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1067 Engaging agriculture students in the publication process through popular press magazines. E. L. Walker*, *Missouri State University, Springfield.*

Traditional lecture based courses may not be the most effective in incorporating all the concepts of higher order thinking. Therefore, an alternative teaching method was created and incorporated into an upper division animal science feeds and feeding class which challenges students to obtain peer reviewed data and present it in a "popular press" type format. The objectives of this assignment were to: 1) incorporate Blooms Taxonomy into the teaching method of class and 2) to assist undergraduate students in their understanding of core concepts discussed in class and, 3) apply a basic understanding of animal based research into a production based setting. There are 3 phases of this assignment: 1) assignment of pods based upon student interest, 2) edit and selection of papers, 3) publication of paper. Students are placed into pods designated by the instructor based upon the students' general research interest. Within the pod, students are required to discuss their research interests and formally edit one another's papers. After completion of the editing process, the most well written paper is selected from within each pod. Each of these papers is then sent electronically to every student in the class for a second formal editing process. After each student reads and formally edits the top pod papers, the class must vote on a single paper they feel has the best chance to get published in a popular press journal. In each of the 3 phases, students are graded by the instructor. Extra points are given to the author of the winning pod paper, then to the pod that produces the paper voted by the class as the best overall paper, and then is given to the entire class if the paper is accepted for publication. If of superior quality, the second place paper is also submitted for publication for no class credit. This project has been conducted for 3 years and 5 papers authored and edited by students have been published in popular press journals across 3 states. Popular press magazines can be a critical link between the scientific, university, and agriculture communities.

Key Words: writing skills, Bloom's Taxonomy, popular press

1068 Teaching and experiencing entrepreneurialism in animal sciences. M. E. Benson*¹, A. B. Culham², and G. M. Hill², ¹*Washington State University, Pullman*, ²*Michigan State University, East Lansing.*

A USDA Challenge Grant provided the opportunity for students in animal sciences to develop their entrepreneurial skills. In this project, students integrated information from technical disciplines with skills necessary for successful business development in an entrepreneurial arena. Three objectives were to: 1) design and implement a curriculum in which students learned techniques and procedures applicable to discovery and evaluation of marketing options and new product launches for animal agricultural enterprises; 2) develop a working laboratory where implementation of learned practices are applied to actual marketing of a product(s); and 3) communicate the results of this project to other students, industry professionals and other educators. The project was initiated at Michigan State University (MSU) where the students brainstormed ideas and completed development of business plans for their proposed ventures. Input from industry professionals on topics such as marketing strategies and risk assessment for niche markets further assisted the students in the development of their business plans. The course has also been added at Washington State University (WSU) and working laboratories have been established at both sites. At MSU, students added value to wool produced from the MSU flocks by creat-

ing Spartan blankets that were marketed through a variety of channels. Revenues generated are sufficient to make this a self-sustaining venture and currently new products are being evaluated. Resources from product sales have also supported student research and travel activities. At WSU, students are developing their own ideas and business plans as well as participating as a group in the process of creating, producing, and marketing woolen blankets. At both sites, this project has met with enthusiastic responses from students, livestock industry stakeholders and alumni. It has brought visibility to the department while offering students the opportunity to consider business opportunities and challenges that extend beyond traditional animal agricultural enterprises.

Key Words: entrepreneurialism, business skills

1069 The role of animals in societies of the world: When culture and roles clash. M. Russell*¹, H. Frigola¹, K. Kanne², and S. Damron³, ¹*Purdue University, West Lafayette, IN*, ²*Northwestern University, Evanston, IL*, ³*Oklahoma State University, Stillwater.*

This course serves as a university-level freshmen honors course and is an introduction of the importance of animals in various cultures and societies of the world. Factors which influence the role of animals in society including physical and biological adaptations of animals and the role of traditions, culture, religions, language, politics, geography, climatic, and socio-economics are discussed. Learning objectives are to: broaden students' understanding of the roles animals play in cultures around the world; critically analyze ethical and moral debates of animal use in society; and prepare students to interact with people who use animals in ways different from themselves. This course is co-taught with faculty in animal sciences and anthropology. Guest presenters include foreign graduate students and visiting faculty as well as Purdue faculty who share their experiences and specialty areas of expertise. Topics are presented with some lecture and facilitated discussion and many videos/DVDs as examples from many international cultures as well as the USA culture itself. Students develop writing assignments and lead class discussions in two major topics: A Use & Society topic which discusses how culture, geography, climatic, and socio-economics as well as the animals' morphology/physiology affect the use of animals. The Current Issue assignment applies topics discussed in class to a specific issue or concern regarding a current controversy or animal topic use. This topic critically analyses ethical and moral dilemmas related to this chosen current issue as it affects animals, people, and the environment. We will share pedagogy and learning assessment methods in this innovative approach to assist under-classmen in understanding why certain species and breeds are best suited for our US industries and the other factors that determine the appropriate use of animals in our changing societies. This is important to broadening the world view of our students and help them to be more successful in dealing with professional and public policy dilemmas in the future.

Key Words: animal roles, cultural conflict

1070 Enhanced learning of lactation physiology by undergraduates conducting a class-based research project. R. L. Wrenn*, S. J. P. Lee, and R. C. Hovey, *University of California, Davis.*

The integration of materials from experiential research presents unique opportunities to enhance classroom learning by undergraduates in the animal sciences. The objective of an ongoing project at UC Davis is to

use a student/class-run project to teach junior and senior students the physiological basis of lactation and the fundamentals of dairy animal management. Animal science undergraduates (up to 165 students) enrolled in a required lactation course (ANS 124) were given the task of coordinating and conducting a class-based, quarter-long (10-wk) research project involving hormone-induced lactation. Nulligravid Holstein heifers (n = 8) were administered daily injections (sc.) of estradiol-17 β (0.075 mg/kg) and progesterone (0.25 mg/kg) for 7 d, followed by a single dose of dexamethasone (15 mg) on d18 of the protocol. Students were responsible for all aspects of the project under the guidance of the faculty mentor. Each student performed morning and evening chores (at least one at each time per student) including hormone injections, blood sampling, weighing, data collection, milking, and basic husbandry practices. Mammary gland growth was monitored through daily udder measurements, including distance between the teats and individual teat length, and from photographs. Students analyzed blood samples for changes in the level of α -lactalbumin by ELISA to establish the onset of lactogenesis. Milking began on d 20 and continued for approximately 30 d. Changes in milk composition were determined by SDS-PAGE. The project afforded numerous opportunities within the classroom for discussions about the physiological changes associated with mammary growth, anatomy, endocrinology, lactogenesis, and galactopoiesis. At the end of the study each student composed a redrafted research paper, with individual students preparing scientific abstracts for additional public audiences. In conclusion, a student-run project involving induced lactation provides an excellent opportunity for undergraduates to gain hands-on research and dairy management experience that also enhances classroom learning.

Key Words: lactation, experiential learning, induced lactation

1071 Frameworks for learning: a case study of approaches for building capacity for distance education. D. R. Mulvaney*^{1,2}, P. A. Curtis³, and M. O. Kloepper^{3,4}, ¹*Coll. of Agr., Auburn Univ., Auburn, AL*, ²*Dept. Anim. Sci., Auburn Univ., Auburn, AL*, ³*Dept. Poult. Sci., Auburn Univ., Auburn, AL*, ⁴*IT Specialist, Auburn Univ., Auburn, AL*.

Developing digital capacity among faculty is a necessary prerequisite to emerging distance education programs. Trends in higher education clearly substantiate future students learners are considered digital natives and many faculty are considered immigrants in a digital world. Informal approaches for faculty development have been initiated across the college of agriculture with goals of creating cultures enabling faculty to adapt to new technologies having relevance to teaching. Our objectives will be to share some of our experiences, both successes and failures, at creating opportunities for faculty to develop comfort and skill in using digital technologies with relevance to teaching and learning. Approaches

designed with features of faculty learning communities have included creation of an Agricultural Instructional Media Academy, frameworks for learning seminars, Go-The-Distance Pit-Stop discussion sessions, Blackboard initiatives, technology simulations, hands-on workshops, one-on-one facilitation / mentoring and creation of a satellite technology units on the ag campus. Concurrent to these efforts have been changes in centralization of distance learning administration, policy, adoption of AG-IDEA initiatives, IT support and available technologies, and pockets of interest and energy, all which are collectively shaping change in the culture and capacity for distance education. In summary, rate of technological change seemingly out-paces the development of digital capacity of faculty and programs yet one-at-a-time change has had impact.

Key Words: distance education, digital learning, faculty development

1072 Trends in distance education and technologies in higher education: A call for adaptive leadership. D. R. Mulvaney*^{1,2}, P. A. Curtis³, and M. O. Kloepper^{3,4}, ¹*Coll. Agr., Auburn Univ., Auburn, AL*, ²*Dept. Anim. Sci., Auburn, AL*, ³*Dept. Poult. Sci., Auburn, AL*, ⁴*IT Specialist, Auburn, AL*.

The emerging educational landscape is characterized by change. Distance education stands to be a key transformative factor for undergraduate education in agriculture. An adaptive challenge for educators and institutions is how to anticipate and prepare for a future they have not fully experienced. The objectives of this presentation are to provide a concise overview of the trends in higher education with an emphasis on distance education and reinforce challenges surfaced from the 2006 National Academy of Science Leadership Summit to Effect Change in Teaching and Learning. Robust availability of technologies conducive to just in time, mobile learning models, generational shifts characterized by learners from a digital culture, campus cultures and policies to accommodate distance consortia and alliances such as AG-IDEA, development of digital immigrant faculty plus challenges of dealing with new vistas for practicing scholarship are but a few components of the evolving future for higher education. Technologies around data visualization, information retrieval, creation of knowledge objects, gesture prompted technologies, gaming simulation and virtual reality software will allow for reinvention of teaching and learning environments. Because the challenges and trends around the emerging technologies will have significant impact on the teaching, there is a call for new pedagogical models and adaptive leadership among faculty and administrators.

Partially supported by USDA NIFA Higher education Challenge grant 2007-38411-18136 - Development of a distance education consortium among southern universities.

Key Words: distance education, trends in education, animal sciences