Symposium: Teaching/Undergraduate and Graduate Education: The Changing Student and Influence of Technology on Learning

362 ASAS Centennial Presentation: Animal science teaching: A century of excellence. D. S. Buchanan*[1] and L. C. Martin[2], [1]*North Dakota State University*, *Fargo*, [2]*The Ohio State University*, *Columbus*.

Teaching has been central to the life of many members of ASAS since the organization's inception one hundred years ago. A high proportion of the scientists who publish research in the Journal of Animal Science or who present the results of research at the annual meetings also hold a teaching appointment. Virtually all members of ASAS are the product of animal science teaching programs and ASAS has, and continues to, plays a central role in graduate student education. While ASAS recognizes an outstanding teacher with an award each year, those individuals recognized represent but a small sampling of the numerous excellent teachers who populate academic departments associated with ASAS. Teaching programs and symposia have been an area of growth at the annual meeting of ASAS during the last few decades as members gather to learn from one another about the latest techniques and innovations. Opportunities for enhancement of teaching programs abound and the student population continues to become more diverse in background, interests and career goals. Individual members of ASAS have been, and continue to be, interested in developing the next generations of animal scientists and leaders in the various industries we serve. Methods of delivery are expanding rapidly. This presentation will explore ways ASAS can build on its rich history and expand its contributions to the teaching of animal science and to the availability and delivery of information pertaining to all types of managed animals.

Key Words: Teaching, Animal Science, Students

363 How current students differ and what impact this has on learning in the classroom. L. C. Martin*, *The Ohio State University*, *Columbus*.

Effective teaching depends upon being able to connect with students. Because learning is contextual, a better understanding of student interests, values and perceptions serves to provide a stronger foundation for effective teaching within the discipline. Millennials (those born between 1982 and 2002) represent the second largest generation in history (second only to the baby boomers) and have unique characteristics that differentiate them from previous generations. Because they have different needs and expectations, educators have found it challenging to engage this new generation of learners. The millennial generation is the most diverse in history (only about 60% white), a growing number of students are delaying enrollment in college and fewer young men are choosing to pursue higher education. Millennials communicate via social networks, instant messaging, text messaging and occasional emails, read magazines rather than newspapers, watch less television, learn by trial and error, and are more consumer driven in their view of higher education. Multitasking is a way of life; they prefer to keep a flexible schedule and expect institutions to provide more educational choices, greater flexibility, and increased personalization and customization. They become frustrated by delays, seek immediate answers to their questions and resent what they perceive to be "busy work." These unique characteristics have challenged the effectiveness of traditional classroom teaching and are forcing institutions to consider a new learning paradigm. As animal sciences programs prepare for the future, it will become increasing more important to consider the unique characteristics of this millennial generation in course and curriculum development, classroom teaching, co-curricular engagement, and student development.

Key Words: Millennials, Teaching, Learning

364 Changes that have occurred in animal science teaching. J. A. Sterle*[1] and J. J. Parrish[2], [1]*Texas A&M University*, *College Station*, [2]*University of Wisconsin*, *Madison*.

A centennial is a time to reflect on the journey that has taken us to the present point. It is a time to celebrate accomplishments, recall fond memories, and anticipate the future. The committees planning the centennial meeting of the American Society of Animal Science were charged with the task of selecting a "classic" paper and re-presenting it. While this approach works well for the committees representing disciplines (animal breeding, physiology, etc.), the Undergraduate and Graduate Teaching committee decided on a different approach. Finding it nearly impossible to select only one outstanding educator throughout Animal Science departments nationwide, the committee decided to create a video of multiple outstanding teachers. By capturing these individuals and their teaching philosophies on tape, this precious bit of history could be preserved. Short video segments were recorded at the home institutions of faculty members who were well-known for excellence in teaching. The segments were edited and produced into a short video segment for inclusion of the centennial celebration.

Key Words: Teaching, Centennial, History

365 The use of multimedia in the classroom. H. Khatib*, *University of Wisconsin*, *Madison*.

The use of multimedia in classroom is not new. It has been used for the last several decades in the form of overhead projectors, slide shows, filmstrips, among other tools. However, with the introduction of the computer and other electronic devices, multimedia is now being used in a number of ways including PowerPoint, digital videos, case studies, newsgroups, mailing lists, You Tube and more. Multimedia is motivating for most learners in that they enjoy working with it and the combination of pictures, text, audio and video provides a stimulating environment for students. I extensively utilize PowerPoint and elements of multimedia including videos, You Tube films, web sites, and other visual aids to make connections between genetics and real life. For example, in a lecture about African trypanosomiasis, a short video telling a story of an African woman affected with sleeping sickness was presented. In a different lecture about host pathogen interaction, a cartoon of Tom & Jerry was presented as an example of how pathogens escape the immune system of the host. In a lecture about the applications of DNA, I used music as an example. Music was composed algorithmically from the raw genetic data and protein sequences and is available as free downloads on the internet. Materials from web-sites about musical DNA were

presented. In a lecture about transgenics in animals, PowerPoint slides on transgenic plants were presented. Inspired by the presentation, the students were asked to draw figures on the power of genetic engineering in animals. Additional examples and feedback of the students will be further discussed. My conclusions are that the use of multimedia in classroom leads teachers to think about their students, classes, and lessons in new ways and that it moves instructors from the role of classroom authority into the role of learning coach or facilitator.

Key Words: Multimedia, Genetics, Undergrauate

366 The use of podcasts in the classroom. J. J. Parrish*, *University of Wisconsin*, *Madison*.

Podcasts are a method to deliver video, images and/or sound via the web. The effect of podcasts on student learning was investigated in an undergraduate reproduction course; 2-50 minute lectures and a 2 hour lab each week. The course is required for both Animal and Dairy Science majors. In year 1 (students=52), lectures were delivered in a traditional classroom setting using powerpoint slides. In year 2 (students=61), the instructor was gone due to sabbatical leave. Labs were given by a TA the same as in year 1. The lectures however were recorded via the commercial software, Profcast. The software allows recording of a powerpoint presentation's slides, complete with audio synchronized to each slide. The resulting file is posted to the web, can be downloaded and replayed in iTunes, a free digital media player application. Students could either take the course in year 2 or wait an additional year if they did not want to take a podcast only delivered lecture. It was unlikely that any pre-selection of students occurred. There was an improvement in exam scores of 10% in year 2 ($p<0.05$) with a doubling of essay question scores. The same exams were given in year 1 and 2 and also in years 0 and -1. In years -1, 0, and 1, there were no differences in exam scores ($p>0.05$). Exams in this class are not returned to students but they have access to on-line practice questions that were available in both year 1 and 2. Despite the improvement in learning, there was a trend toward less satisfaction on course evaluations. While many students liked the podcast format, some expressed an inability to ask questions as a problem. Improvement in learning outcomes may be due to allowing students to listen to the lecture at a time when they are better able to retain information. Normally, this class is offered from 8:50 – 9:40 AM and lecture attendance is around 80%. Students indicated they listened to podcasts in the afternoon or evening. Podcasts provide a method to deliver lectures or other course material where students select the viewing time. Podcast are particularly well suited for distance education and increased student access but may require additional opportunities for student teacher interaction.

Key Words: Podcast, Web

367 Teaching and learning with an instructional web site. M. A. Wattiaux*, *University of Wisconsin*, *Madison*.

Web postings are now commonplace, but pedagogical use of websites remains a challenge. In the last four years, we have adopted a teaching strategy based on in-class discussions of pre-assigned web-postings (http://dairynutrient.wisc.edu) and used course evaluations to study students' perception of the class website. The eight classes presented here were taught from the fall (F) of 2005 to the spring (S) of 2007 and included: College Classroom: Teaching in Science and Engineering (F 06, n=14), Environmental Management of Livestock Operations (F 05-06, n=24), Ruminant Nutrition (S 05-06, n=43), Dairy Cattle Husbandry Practicum (S 07, n=18), and Agriculture in Emerging Economies: Dairying in Mexico (F 05-06, n=18). Respondents included 33 graduate and 84 undergraduate students ranging from freshmen to seniors. Scores were on a 1-to-10 Likert-type scale (1 = "not at all" and 10 = "a great deal"). For each of following statements, mean score (a measure of agreement: high score = high agreement) and mean standard deviation (a measure of consensus: high standard deviation = low consensus) were respectively: "I learned a lot", 8.0, 1.7; "The electronic material combined with in-class discussion was good", 8.7, 1.0; "The website was useful", 8.3, 1.9; "The website should be further developed for future classes", 7.0, 2.1; and "Additional class time for lecturing would be helpful", 5.3, 2.4. Students agreed with discussion of pre-assigned material as an alternative to lecture. However, they were divided on the value of additional class time in lecture. For some students the absence of lecture was a welcome departure from tradition. Others may have grown accustomed to lecture or felt less comfortable with an open-ended classroom environment. Scores for further reliance on the website in the future ranged from 4.2 to 8.2. Some students opinioned that the site "contained all the information that was really needed" or that it had to be maintained as-is because of the good "combination" with in-class material. Creating coherence between the out-of-class web-related components and the in-class components of these courses was a challenge that depended on learning objectives and perceived educational needs of each cohort.

Key Words: Pedagogy