



## Elements and Analysis of an Internship Program in Animal Sciences

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### Abstract

The purpose of this paper is to describe the organization, management, and outcomes of an internship program in Animal Sciences. The goals of the internship experience are to provide an experiential learning opportunity for students to apply the concepts, knowledge, and skills gained during their undergraduate education to real world situations as they connect theory with practice. The internship experience provides students an opportunity to enhance written and oral communication skills, improve critical thinking skills, and promote awareness of community and societal issues while increasing student marketability for employment. The internship program is administered online through a course management system. The majority of internships were completed during summer quarter by students of senior rank. Eighty-four percent of internships were local and less than 6% of students completed more than a single internship for academic credit, with students completing multiple internships participating in longer internship experiences ( $P < 0.001$ ). Veterinary internships represented 21.3% of all experiences, followed by food animal production (20.0%), and research (18.3%). Within animal industries, dairy cattle internships dominated (40.8% of total food animal production internships). According to graduate surveys, 94% of survey respondents rated the internship as valuable and 28.6% of respondents were offered full-time employment by the internship organization ( $P < 0.001$ ).

## Identifying Faculty's Knowledge of Critical Thinking Concepts and Perceptions of Critical Thinking Instruction in Higher Education

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### Abstract

This study was done to identify patterns in college of agriculture and life sciences faculty's understanding of basic critical thinking concepts and person perceptions of critical thinking instruction. The objectives of this study include, identifying patterns in faculty's knowledge of critical thinking concepts and

identifying patterns in faculty's perceptions of critical thinking instruction in higher education. This quantitative study was performed to analyze patterns in responses of faculty participants. The participants included 61 self-selected faculty with teaching appointments in a college of agriculture and life sciences at a southern land grant institution. The data was collected using a compilation of three instruments: a critical thinking basic skills test, a "perceptions of critical thinking instruction" questionnaire, and a short demographic segment. The online data collection software, Qualtrics, was used to collect the data. The overall conclusion was that faculty's knowledge of perceptions and concepts of critical thinking is severely lacking. Not one question, in any section, was answered completely correctly. It is recommended that faculty participate in further education to understand the concepts of critical thinking.

## Supporting Online Group Projects

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### Abstract

Group work has been utilized to enhance student learning in online classrooms. It has been also found to create a sense of community, thereby contributing to increased learning and satisfaction. However, educators who work in online settings may struggle with how to effectively structure group projects to maximize the effectiveness of this teaching strategy. This paper focuses on specific teaching strategies the authors recommend to help facilitate successful group projects in online settings. These recommendations are based on the results of a research study conducted by the authors to explore "How do students define their roles and responsibilities in online group projects?" Results showed the difficulty students had with understanding how to make group projects work in an online setting and thus, specific strategies are recommended to support effective group work. These strategies include structured assignments to allow a climate of collaboration, use of preliminary assignments to help students understand group roles and styles, faculty and peer input into grade assignment for group projects, use of online tools to help gauge group participation and determine additional intervention strategies when needed, and using a multi-stage process to help students solve problems that can arise during group work. Instructors need to be aware



of the challenges specific to social task development and effectively use online platform tools, assignments and activities to scaffold and facilitate student learning and community building.

### **Examining the Teaching Behaviors of Successful Teachers in a College of Agricultural and Life Sciences**

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#### **Abstract**

The purpose of this study was to explore the teaching behaviors of successful teachers in a college of agricultural and life sciences. Five successful teachers were identified by nomination from the director of the Teaching Resource Center or winning a teaching award such as the University of Florida's College of Agricultural and Life Sciences teaching award or the NACTA Teacher Fellow's award. In consultation with each teacher, a minimum of two class sessions were identified for video recording. Teaching behaviors were assessed to determine the learning activities used, the cognitive levels reached, and the teacher immediacy (or rapport) behaviors exhibited. This group of successful teachers shared teaching beliefs that indicated they were highly sensitive to student needs. They used lecture and questioning most frequently in their classes and most of the teachers also used cooperative learning activities. This group of teachers commonly taught in a way that engaged students at higher cognitive levels. These successful teachers also created a psychologically inviting learning environment by exhibiting frequent positive verbal and nonverbal teacher immediacy behaviors.

### **Using Second Life to Educate in Agriculture: A Review of Literature**

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#### **Abstract**

Second Life (SL), a 3-D virtual world developed by Linden Lab in 2003 (Linden Research, 2009a), has become an educational tool across disciplines. The integration of virtual environments into the traditional classroom setting as well as distance education programs is one mechanism of encouraging immersion. Due to the limited amount of research on

the use of virtual worlds in agriculture, the authors used an integrative literature review to establish a basis for further research in the topic area. This study focused on reviewing current literature on SL, critiquing SL as an educational tool, and evaluating agriculture's presence in SL. SL is a relatively new tool that can provide students with the opportunity to use technical skills they learned in class, interact using asynchronous and synchronous communication, and participate in real-world simulations that would otherwise not be feasible. SL can actively engage students and provide them with opportunities to be immersed in the educational experience. The authors concluded that agriculture has been slow to adopt virtual education such as SL as an educational tool and more research is needed regarding effective and efficient use of virtual environments in the agricultural classroom.

### **Engaging Under-represented Youth in Food, Agriculture and Natural Resources through Pre-College Residential Summer Programs**

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#### **Abstract**

Since 1982, the College of Agriculture and Natural Resources has offered pre-college, residential summer programming to increase the number of under-represented students pursuing post-secondary education and earning degrees in food, agriculture and natural resources (FANR). In 2003-2008, pre-and-post surveys were conducted for participants in the one-week Agriculture and Natural Resources Institute for Multicultural Students (AIMS) Program and the six-week Multicultural Apprenticeship Program (MAP) to assess (1) each program's effect on participants' perceptions of (a) higher education and (b) FANR and (2) to assess whether the programs differed in their effect on students. A pre-survey was administered to explore perceptions that parents of under-represented students have about FANR. The AIMS participants gained an enhanced understanding of what it is like to be in college and greater understanding that careers in FANR extend beyond working on a farm. The MAP participants gained an increased understanding of those areas, but also grew in their understanding of (a) courses needed for college; (b) the college experience; and (c) their general understanding of FANR. While both programs positively influenced students, the influence was greater in the longer, more intense program.



Overall, parents encouraged their students' interests in FANR.

### **Identifying Strategies for Diversity Inclusive Agricultural Education Programs**

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#### **Abstract**

While schools across the United States are witnessing an influx of students from diverse backgrounds, the need to address the issue of diversity inclusion among teachers is critical for equitable schools. This study explored and analyzed Texas agricultural education teachers' (n = 232) perceptions on proposed solutions to increase diversity inclusion in agricultural education programs. Using a web-based questionnaire, descriptive statistics were used to report demographic and personal characteristics while mean scores were used to assess teachers' perceptions on the proposed solutions. Teachers agreed that: "Agricultural education teachers should become familiar with the students of color represented in their classrooms in order to promote an atmosphere of acceptance and cooperation"; "educators, parents, and policymakers must develop strategies to address the different learning styles of all students;" and "teaching materials should reflect a diverse society in agricultural education."

### **Examining the Student Impacts of Three International Capstone Experiences**

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#### **Abstract**

International experiences – semester-long study abroad, short-term study trips, internships, or integration of global issues into on-campus curricula – are widely accepted as a growing need for today's generation of students. This study examined the impacts of three short-term international capstone experiences on student knowledge and attitudes. On the first trip, a group of 15 College of Agricultural and Life Sciences (CALs) Ambassadors traveled to Egypt for 11 days in May of 2009. On the second trip, a

group of 9 students from the CALs Leadership Institute traveled throughout Costa Rica on a 10-day trip in August of 2010. On the third trip, a group of 7 CALs Ambassadors traveled to China for 13 days in May of 2011. Participants from all three groups showed an increase in knowledge (actual and perceived) related to agriculture in the destination country and international agriculture in general. Changes in attitudes about international agricultural and international travel were mixed. Participants generally had more positive attitudes about traveling internationally, but expressed mixed attitudes about the importance of CALs students gaining international experience.

### **Experiential Learning on the Internet: A Case Study of the Internet Agricultural Bank Simulation Game**

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Notie Lansford and Damona Doye, Oklahoma State University, Stillwater, OK

#### **Abstract**

Few agricultural studies have studied experiential learning on the Internet. In this study, an experiential learning tool focused on agricultural banking was updated to serve as an Internet based simulation game ([www.agbanksim.org](http://www.agbanksim.org)). The game offers a "real world" experience in which management decisions affect institutions interacting in a geographic market, enhancing understanding of the complex, competitive environment within which commercial banks operate. In the past, agricultural lenders and students who played the software based game learned key financial, economic, and banking lessons. Questions arose as to whether participants playing Ag Bank Sim in a virtual environment would have the same positive increase in learning key concepts. Results of pre- and post-tests of Louisiana State University students in a senior-level capstone agribusiness strategic management course and Oklahoma State University students in an undergraduate agricultural finance course illustrate learning of key concepts as a result of playing the Internet based game.

### **Cooperative Learning Through In-Class Team Work: An Approach to Classroom Instruction in a Life Cycle Nutrition Course**



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### Abstract

Aimed at increasing higher level and critical thinking skills, professional and social skill development, and at engaging students in ownership of their learning, Cooperative Learning (CL) occurs when small groups of students work together to achieve a common objective. Through this qualitative examination, student reports revealed three dominant emergent themes related to the CL approach: “Real World” Preparation, Group Dynamics, and Variety Desired. Students wrote that the course described here was challenging and helped prepare them for future careers in which they would be required to work in groups to solve complex problems. In line with the instructor’s goals, the CL environment appeared to simulate the challenges associated with group work in a professional setting while providing students feedback on their performance and opportunities to change their behavior in a supportive atmosphere. While student satisfaction was high in the course, they also desired a variety of teaching methods in the classroom (e.g. hands-on activities, guest speakers, whole class discussion), suggesting the CL approach should be paired with additional teaching strategies to optimize learning outcomes. Cooperative Learning could be used in a variety of courses to provide students structured opportunities to learn from each other and to improve their problem-solving abilities.

### Shepherding Undergraduate Students Through a Research Experience and a Professional Meeting

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### Abstract

Undergraduate research consists of a student working with a faculty or staff member to develop a study plan and objectives. Polls of faculty and students report the benefits of this activity. The goal of this paper is to conduct a survey of six students at Virginia Tech who finished undergraduate research and presented their results at an annual professional meeting of agronomy, soils, and environmental sciences. The students answered a brief set of questions about their expectations before and their experiences after the trip. Even though the time input for students and faculty mentors is high, students who become involved in undergraduate research reported value in the experience. Faculty who supervise undergraduate research must be aware of the constraints and the difficulty in producing

published work without much input from the students. However, the time spent in facilitating or shepherding students through the presentation of results at a professional meeting has rewards and benefits in seeing the students mature in their career choices and increase their opportunities for success as they represent the department and school after graduation. The students who attended the meeting to present their results recommend the activity to their peers and to faculty mentors.

### Effects of a Summer Teacher Tour Program on Agriculture and Science Teachers’ Knowledge of Applying Science, Technology, and Math in Research and Industry

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### Abstract

In order to make teachers more aware of the demands of the economy, industry, and research, two groups of agriculture and science teachers were taken on tours of research and industry facilities across the state of Georgia. During each of the four-day tours, teachers were transported across the state by bus and visited The University of Georgia, Georgia Technical Institute, six Centers of Innovation, and a cross section of the industries that the universities and Centers of Innovation serve. The objectives of this project were to engage high school teachers of science and agriculture in a program that would (a) increase science content knowledge, (b) develop teachers’ comfort levels with inquiry based teaching strategies, (c) expose them to new teaching technologies, and (d) influence them to share ideas with fellow teachers. When comparing retrospective means with post-experience means, on a 5-point Likert scale, teachers reported close to a three point change in their knowledge level of how the Georgia Centers of Innovation fit into the overall economic growth plan for the state of Georgia. Additionally, responses to open-ended questions indicated that teachers found the tour extremely beneficial and believed that it would help them in utilizing inquiry based instruction to teach science content knowledge in their classrooms.

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