

California State University, Fresno Successfully Delivers a USDA
Ag Discovery Program Utilizing Experiential Learning in a Virtual Environment

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Introduction

The United States Department of Agriculture (USDA) Ag Discovery Program has been successfully implemented for the past four years at the California State University, Fresno. Ag Discovery is a summer program established through the USDA that gives high school students the opportunity to explore career options in the plant and animal sciences and agricultural business. Staff in the Jordan College of Agricultural Sciences and Technology (JCAST) at California State University, Fresno were charged with managing the program, organizing staff, developing curriculum, and completing program logistics such as facilities, equipment, and travel arrangements for visiting students. This year's program was unlike any of the prior programs due to the restrictions of COVID-19 as Ag Discovery 2020 was held virtually for the first time by several of the state programs, including California State University, Fresno. Sixteen students across the United States participated in the two-week program. Zoom and Google Classroom quickly became common-place terms as staff, and students, learned about technology requirements to sustain the two week program. Students spent three to four hours a day on Zoom with coordinators and viewed live presentations, pre-recorded sessions, and completed evening assignments on their own. Prior to the program starting, staff discussed how participants would effectively learn, build comradery, develop a class culture of respect, and, most importantly, if experiential learning could be effectively delivered through online education. The Ag Discovery Program at California State University, Fresno was able to effectively implement an online program accomplishing these tasks.

How it Works

Three faculty members, worked alongside three students, to create the curriculum for daily lessons. The team helped facilitate all of the sessions either by hosting live participants or by showing pre-recording lessons given by faculty members on campus. The live portions of the program included meetings with leadership from the JCAST, County Farm Bureau and USDA. Representatives from United States Department of Agriculture (USDA) included the Animal Plant Health Inspection Service (APHIS), Investigative Services (IS) and Veterinary (VS) and Animal Care (AC). The pre-recorded sessions included workshops provided by college faculty and staff specializing in specific areas within animal and plant sciences and agribusiness. These recordings were shown intermittently and were broken up with discussion sessions and students were assigned homework to reinforce learning. The pre-recorded sessions included: beef production and animal health, pre-veterinary medicine, rangeland management, livestock evaluation, dairy production, horse production, plant sciences and health, bee production an integrated pest management. Program staff recorded the sessions and were able to capture and deliver educational content. The staff used recording equipment including drone footage to describe the breadth and depth of the curriculum topics and facilities at California State University, Fresno. The virtual tours gave students a sense of what it would be like to visit our campus. The lesson highlighted was titled, "Experiential Learning Through Leather Craft." This lesson was presented by a faculty member in agricultural education with experience in teaching at secondary and post-secondary levels, experiential learning and the practice of leather crafting.

The objective of the lesson was to teach students about experiential learning, as a teaching methodology, by utilizing leatherwork as a way to expose them to the four stages of Kolb's Experiential Learning Model (KOLB, 1984). Part One of the lesson was a PowerPoint presentation that described the four stages of the Experiential Learning Cycles: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. Roberts (2006) summarizes what is known about experiential learning theory as experiential learning beginning with an initial focus of the learner, followed by an experience, then the learner reflects on their observation, formulates a generalization, and then tests the generalization with experimentation. Once completed, the circle starts over in a spiral-like pattern (Roberts, 2006, p.22). Each part of the cycle was explained using examples from the leather industry to help students form a more thorough understanding. The PowerPoint also included factual information regarding the history of leather, worldwide leather production, and the types of products produced from leather. Part Two of the lesson included video recordings produced in the instructor's leather shop detailing the different types of leather and tanning methods. Videos were also recorded outside demonstrating the types of leather used to produce horse and mule equipment. Students were shown horse tack that included a saddle, bridle, saddlebags, hobbles, nosebag, and riding chinks (short chaps). They were also shown mule equipment including, a pack saddle, panniers, and pack halter. The video ended with a saddling and packing demonstration so that students could see the real-world application of the leather items. Part Three of the lesson was conducted live via zoom. A leather craft kit containing basic tools and six small projects was mailed to each of the students prior to program start. During the lab activity, the instructor demonstrated stamping patterns and students duplicated the patterns at home on their own pieces of leather. Students were walked through each of the stages of the Experiential Learning Model (Kolb, 1984) as they completed six small leather projects.

Results

The lesson was effective in teaching the stages of Kolb's Experiential Learning Model and the students were actively engaged throughout the lab activity. During the wrap-up reflection activity, several students commented that it was one of their favorite parts of the Ag Discovery Program. Shipping something to students that would tangibly put something in their hands and engage them in learning provided a positive learning environment.

Future Plans/Advice to Others

The uncertainty surrounding the COVID-19 virus prevents USDA and staff from knowing how Ag Discovery will be delivered next year. This year's virtual conference proved to be an acceptable alternative. An additional byproduct of virtual format is a warehouse of videos that can be used by other faculty members throughout the year. In addition, the virtual tour of the universities agricultural facilities will be used for future outreach and recruitment activities.

Costs/Resources Needed

Beyond the normal administration costs of the program, including staff and needed facilities, special equipment was purchased to record sessions and software to edit videos.

References

- Kolb, D. A. (1984). *Experiential Learning: Experience as the source of learning and development*. Upper Saddle River, NJ: Prentice Hall.
- Roberts, T. G. (2006). A philosophical examination of experiential learning theory for agricultural educators. *Journal of Agricultural Educators*, 47(1), 17- 29.