classroom. A computer with internet access, a projector, and paper for printing recipes were the only fiscal cost involved in the reproduction of the materials used in instruction. Ultimately, the total expense should be less than \$10 per unit of instruction.

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